

# (PND111) ELICITING PREFERENCES IN RELAPSING-REMITTING MULTIPLE SCLEROSIS – A BRAZILIAN STUDY USING A MULTICRITERIA DECISION ANALYSIS (MCDA) APPROACH



Rufino C<sup>1</sup>, Salgado JB<sup>2</sup>, Amaral LM<sup>3</sup>, Magliano CA<sup>2</sup>, Polanczyk CA<sup>4</sup>, Kleinpaul R<sup>5</sup>, Müller S<sup>6</sup>, Pereira Pinto R<sup>7</sup>, Freitas G<sup>8</sup>, Sato D<sup>9</sup>, Tauil CB<sup>10</sup>, San Martin G<sup>11</sup>, Afif S<sup>12</sup>, Amaral T<sup>13</sup>, Alves M<sup>1</sup>

<sup>1</sup>F. Hoffmann-La Roche Ltd, São Paulo, Brazil, <sup>2</sup>Instituto Nacional de Cardiologia, Rio de Janeiro, Brazil, <sup>3</sup>Sense Company, Rio de Janeiro, Brazil, <sup>4</sup>Hospital de Clínicas de Porto Alegre and IATS, Porto Alegre, Brazil, <sup>5</sup>Minas Gerais Multiple Sclerosis Research Center (CIEM/MG), Belo Horizonte, Brazil, <sup>6</sup>São Paulo Health State Secretary (SES/SP), São Paulo, Brazil, <sup>7</sup>Goiás Health State Secretary (SES/GO), Goiânia, Brazil, <sup>8</sup>Espírito Santo Health State Secretary (SES/ES), Vila Velha, Brazil, <sup>9</sup>Brain Institute (PUC/RS), Porto Alegre, Brazil, <sup>10</sup>Hospital de Base do Distrito Federal (HB/DF), Brasília, Brazil, <sup>11</sup>Patient Association Múltiplos pela Esclerose (AME/SP), Guarulhos, Brazil, <sup>12</sup>Patient Association Associação Brasileira de Esclerose Múltipla (ABEM/SP), São Paulo, Brazil, <sup>13</sup>Patient Association Associação de Pacientes de Esclerose Múltipla do Estado do Rio de Janeiro (APEME/RJ), Rio de Janeiro, Brazil

## INTRODUCTION

- To understand how different stakeholders trade-off between different types of benefit possibly generated by a new technology is an important aspect of the health decision making process. (1)
- Multicriteria Decision Analysis (MCDA) allows a systematically and explicitly process that addresses all key factors impacting decisions, providing a clear framework to assess the value of a technology. (2,3)
- In the healthcare setting, MCDA has been suggested as a tool to help deliberative discussions, through the partial approach. (4)
- MCDA structure complex problems into a comprehensive set of criteria (2), and helps decision markers to trade-off between the selected criteria, providing a systematic and robust way to elicit preferences. (1)

## OBJECTIVES

- To identify priority criteria and their relevance to health decision-making using a MCDA partial approach in the context of relapsing-remitting multiple sclerosis (RRMS).

## METHODS

- An exploratory research method was adopted through a face-to-face one-day meeting with 3 neurologists, 3 patients' representants, 3 public payers and 3 health technology assessment (HTA) experts.
- A literature review was carried out in search of priority criteria within RRMS.
- The criteria identified after literature review were presented to the participants, so that together they could validate, exclude or include some new criteria.
- Swing weighting method was used to elicit preferences.
- The criteria were initially ordered by participants per their importance for decision making, the first criterion of the list being considered the most important (given 100 points). Weights between 0 and 100 were assigned to the other criteria to reflect the relative importance of their performance ranges compared with that of the criterion judged most important.
- The weights were normalized dividing each criterion's point by the sum of points (add up to 1).
- The top-ranked criterion from each category were taken to compare with the other categories.

## RESULTS

- Final criteria set included five categories: efficacy, safety, quality of life, cost-effectiveness and convenience of the RRMS treatments. Efficacy category included the annualized relapse rate (ARR), Expanded Disability Status Scale (EDSS) progression and magnetic resonance imaging (MRI) endpoints, while safety category included infections, serious infections, malignancies and injection-site reactions (Figure 1).
- MRI endpoints criterion was the most important within efficacy category according to neurologists (45% of the total weight), whilst HTA experts and payers considered the ARR (50% and 45%, respectively). Patients results were almost similar for ARR and EDSS progression (46% and 45%, respectively) (Figure 2).
- For safety category, neurologists and HTA experts identified malignancies as the most important criterion (38% and 40%, respectively). Payers considered serious infections (34%), while patients considered infection related criterion (36%) (Figure 3).
- The final analysis showed that, for neurologists, payers and patients, efficacy was the main criterion for decision-making (37%, 24% and 21%, respectively). However, patients also classified the safety criterion as important as efficacy (21%). Cost-effectiveness was the main criterion for HTA experts (30%), followed by efficacy (27%) (Figure 4).

