

Economic Evaluation of the Impact of Memantine on Time to Nursing Home Admission in the Treatment of Alzheimer Disease

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Objective: An observational study showed that combining memantine with a cholinesterase inhibitor (ChEI) treatment significantly delayed admission to nursing homes in patients with Alzheimer disease (AD). Our study aimed to evaluate the economic impact of the concomitant use of memantine and a ChEI, compared with a ChEI alone, in a Canadian population of patients with AD.

Method: A cost-utility analysis using a Markov model during a 7-year time horizon was performed according to a societal and Canadian health care system perspective. The Markov model includes the following states: noninstitutionalized, institutionalized, and deceased. The model includes transition probabilities for institutionalization and death, adjusted with mortality rates specific to AD. Utilities associated with institutionalization and noninstitutionalization were included. For the health care system perspective, costs of medication as well as costs of care provided in the community and in nursing homes were considered. For the societal perspective, costs of direct care and supervision provided by caregivers were added.

Results: From both perspectives, the concomitant use of a ChEI and memantine is a dominant strategy, compared with the use of a ChEI alone. On a per patient basis, there was a gain of 0.26 quality-adjusted life years with the treatment including memantine and cost decreases of Can\$21 391 and Can\$30 512, respectively, for the societal and health care system perspective.

Conclusions: This economic evaluation indicates that institutionalization is the largest cost component in AD management and that the use of memantine, combined with a ChEI, to treat AD is a cost-effective alternative, compared with the use of a ChEI alone.

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Clinical Implications

- Compared with a ChEI alone, the concomitant use of memantine and a ChEI is associated with a higher quality-adjusted life year and lower costs.
- The addition of memantine to a ChEI reduces costs associated with institutionalization.
- The concomitant use of memantine and a ChEI have a favourable impact on the overall Canadian economic burden of AD.

Limitations

- This analysis is based on the results of an observational study, which may not represent the overall AD population.
- Nursing home dynamics in Canada are assumed to be comparable with those in the observational study conducted in the United States.
- This analysis does not take into account the adherence and persistence problems found in clinical practice.

Key Words: Alzheimer disease, memantine, cholinesterase inhibitors, economic evaluation, cost-utility analysis

In Canada, nearly 500 000 people suffer from AD or other related dementia.¹ According to the CCHS, this debilitating disease affects 10.7 per 1000 Canadians living in private households.² The number of people living with AD is projected to rise as the aging population continues to grow.^{3,4} In the same way, the economic burden of AD is substantial and is expected to increase during the next few years. In Canada, the annual cost of AD in 2008 was estimated at \$15 billion and it is expected to reach \$153 billion by 2038.¹

AD is mostly characterized by the loss of cognitive functions, difficulty in performing daily activities, as well as mood and behaviour changes.^{5,6} The medications currently available to treat AD are the ChEIs (donepezil, rivastigmine, and galantamine) and the *N*-methyl-D-aspartate receptor antagonist memantine.⁷ Economic evaluations have demonstrated the potential of these treatments to reduce health care resources consumption and cost of care while improving cognitive functions of AD patients.⁸⁻¹⁰

Numerous randomized clinical trials have shown the efficacy of memantine to reduce the dementia symptoms associated with AD.¹¹ According to the results of a randomized clinical trial by Tariot et al,¹² memantine combined with a ChEI is associated with significant clinical benefits in terms of cognitive function, ability to perform daily activities, and mood and behaviour, compared with a ChEI alone. More recently, an observational study by Lopez et al¹³ showed that combining memantine with a ChEI treatment significantly delayed admission to a nursing home in patients with AD. In their study, time to nursing home admission was compared between patient groups who received a ChEI alone ($n = 289$) or a ChEI plus memantine ($n = 140$) during a follow-up period of up to 7 years. Results of this study show that patients who received a ChEI alone had 7.7 times the risk of nursing home admission, compared with patients who received a ChEI plus memantine.

