

Healthcare Resource Use and Costs of Treating Patients With Major Depressive Disorder and Suicidal Ideation or Behaviour in Europe

Joana Anjo¹, Andrew Major², Weiwei Xu³, Berta Herrera⁴, Sansone Carmen⁵, Ayman Youssef⁶, Camille Dalibot⁶, Beatriz González Martín-Moro⁴

¹Janssen Portugal, ²Janssen UK, ³IQVIA Netherlands, ⁴Janssen Spain, ⁵Janssen Italy, ⁶Janssen France

BACKGROUND

- Major depressive disorder (MDD) with suicidal ideation or behaviour (MDSI) constitutes a psychiatric emergency requiring urgent medical attention¹
- The humanistic and economic burden of MDSI is high. Patients with MDSI and their caregivers have poorer quality of life and are associated with higher direct and indirect costs vs. patients with MDD with no suicidal ideation or behaviour and their caregivers, driven by significantly higher healthcare visits and hospitalisations, absenteeism, presenteeism, and activity impairment^{2,3}
- Remission of MDD is one of the key treatment goals in patients with MDSI. Failure to achieve remission is associated with higher risk of suicide attempts and suicidal ideation^{4,5}

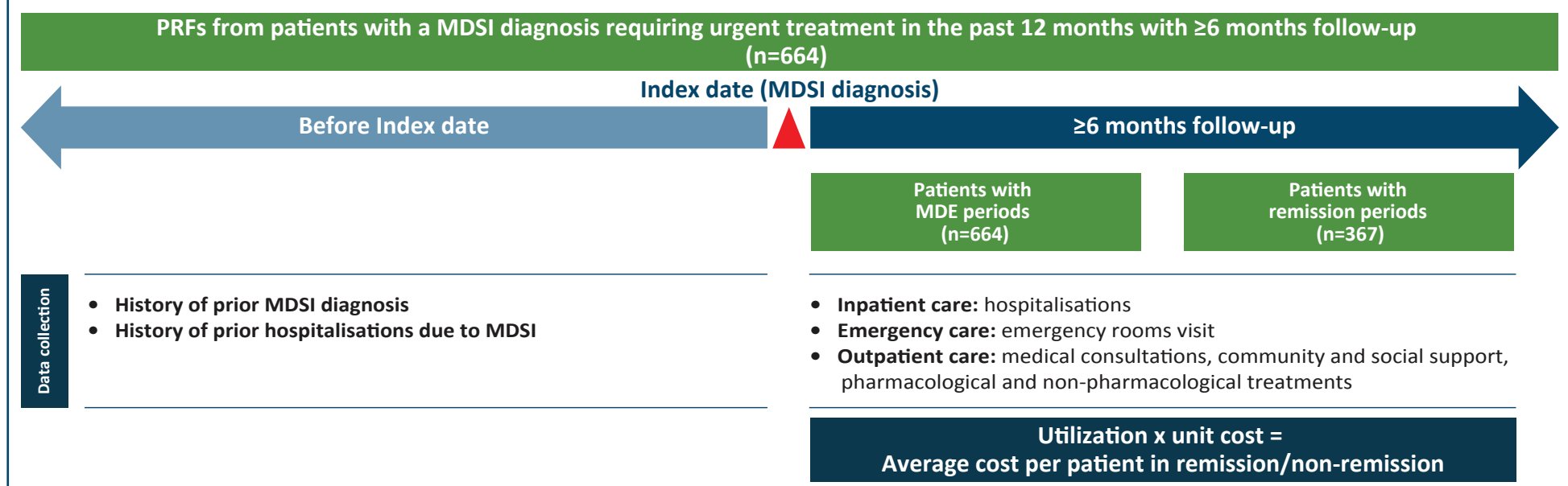
OBJECTIVES

This study aims to quantify the healthcare resource use (HRU) and costs of treating patients with MDSI in Europe, making the distinction between 2 different disease health states: remission and major depressive episode (MDE)

METHODS

- HRU data were retrospectively collected by 159 psychiatrists from France, Italy, and Spain who analysed 664 patient record forms (PRFs) from adult patients diagnosed with MDSI within 12 months before the survey completion (**Figure 1**)
- Inpatient and outpatient HRU was mapped for periods of remission and MDE captured in records with a follow-up period of ≥6 months after MDSI diagnosis
- The classification of patients according to health status (remission/MDE) was based on physician's judgement, taking into consideration their practice and the data available for the patient
- To ensure full capture of resource use in remission, data collection in the outpatient setting only considered PRFs from patients with periods of remission ≥3 months

Figure 1. Healthcare resource use data collection study design



METHODS (CONT.)