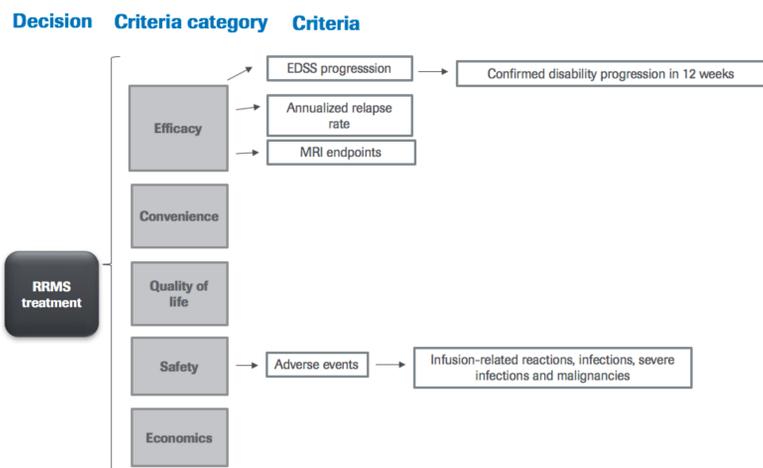
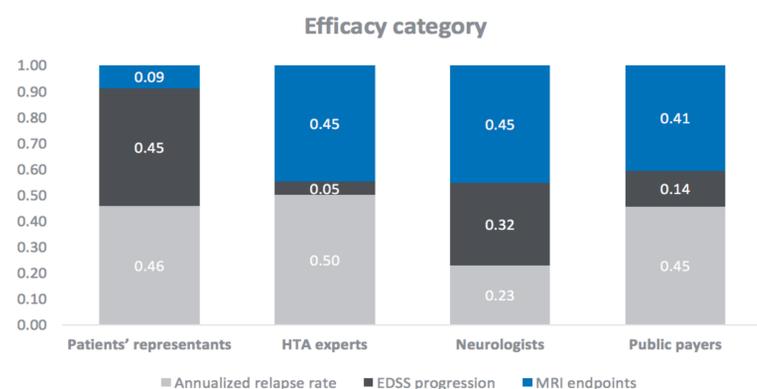


Figure 1. Final set of criteria.



HTA: health technology assessment; MRI: magnetic resonance imaging; EDSS: Expanded Disability Status Scale.

Figure 2. Weights distribution among criteria – efficacy category.

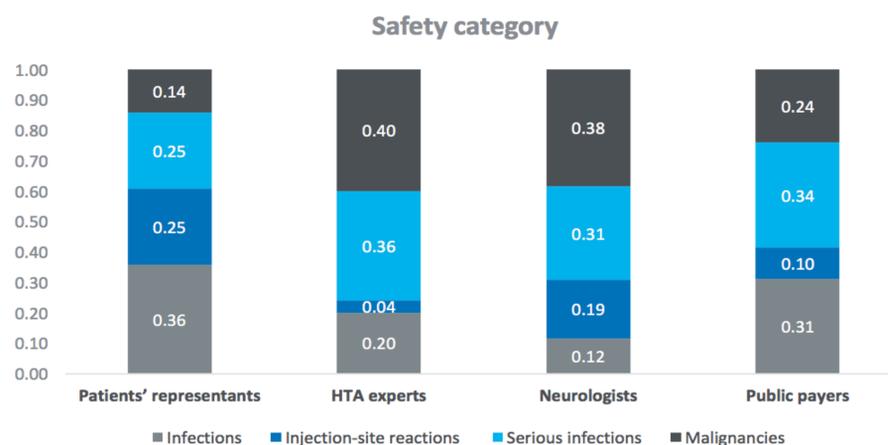


Figure 3. Weights distribution among criteria – safety category.

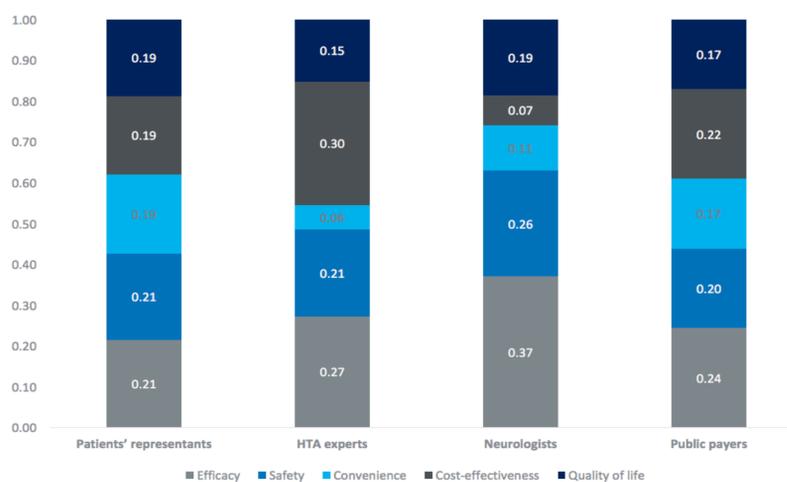


Figure 4. Weights distribution among criteria – general result.

## CONCLUSIONS

- A final set of five criteria was considered sufficient for assessing treatments in RRMS.
- Efficacy was the main criterion for three of the four stakeholders' groups, while HTA experts were the only group who gave a greater weight for the economic criterion.

## REFERENCES

- Garau M, Hampson G, Devlin N, Mazzanti NA, Profico A. Applying a Multicriteria Decision Analysis (MCDA) Approach to Elicit Stakeholders' Preferences in Italy: The Case of Obinutuzumab for Rituximab-Refractory Indolent Non-Hodgkin Lymphoma (iNHL). *Pharmacoeconomics*. 2017; [Epub ahead of print].
- Tony M, Wagner M, Khoury H, Rindress D, Papastavros T, Oh P, et al. Bridging health technology assessment (HTA) with multicriteria decision analyses (MCDA): field testing of the EVIDEM framework for coverage decisions by a public payer in Canada. *BMC Health Serv Res*. 2011;11(1):329.
- Marsh K, Goetghebuer M, Thokala P, Baltussen R, editors. *Multi-Criteria Decision Analysis to Support Healthcare Decisions*. Springer; 2017.
- Federación Latinoamericana de La Industria Farmacéutica (FIFARMA). *Utilization of Multiple-Criteria Decision Analysis (MCDA) to Support Healthcare Decision Making*. 2016. p. 18.