According to the results obtained by Lopez et al,¹³ a combination of ChEI and memantine could reduce nursing home costs and consequently the overall economic burden of AD. The objective of our study was therefore to evaluate, in the Canadian context, the economic impact of the concomitant use of memantine and a ChEI on time to nursing home admission in patients with AD.

Abbreviations

AD	Alzheimer disease
CCHS 1.2	Canadian Community Health Survey: Mental Health and Well-Being
ChEI	cholinesterase inhibitor
QALY	quality-adjusted life year
RAMQ	Régie d'assurance maladie du Québec

Method

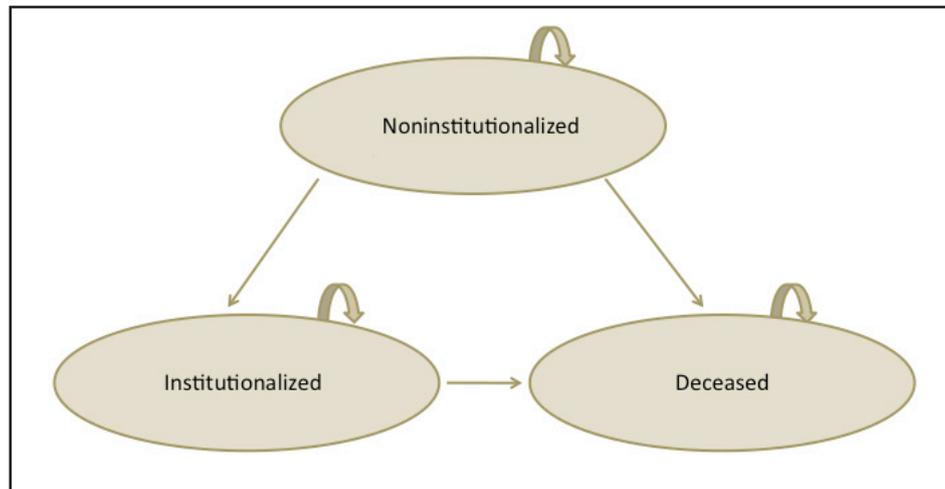
A cost-utility analysis was conducted, based on the data obtained by Lopez et al,¹³ to evaluate the economic impact of the concomitant use of memantine and a ChEI, compared with monotherapy with ChEI, taking into account the time to nursing home admission. More specifically, a Markov model was performed to compare the cost per QALY associated with the combined use of memantine and a ChEI with the cost per QALY associated with a ChEI alone. For this economic evaluation, a cost-utility analysis was preferred to a cost-effectiveness analysis in view of the significant impact of nursing home admission on the quality of life of patients with AD. This analysis was performed during a 7-year time horizon as the nursing home admission rates are presented during a period of almost 7 years in the study by Lopez et al.¹³ Moreover, to consider the direct health care and the informal care associated with the management of patients with AD, both societal and Canadian health care system perspectives were adopted. Our study did not necessitate ethical approval as it was based from published clinical and economic data.

Structure of the Markov Model

A Markov model was developed based on the data obtained by Lopez et al¹³ using Microsoft Excel 2007. The model included patients with AD who had not previously been admitted to a nursing home and who were receiving treatment with a ChEI, either alone or in combination with memantine. The age and sex characteristics of the study population were taken from the study by Lopez et al.¹³ The following Markov states were included in the model: noninstitutionalized (not admitted to a nursing home), institutionalized (admitted to a nursing home), and deceased (Figure 1). The Markov cycles were defined as 1 year, with a total of 7 cycles to cover the defined time horizon. Initially, all patients were in the noninstitutionalized Markov state. At the end of each successive cycle, patients could move to the institutionalized or deceased state, or they could remain in the noninstitutionalized state. The probability of transition to the institutionalized state was estimated from the data in Lopez et al's study,¹³ and the probability of dying was estimated from survival tables.

Effectiveness Measures

First, the effectiveness of a ChEI used alone or in combination with memantine was evaluated in terms of the impact on time to nursing home admission. More precisely, the probability of nursing home admission (institutionalization) over time was included in the model for patients receiving a ChEI combined with memantine or a ChEI alone. These probabilities, which were obtained from a graphic representation in the study by Lopez et al,¹³ are presented in Table 1. The probability of institutionalization included in the model were estimated using Grafula 3 version 2.10, a tool that allowed for digitizing points from a graph and estimating the corresponding numerical values.