- Costs were derived using unit costs from specific country data sources:
 - Inpatient care:** daily hospitalisation cost was collected where available or calculated from average length of hospital stay. Inpatient pharmacological and non-pharmacological resources were considered as part of the daily hospitalisation cost
 - Outpatient care:** the unit cost per visit/use was collected
 - Non-pharmacological treatments** (electroconvulsive therapy [ECT], transcranial magnetic stimulation [TMS], interpersonal therapy [IPT], cognitive behavioral therapy [CBT]): the unit cost per visit/use was collected
 - Medications:** Retail prices from the local official price bulletins were collected. The most reported active ingredients cost per mg was calculated for each presentation and an average cost per mg was derived

Inclusion criteria

- Psychiatrists with 3–40 years in practice and seniority level of consultant, associate specialist, or specialty registrar
- 50% or more time spent in direct patient care
- Experienced in treating patients with MDSI: ≥30 MDD patients followed in the past 6 months, of whom ≥5 have been diagnosed with MDSI

Target population

- Adult patients diagnosed with moderate-to-severe MDSI for whom urgent treatment was required
- MDD diagnosis criteria were defined according to the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) of the American Psychiatric Association or to the International Classification of Disease, 10th revision (ICD-10).^{6,7} Suicidal ideation was defined as current thoughts of suicide or plans, wishes, or intent to complete suicide, regardless of having made an active attempt
- Patients with concomitant diagnosis of bipolar disorder, schizophrenia and other non-mood psychotic disorders, moderate-to-severe substance use disorder (except nicotine-use disorder), intellectual disability, and cluster B personality disorder were excluded

- Respondents (n=159; 51 from France, 55 from Italy, and 53 from Spain) had, on average, 17.4 years of professional experience and spent >90% of their time in direct patient care
- Half of respondents worked primarily in inpatient care, 17% in outpatient clinics linked to hospitals, and 33% in outpatient community setting
- About one third (34%) of the patients followed by respondents had a MDD diagnosis, of whom half (51%) had a lifetime MDSI diagnosis and 36% a MDSI diagnosis in the past 12 months
- From the 664 PRFs used to collect data, 55% captured remission periods

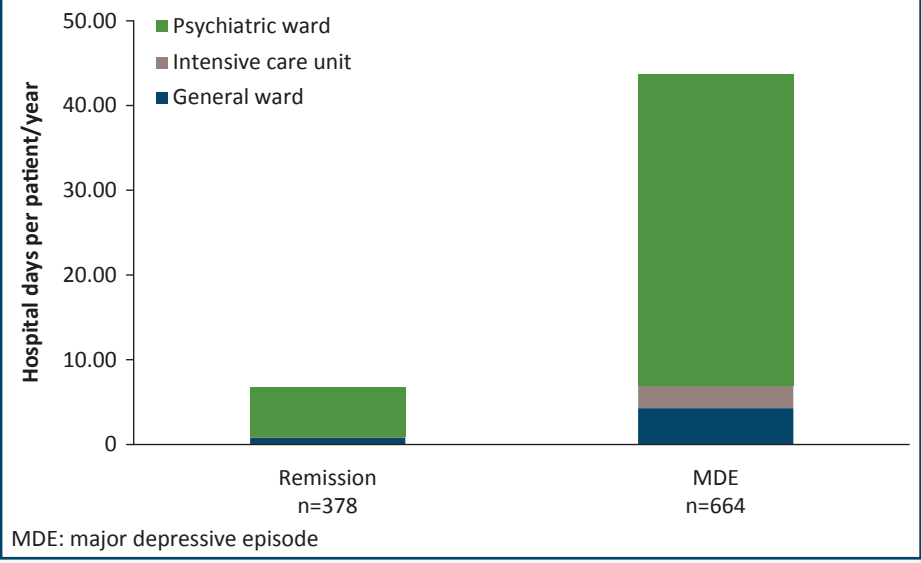
Patient history

- Before the study index date, 36% (241/664) of patients had a record of a diagnosis of MDSI, with a mean number of 2.59 diagnoses per patient
- During the follow-up period, each patient had on average 1.7 diagnoses of MDSI, and 16% (103/664) of patients were diagnosed with MDSI 3 or more times
- Of the 268 patients for whom a hospitalisation was reported prior to the index date, 44% had ≥2 prior hospitalisations, while 19% of them had ≥3
- All patients had 1 hospitalisation during the follow-up period: 18% (122/664) of patients were hospitalised at least twice
- Over 45% of patients presented with > 1 comorbidity; anxiety and insomnia were the most common psychiatric comorbidities

