RATION OF INDIVIDUAL VARIABILITY INTO DISEASE PROGRESSION FUNCTION ENABLES INCLUSION OF ALL RELEVANT DISEASE INDICATORS AND INCORPORATION OF A FRAMEWORK COMpletely BASED ON REGRESSION FUNCTIONS. THIS MODELED. THE PROPOSED MODEL PROVIDES A DYNAMIC SIMULATION OF THE LIMITING EXTENT TO WHICH INDIVIDUAL VARIABILITY CAN BE ACCOUNTED FOR (SETTING) THEREBY NEGLECTING IMPORTANT EXPLANATORY VARIABLES AND LIMITING THE EXTENT TO WHICH INDIVIDUAL VARIABILITY CAN BE MODELED. THE PROPOSED MODEL PROVIDES A DYNAMIC SIMULATION FRAMEWORK COMPLETELY BASED ON REGRESSION FUNCTIONs. THIS ENABLES INCLUSION OF ALL RELEVANT DISEASE INDICATORS AND INCORPORATION OF INDIVIDUAL VARIABILITY INTO DISEASE PROGRESSION FUNCTIONs. THE PROPOSED MODEL CAN BE USED FOR ECONOMIC EVALUATION OF ANY TREATMENT INTERVENTION.

RESULTS FROM THE ELECTRONIC SCHIZOPHRENIA TREATMENT ADHERENCE REGISTRY PROJECT CONDUCTED IN SPAIN, AUSTRALIA AND BELGIUM
Olivares JM1, Emmerson B2, Peuskens J1, Diels JK4, Caleo S5, Povey M6, Lam A7
1Servicio de Psiquiatria Hospital, Vigo, Spain, 2Royal Brisbane and Women’s Hospital, Herston, Queensland, Australia, 3Universitair Psychiatrisch Centrum, KUL, Leuven, Leuven, Belgium, 4Janssen Pharmaceuticals, Beerse, Belgium, 5Janssen Pharmaceuticals N.V. Beerse, Belgium, 6SGS Life Science Services Belgium, Wavre, Belgium, 7Johnson and Johnson Pharmaceutical Services, Toronto, ON, Canada.

OBJECTIVES: To compare 12-month outcomes in patients with schizophrenia who received risperidone long-acting injectable (RLAI) treatment and are enrolled in the electronic-Schizophrenia Treatment Adherence Registry (e-STAR) in Spain (SP), Australia (AU), and Belgium (BE).

METHODS: E-STAR is a secure, web-based, international, long-term observational study of patients with schizophrenia who commence RLAI treatment. Data are collected both retrospectively and prospectively. Reason for initiating RLAI and treatment discontinuation data were collected. RESULTS: A total of 2498 patients (SP = 1332, AU = 763, BE = 403) were included in this analysis. At 12-months, 84% (CI = 81.5–86.2), 52.2% (CI = 48.2–56.0), and 71.6% (CI = 65.3–77.1) of patients in Spain, Australia and Belgium were still being maintained on RLAI respectively. The three most common reasons reported for discontinuing RLAI was “insufficient response”, “choice”, and “lost to follow-up”. The most important reason reported for initiating RLAI was “compliance” in Australia and Belgium (AU = 52%, BE = 43%). In Spain it was “insufficient response” (33%) followed closely by compliance (32%). The differences seen in the results may partially be due to differences in the baseline characteristics of the patients. The age of patients at baseline was significantly different (SP = 38.3, AU = 37.1, BE = 39.9; p = 0.0005). Time since diagnosis (in years) was significantly higher in Spain than Australia and Belgium (SP = 12.6, AU = 10.6, BE = 9.3; p < 0.0001). Spanish patients had significantly higher baseline GAF scores than the Australian and Belgian patients (SP = 46.8, AU = 42.6, BE = 44; p < 0.0001). The proportion of inpatients was significantly different between the three countries (SP = 9.2%, AU = 51.6%, BE = 55.6%; p < 0.0001). Finally, the proportion of patients employed (full-time and part-time) was also significantly different (SP = 12.7%, AU = 8.5%, BE = 15.4%; p < 0.0008). Due to these differences, data were not pooled. CONCLUSION: This interim analysis shows that the majority of patients were still maintained on RLAI at 12-months. However, the discontinuation rates of RLAI were significantly different between countries. This may partially be due to differing baseline patient characteristics in the countries.

A MULTI-DOMAIN MICRO-SIMULATION ECONOMIC MODELING FRAMEWORK IN ALZHEIMER’S DISEASE
Jonsson L1, Gustavsson A2, Ganguly R3

OBJECTIVES: To develop a stochastic multi-domain microsimulation model for evaluation of cost-effectiveness and long-term outcome in Alzheimer’s disease.

METHODS: Key disease indicators (e.g. cognitive function, functional abilities—ADLs and care setting) were simulated over time for individual patients using regression functions derived from longitudinal observational data. Micro-simulation of each individual patient enables incorporating individual variability over time into the model, i.e. the disease progression depends on individual characteristics and previous progression rates. The disease indicators together with patient characteristics were used to predict the need for health care services and ultimately the need for full time care.

RESULTS: The model simulated individual patients estimating cognitive function, physical function, resource utilization and care setting for each 6 months period until the event of death. Average disease progression rates and estimated resource use well corresponded to what have been observed in clinical practice.

CONCLUSION: Existing models stratify patients into artificial cohorts using single domains (typically either cognition or care setting) thereby neglecting important explanatory variables and limiting the extent to which individual variability can be modeled. The proposed model provides a dynamic simulation framework completely based on regression functions. This enables inclusion of all relevant disease indicators and incorporation of individual variability into disease progression functions. The proposed model can be used for economic evaluation of any treatment intervention.

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