Figure 1 Markov states included in the model

The probability of dying over time was also included in the model. According to the study by Lopez et al,¹³ taking a ChEI alone or in combination with memantine did not significantly impact the time between treatment initiation and death. Consequently, the probability of dying among patients with AD was included in the model, with no distinction between the probability of dying associated with taking a ChEI plus memantine and the probability of dying associated with taking a ChEI alone. To estimate the probability of dying among patients with AD who were liable to die of AD or of other causes, the probability of dying was adjusted to account for the probability of dying from all causes and the probability of dying specifically from AD (described in Appendix 1 and 2, available from authors). These probabilities are presented in Table 1. Note that the probability of dying was also adjusted for age and the proportions of men to women observed in the study by Lopez et al.¹³ To prevent a bias in favour of the patient group that received a ChEI plus memantine, average age and sex of patients who received a ChEI plus memantine were considered in the main analysis as being identical to those of patients who received a ChEI alone. Moreover, the probability of dying in the model was considered independent of institutionalization. In other words, patients admitted and not admitted to a nursing home present the identical probability of dying over time.

The periods in which patients who received a ChEI alone or a ChEI plus memantine were noninstitutionalized, institutionalized, or deceased are determined by the transition probabilities of the model (Table 1). The utility values associated with institutionalization and noninstitutionalization were taken from the study by Getsios et al,¹⁴ and were used to calculate the number of QALYs associated with the use of each considered treatment. In the study by Getsios et al,¹⁴ utility values were measured considering the different degrees of severity found in a typical population of patients with AD.

Costs

From the health care system perspective, the direct costs included in the analysis were those of medication (ChEI and ChEI + memantine) and those associated with care provided in the community and in nursing homes, which are supported by the health care system (Table 1). Annual medication costs were estimated from unit costs reimbursed by the RAMQ as a function of the usual doses for each agent.^{7,15} To better estimate costs related to ChEI medications and to more accurately reflect current practice, the proportions of users of each ChEI were adjusted according to their respective market share in September 2009 (IMS-Brogan, Kirkland, Quebec). Moreover, the costs of care provided in the community and in nursing homes were obtained from the data in a study on health and aging (the Canadian Study of Health and Aging¹⁶), a large-scale Canadian epidemiologic study. More precisely, the costs were taken from a 1998 analysis by Hux et al¹⁷ of the study on health and aging. These costs were updated to 2010 values based on the Canadian Consumer Price Index and adjusted for disease severity in patients.¹⁸ The costs of medication were considered for both institutionalized and noninstitutionalized patients, whereas the costs of care provided in the community were considered only for noninstitutionalized patients, and nursing home costs were considered only for institutionalized patients.

From a societal perspective, the direct and indirect costs of care and supervision provided by caregivers, including cost associated with lost productivity owing to time spent caring for patients were included in the analysis (Table 1). As for the costs of care provided in the community and nursing home costs, these informal costs were obtained from the study by Hux et al¹⁷ and adjusted to 2010 values using the Canadian Consumer Price Index.^{17,18} These costs were estimated for institutionalized and noninstitutionalized patients.

Costs and QALYs estimated beyond the first year were actualized using a 5% discount rate, as recommended by the Canadian Agency for Drugs and Technologies in Health.²⁰