Resource use during the follow-up period

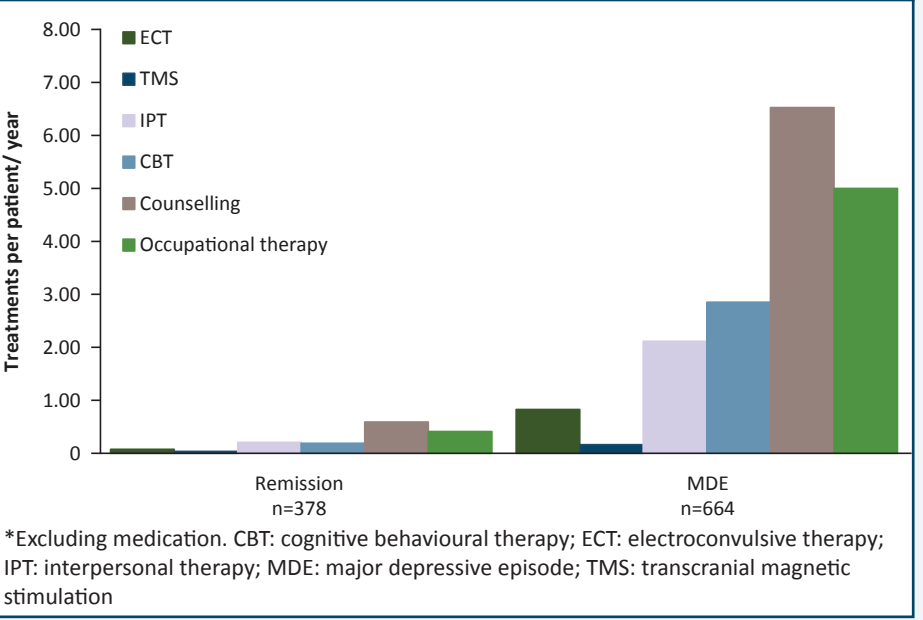
- Patients in MDE visited the emergency rooms 2.1 times more than patients in remission (0.6 vs. 0.3 per patient/year)
- Only 6% (51/831) of the hospital admissions were captured in patients that were defined by physicians as being in remission
- Patients in MDE stayed 6.4 times more days in the hospital than patients in remission (43.6 vs. 6.8 days per patient/year) (**Figure 2**). This was driven by the high percentage of patients in MDE who were hospitalised and the longest length of stay in the hospital (17 and 21 days in remission and MDE states, respectively)
- While in the hospital, patients were treated mostly with occupational therapy and counselling. ECT and TMS were rarely used, corresponding to ≤7% of the resource use in this setting (**Figure 3**)

Figure 2. Utilisation of hospital wards



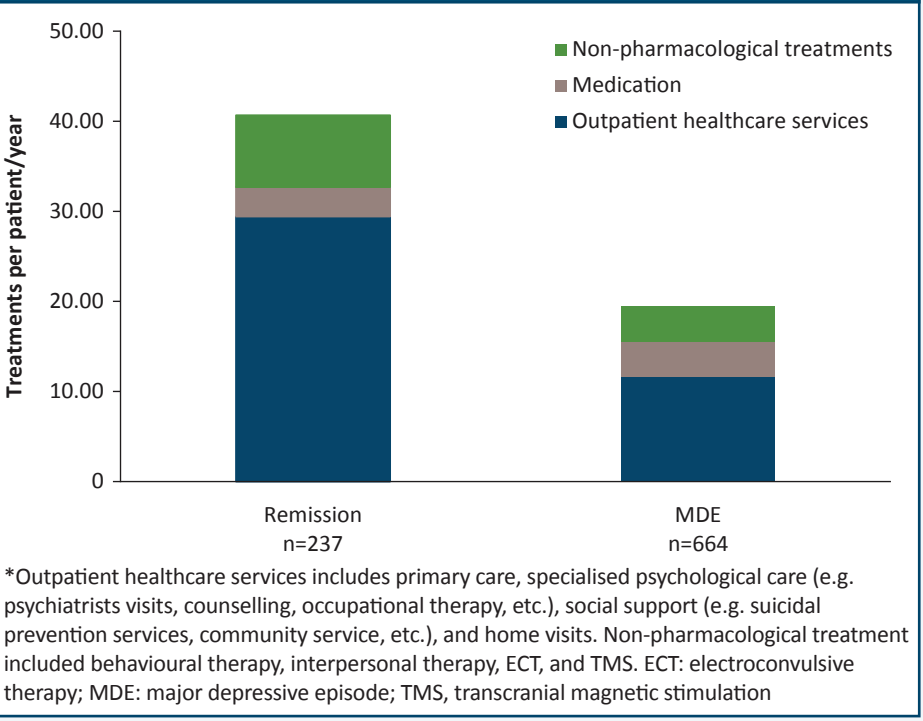
RESULTS

Figure 3. Resource utilisation in inpatient setting



- Outpatient care was used 2.1 times more often in patients in remission vs. MDE (40.7 vs. 19.1 events per patient/year) (**Figure 4**)