Table 1 Efficacy, utility, and costs parameters included in the model		
Description	Value	Source
Probability of nursing home admission for patients receiving a ChEI alone		Lopez et al ¹³
1st year after treatment initiation	0.0167	
2nd year after treatment initiation	0.1031	
3rd year after treatment initiation	0.0947	
4th year after treatment initiation	0.0808	
5th year after treatment initiation	0.0891	
6th year after treatment initiation	0	
7th year after treatment initiation	0	
Probability of nursing home admission for patients receiving a ChEI + memantine		Lopez et al ¹³
1st year after treatment initiation	0	
2nd year after treatment initiation	0	
3rd year after treatment initiation	0	
4th year after treatment initiation	0.0167	
5th year after treatment initiation	0.0418	
6th year after treatment initiation	0	
7th year after treatment initiation	0	
Probability of dying over time for the 2 study groups		Canadian survival tables adjusted for death specifically caused by AD (Appendices 1 and 2, available from authors)
1st year after treatment initiation	0.0335	
2nd year after treatment initiation	0.0373	
3rd year after treatment initiation	0.0415	
4th year after treatment initiation	0.046	
5th year after treatment initiation	0.051	
6th year after treatment initiation	0.0568	
7th year after treatment initiation	0.0635	
Utility for the 2 study groups ^a		Getsios et al ¹⁴
Noninstitutionalized	0.6	
Institutionalized	0.34	
Deceased	0	
Costs of medication, Can\$		RAMQ ¹⁵
ChEI	1669	
Memantine	1685	
Costs of community-provided care, Can\$	3069	Hux et al ¹⁷
Nursing home costs, Can\$	42 611	Hux et al ¹⁷
Costs of direct care provided by caregivers, Can\$		Hux et al ¹⁷
Institutionalized patients	2534	
Noninstitutionalized patients	9287	
Costs of supervision provided by caregivers, Can\$		Hux et al ¹⁷
Institutionalized patients	700	
Noninstitutionalized patients	3134	

^a The utility values for patients who received a ChEI as monotherapy were considered identical to the utility values for patients who received a ChEI plus memantine.

Description	Base value	Lower bound	Upper bound	Distribution ^a
Costs of medication, Can\$	1669	835	2504	Triangular
ChEI	1685	842	2527	Triangular
Memantine				
Costs of care provided in the community, Can\$	3069	1535	4603	Triangular
Nursing home costs, Can\$	42 611	21 306	63 917	Triangular
Costs of direct care provided by caregivers, Can\$				
Institutionalized patients	2534	1267	3801	Triangular
Noninstitutionalized patients	9287	4643	13 931	Triangular
Costs of supervision provided by caregivers, Can\$				
Institutionalized patients	700	350	1049	Triangular
Noninstitutionalized patients	3134	1567	4701	Triangular
Utility				
Noninstitutionalization	0.60	0.45	0.75	Triangular
Institutionalization	0.34	0.26	0.43	Triangular

^a Distributions used for the probabilistic analysis

Years after treatment initiation	Base scenario		Worst-case scenario		Best-case scenario	
	ChEI	ChEI + MEM	ChEI	ChEI + MEM	ChEI	ChEI + MEM
1st	0.0167	0.0000	0.0084	0.0000	0.0334	0.0000
2nd	0.1031	0.0000	0.0516	0.0000	0.2062	0.0000
3rd	0.0947	0.0000	0.0474	0.0000	0.1894	0.0000
4th	0.0808	0.0167	0.0404	0.0334	0.1616	0.0084
5th	0.0891	0.0418	0.0446	0.0836	0.1782	0.0209
6th	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7th	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MEM = memantine

Complementary Analyses

In the study by Lopez et al,¹³ the average age of the patient group that received a ChEI alone was 76 years and the group was comprised of 68.5% women, while the average age of the patient group that received a ChEI combined with memantine was 73 years and the group was comprised of 64.0% women. To reflect the clinical characteristics of the patients in the study by Lopez et al,¹³ a complementary analysis was performed using the average age and the proportion of men to women in each of the patient groups in their study.

Sensitivity Analysis

Deterministic sensitivity and probabilistic analyses were performed to assess the robustness of the base-case analysis. All deterministic and probabilistic sensitivity analyses were performed from both a health care system and a societal perspective.

Deterministic sensitivity analyses were performed on the key parameters of the study model, starting with the cost and utility parameters (Table 2). More precisely, the costs of medication, costs of care provided in the community, nursing home costs, costs of direct care provided by caregivers, costs of supervision provided by caregivers, and the utility values associated with institutionalization and noninstitutionalization were varied individually within the upper and lower bounds. Arbitrarily, a variation of 25% was applied to the utility values and a variation of 50% was applied to the cost parameters. Next, best- and worst-case scenarios were applied to the probability of institutionalization over time (Table 3). In the worst-case scenario, the probability of institutionalization when taking a ChEI alone is reduced by one-half, whereas the probability of institutionalization associated with taking a ChEI plus memantine is doubled. Inversely, in the best-case scenario, the probability of

Table 4 Base-case analysis: incremental cost-utility analysis

Treatment strategies	Costs, Can\$	Incremental costs, ^a Can\$	QALYs	Incremental QALYs ^a	Average CU ratio (Can\$ / QALY)	Incremental CU ratio (Can\$ / QALY)
Base-case analysis: societal perspective						
ChEI	122 888		2.82		43 516	
ChEI + memantine	101 497	-21 391	3.08	0.26	32 932	Dominant
Base-case analysis: health care system perspective						
ChEI	68 666		2.82		24 316	
ChEI ± memantine	38 154	-30 512	3.08	0.26	12 379	Dominant
Complementary analysis: societal perspective						
ChEI	122 156		2.82		43 257	
ChEI + memantine	104 850	-17 305	3.20	0.38	32 716	Dominant
Complementary analysis: health care system perspective						
ChEI	67 933		2.82		24 056	
ChEI ± memantine	38 990	-28 944	3.20	0.38	12 166	Dominant
^a Incremental costs and QALYs shown are per patient						
CU = cost utility						

institutionalization when taking a ChEI alone is doubled, whereas the probability of institutionalization when taking a ChEI combined with memantine is reduced by one-half.

A probabilistic sensitivity analysis was also performed using Crystal Ball V11.1.1.1.00.¹⁹ Simultaneous variations in all key parameters were performed using Monte Carlo simulations. A total of 10 000 Monte Carlo simulations were performed according to the assigned probability distributions. A triangular distribution was used for all cost and utility parameters. A triangular distribution was also used for the probability of institutionalization over time. Upper bound and lower bound for the probability of institutionalization were taken from the best- and worst-case scenario.

Results

Base-Case Results

From both a societal and a health care system perspective, the concomitant use of a ChEI and memantine is a dominant strategy over the use of a ChEI alone (Table 4). Thus the costs associated with using a ChEI plus memantine are lower than the costs associated with using a ChEI alone, and the number of QALYs obtained with a ChEI plus memantine is higher than the number obtained with a ChEI alone. On a per patient basis, there was a gain of 0.26 QALY with the treatment including memantine and a decrease in cost of Can\$21 391 in the analysis with the societal perspective and a decrease of Can\$30 512 from a health care system perspective.

Complementary Analysis Results

Using the average age and the proportion of men to women in each of the groups in the study by Lopez et al,¹³ the concomitant use of memantine and a ChEI remains a dominant strategy, from both a societal and a Canadian health care system perspective (Table 4). In this complementary analysis, the

treatment with memantine led to a gain of 0.38 QALY and a decrease in cost of Can\$17 306 and Can\$28 944, respectively, for the societal and health care system perspective.

Sensitivity Analysis Results

Results of the sensitivity analyses confirm the robustness of the main analysis results. The concomitant use of memantine and a ChEI remains a dominant alternative when all cost and utility parameters are examined using deterministic sensitivity analyses from both a societal and a health care system perspective. Further, the best- and worst-case scenarios applied to the probability of institutionalization show that, from both a societal and a health care system perspective, the concomitant use of memantine and a ChEI remains a dominant alternative.

The probabilistic sensitivity analysis results indicate that, from a health care system perspective, the concomitant use of memantine and a ChEI is a dominant alternative in 100% of the Monte Carlo simulations. From a societal perspective, the concomitant use of memantine and a ChEI is a dominant alternative in 99.8% of the Monte Carlo simulations.