Figure 4. Outpatient resource use

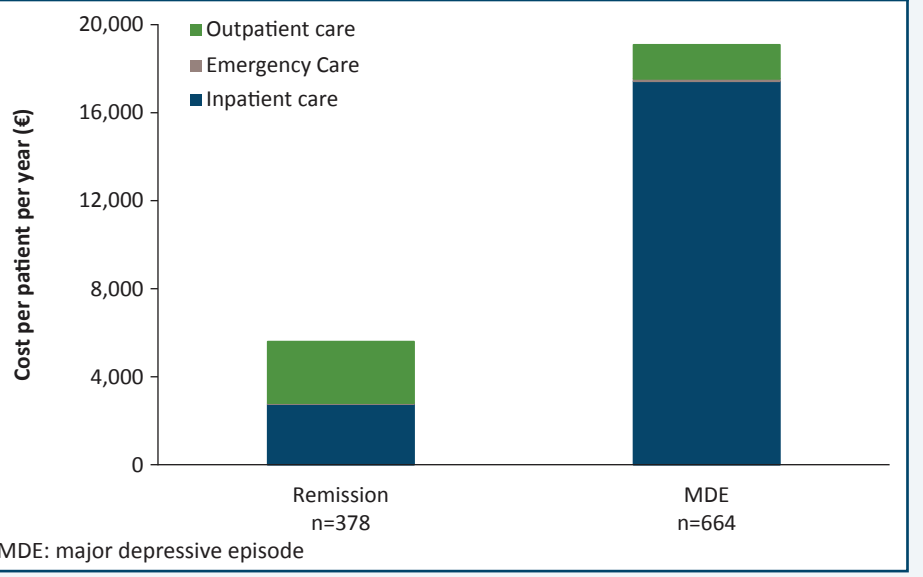


- Psychological care (mainly psychiatrist visits, counselling, and occupational therapy) were the most commonly used outpatient services in both remission (27.6 events per patient/year) and MDE (10.5 events per patient/year). Social support and primary care had residual event rates in all countries
- ECT and TMS were rarely used in inpatient and outpatient settings for both remission and MDE (0.1 events and 0.2 events per patient/year, respectively)
- Venlafaxine was the most common antidepressant used in all settings and disease states. Antipsychotics and lithium use appeared higher in MDE

Costs

- The overall annual cost per patient in remission was 3.4 times lower than in MDE (€5,596 vs. €19,082) (**Figure 5**)

Figure 5. Annual cost per patient according to disease state



- This difference was mostly driven by inpatient costs, 6.3 times higher in MDE vs. remission (€17,429 vs. €2,753)
- Outpatient costs were 1.8 times higher in remission compared with MDE (€2,793 vs. €1,543), driven by the higher use of outpatient healthcare services in this health state

Limitations

- Inpatient and outpatient resource use in remission might be overestimated due to the methodology of the study, so the costs associated to remission might be lower than the ones reported
 - Outcomes data were not collected to confirm remission. Patients being hospitalized for MDD could therefore represent relapses and not be in “real” remission
 - Data collection in outpatient setting only considered PRFs from patients with periods of remission ≥3 months, which may represent the most adherent patients
- Due to study design and sample selection, the data collection in Italy does not consider patient stays in residential and semi-residential facilities

CONCLUSIONS

- Disease health state drives HRU and costs in MDSI, with a clear shift from emergency/inpatient care in patients in MDE to outpatient care in patients in remission
- The higher costs of MDE were primarily driven by inpatient costs, which represented 91% of the total costs in this health state
- Remission represents cost savings to the healthcare system, which highlights the need for effective treatments in these patients that can quickly reduce depressive symptoms and bring patients into earlier remission

References: 1. Newhill CE. Clin Soc Work J. 1989;17(3):245-258. 2. Jaffe DH, et al. Neuropsychiatr Dis Treat. 2019;15:2257-2271. 3. Jaffe DH, et al. International Society for Pharmacoeconomics and Outcomes Research (ISPOR); 2020. Virtual. 4. Wasserman D, et al. Eur Psychiatry. 2012;27(2):129-141. 5. Holma KM, et al. Am J Psychiatry. 2010;167(7):801-808. 6. Diagnostic and Statistical Manual of Mental Disorders: DSM5, Fifth edition. American Psychiatric Association; 2013. 7. The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines. <https://www.who.int/classifications/icd/en/bluebook.pdf> Accessed August 23, 2021

Acknowledgements: This study was funded by Janssen Pharmaceutica NV. Editorial and graphical support were provided by Joshua Branter, PhD, and Tom Rouwette, PhD, of Excerpta Medica, with support from Janssen Pharmaceutica NV

Disclosures: JA, AM, BH, SC, AY, CD, BGMM are full-time employees of Janssen. WX is an employee of IQVIA EMEA Real World Methods & Evidence Generation

Presented at Virtual ISPOR Europe, 30 November – 3 December 2021