Discussion

This economic evaluation shows that adding memantine to treatment with a ChEI is a cost-effective alternative from both a societal and a health care system perspective. Even more, the concomitant use of memantine and a ChEI is a dominant alternative over a ChEI as a monotherapy from both perspectives with a gain of 0.26 QALY and cost decreases of Can\$21 391 and Can\$30 512, respectively, for the societal and health care system perspective. In addition, the complementary and sensitivity analysis results confirm the robustness of the base-case results.

The clinical parameters used in this economic evaluation are largely based on the results of an observational study

by Lopez et al.¹³ This observational study evaluated the impact of the addition of memantine to the treatment with a ChEI on the time to nursing home admission in patients with AD. Time to nursing home admission with ChEI alone reported in the Lopez et al study¹³ are comparable with time to nursing home admission with ChEI reported in other recent studies.²¹⁻²³

The study by Lopez et al¹³ enables a better understanding of the impact of the studied treatments in actual practice. However, the limitations of the study by Lopez et al¹³ have a significant impact on the results and the generalization of our cost-utility analysis. As patients were not randomized, the study is liable of selection bias. Indeed, sex and age differences between patients in the 2 groups have been noted. As well, treatment assignment could have been influenced by differences in other patients' characteristics. Because of the selection criteria in the Lopez et al study,¹³ patients who did not have at least one follow-up evaluation after enrolment were not eligible for the study. These excluded patients who were older, less educated, more likely to be African American, had a longer duration of symptoms, and had worse scores on most evaluation scales than patients who were included in the study. Therefore, this limits the generalization of the results of Lopez et al study¹³ and consequently the generalization of the present economic evaluation. However, it is noteworthy that even if the mean age of patients included in both groups may seem below the average age seen in clinical practice, these ages were at study entry. As well, management of patients with AD in the United States could be different than in Canada and, therefore, results of the Lopez et al study¹³ may not be completely applicable to Canada. This would consequently apply to the results of the economic evaluation and to generalization to the Canadian population. To take into account potential bias in the probabilities of nursing home admission, extensive sensitivity analysis were performed. Despite the extent of the sensibility analysis, using best- and worst-case scenarios, the combined treatment of memantine and a ChEI remains always cost-effective, compared with the ChEI alone.

The model assumed that the probability of dying is the same for institutionalized and noninstitutionalized patients. If the probability of dying had been higher for the institutionalized patients, as reported in some studies,^{24,25} this assumption would have been conservative because it would have favoured treatment with ChEI alone, as the probability of institutionalization was higher among this group. However, according to a recent study by Peterson et al,²⁶ longevity of AD patients at home and in the nursing home was comparable. As well, no difference in mortality was noted between the 2 groups in the Lopez et al study,¹³ although 1 group was more exposed to institutionalization than the other. The assumption of comparable probabilities of dying was based on the latter evidence.

Follow-up of patients with AD entails the consumption of various health care resources, notably for medication, support provided in nursing homes and in the community, and support by caregivers. In this economic evaluation,

these health care resources were obtained from reliable sources that are relevant to the Canadian context. Thus the annual costs of medication were estimated from the amounts reimbursed by the RAMQ, taking into consideration the recommended uses according to recognized guidelines.⁷ Moreover, the costs of nursing homes, home health care support, and support provided by caregivers were taken from a large-scale Canadian study.¹⁷ Although it was published in 1998, this study, which was based on data from a study on health and aging (Canadian Study of Health and Aging¹⁶), remains the primary reference for the costs associated with AD in Canada. The study¹⁶ provides a detailed account of the costs associated with the use of different health care resources involved in AD, and in terms of disease severity. Moreover, the study¹⁶ on health and aging covers the costs of informal care provided by caregivers, which constitutes a considerable advantage, given the important role of this type of care in AD. Although, costs associated with informal care are more substantial when patients with AD are not institutionalized, they still prevail to some extent even when patients are institutionalized.

This economic evaluation is the first Canadian study to account for the dynamics of nursing home admission associated with AD. The relatively lengthy time horizon is one of the strengths of this study. The data obtained from the study by Lopez et al,¹³ which covers a lengthy time horizon, enabled an evaluation of the long-term economic impact of the addition of memantine to treatment with a ChEI, thereby avoiding extrapolations of short-term data and consequent uncertainty. Moreover, the clinical and economic parameters in the study model were taken from reliable sources. Cost and utility parameters in the model reflect the composition of a typical population of patients with AD in terms of disease severity. Utility values used in this economic evaluation are considered appropriate estimates according to a recent evaluation report released by the National Institute for Health and Clinical Excellence.²⁷ These utility values have been used in many other studies including a Canadian study.¹⁴ In addition, the availability of data on informal Canadian costs enabled an analysis from a societal perspective. This is a particularly important perspective, considering the substantial amount of support that caregivers provide to patients with AD. However, this economic evaluation has a few limitations. First, it is assumed that nursing home dynamics in Canada are comparable with those found in the study by Lopez et al,¹³ which was conducted in the United States. Moreover, this evaluation considers that all patients continuously received their medication for AD throughout the follow-up period. Although this hypothesis does not account for the adherence and persistence problems found in practice, the approach may be considered conservative, as it considers higher medication costs, which is a disadvantage for the combination of memantine and a ChEI. As well, the proportion of men included in the study by Lopez et al¹³ may be higher than the proportion of men observed in clinical practice. Given the difference in mortality between

men and women, the probability for an elderly male to have a caregiver spouse is higher. Despite the limitations of the study model, the deterministic and probabilistic sensitivity analyses demonstrate the robustness of the base-case results.

As found by Hux et al,¹⁷ this economic evaluation confirms that institutionalization in a nursing home represents the main cost component in AD management. Delaying institutionalization would have a significant impact on resources consumption associated with AD.

Conclusions

The results of this economic evaluation indicate that, from both a societal and a Canadian health care system perspective, the use of memantine combined with a ChEI to treat AD is a cost-effective alternative, compared with the use of a ChEI alone.

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Résumé : Évaluation économique de l'effet de la mémantine sur le délai de l'hospitalisation dans un centre d'hébergement et de soins de longue durée dans le traitement de la maladie d'Alzheimer

Objectif : Une étude par observation a indiqué que la combinaison de la mémantine avec un traitement par inhibiteur de la cholinestérase (IdCh) retardait significativement l'hospitalisation dans un centre d'hébergement et de soins de longue durée (CHSLD) pour les patients souffrant de la maladie d'Alzheimer (MA). Notre étude visait à évaluer l'effet économique de l'utilisation concomitante de la mémantine et d'un IdCh, comparativement à un IdCh seul, dans une population canadienne de patients souffrant de la MA.

Méthode : Une analyse coût-utilité à l'aide d'un modèle de Markov durant un horizon temporel de 7 ans a été exécutée selon une perspective sociétale et une perspective du système de santé canadien. Le modèle de Markov comprend les états suivants : non institutionnalisé, institutionnalisé, et décédé. Le modèle comprend des probabilités de transition pour l'institutionnalisation et le décès, ajustées aux taux de mortalité spécifiques de la MA. Les utilités associées à l'institutionnalisation et à la non-institutionnalisation ont été incluses. Pour la perspective du système de santé, les coûts des médicaments ainsi que les coûts des soins dispensés dans la communauté et dans les CHSLD ont été pris en compte. Pour la perspective sociétale, les coûts des soins directs et de la supervision fournis par les aidants naturels ont été additionnés.

Résultats : Des deux perspectives, l'utilisation concomitante d'un IdCh et de la mémantine est une stratégie dominante, comparativement à l'utilisation d'un IdCh seul. Sur une base par patient, il y avait un gain de 0,26 année de vie pondérée par la qualité grâce au traitement incluant la mémantine et des réductions de coûts de 21 391 \$CAN et de 30 512 \$CAN, respectivement, pour la perspective sociétale et celle du système de santé.

Conclusions : Cette évaluation économique indique que l'institutionnalisation est l'élément de coût le plus important de la gestion de la MA, et que l'utilisation de la mémantine combinée à un IdCh pour traiter la MA est une solution de rechange rentable, comparativement à l'utilisation d'un IdCh seul.