The Costs Associated with Healthcare Resource Use and Work Productivity for Care Partners of Multiple Myeloma Patients in the United States and Europe

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Objectives

To quantify the costs associated with healthcare resource use (HCRU) and lost work productivity for care partners of multiple myeloma (MM) patients in the United States and Europe

Conclusions

- Care partners to patients living with MM experience significant direct and indirect costs in both the US and Europe
  - Per-person per-year direct healthcare costs were much higher among care partners in the US and EU4+UK ($119,904 and 25,273€) vs matched non-care partners ($7270 and 3856€), respectively
  - Per-person per-year total indirect cost due to lost wages from missed/impaired work were also much higher for care partners vs matched non-care partners in both cohorts (US: $48,604 vs $13,894; EU4+UK: 14,257€ vs 5928€)

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References: 1. Graça Pereira M, et al. Aging Ment Health 2020;24:1402-1410. **2.** Metin T, et al. Support Care Cancer 2023;31:288. **3.** Beck K, et al. Curr Hematol Malig Rep 2023;18:201-215. **4.** Yang J, et al. J Manag Care Spec Pharm 2023;29:917-926. **5.** Gatopoulou X, et al. Clinicoecon Outcomes Res 2022;14:731-753. **6.** Mackie DS, et al. Value Health 2022;25:S216-S217. **7.** Matos JE, et al. Value Health 2022;25:S217. **8.** Reilly MC, et al. Pharmacoeconomics 1993;4:353-365. **9.** Finkelstein EA, et al. J Occup Environ Med 2011;53:1025-1029. **10.** Dodick DW, et al. Headache 2024;64:361-373.

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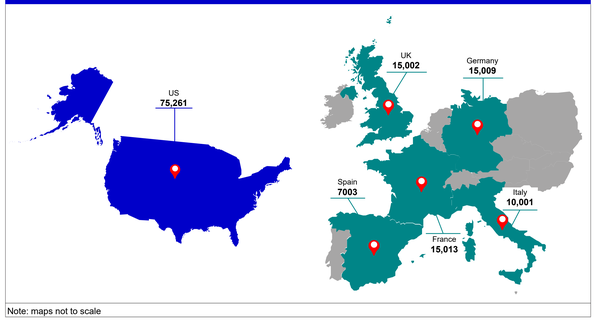
Background

- The impact of multiple myeloma (MM) extends beyond the affected patients themselves as care partners also experience significant economic burden and impacts on their own quality of life (QOL)[1-4]
  - Direct costs associated with patient care can include the costs of using health and social care resources and therapy costs[5]
  - Indirect costs associated with patient care can include those associated with productivity loss (eg, work absenteeism)[5]

Methods

- This study analyzed data from the 2021 and 2022 National Health and Wellness Survey (NHWS) conducted in the US (N=75,261), European Union 4 (EU4; France [N=15,013], Germany [N=15,009], Italy [N=10,001], and Spain [N=7003]), and the UK ([N=15,002]; ie, EU4+UK) (**Figure 1**)
  - The NHWS is a cross-sectional, population-based health survey administered online to a demographically representative sample of adults in each country[6,7]
  - Survey questions assessed demographics and health history (including whether a respondent provides care to an adult relative with MM; "care partners")
- For each region (US and EU4+UK), care partners were compared 1:1 to country-, age-, sex-, and comorbidity-matched non-care partner controls on work productivity and self-reported HCRU
- Work productivity was assessed using the Work Productivity and Activity Impairment-General Health (WPAI-GH) questionnaire[8]
- Country-specific average wage rates and HCRU unit costs were used to estimate per-person, per-year (PPPY) direct (hospitalization, emergency room, and physician visit costs) and indirect (total missed/impaired work) costs
  - Direct costs were estimated by applying unit costs to the number of distinct healthcare visits and annualizing those figures[9,10]
  - Monetization of indirect costs was performed using the human capital method[9] by applying median wages by age and sex to the hours lost due to absenteeism, presenteeism, and overall work impairment (per WPAI-GH) and annualizing those figures
- Results are reported descriptively

Figure 1. Participants included in the 2021 and 2022 National Health and Wellness Survey



Note: maps not to scale

Results

CARE PARTNER DEMOGRAPHICS AND HEALTH CHARACTERISTICS

- 105 and 70 care partners were identified from the US and EU4+UK, respectively, with equivalent numbers of matched non-care partners (**Table 1**)
  - The care partner was typically either an adult child (31.4% [US] and 35.7% [EU4+UK]) or a spouse/partner (28.6% and 37.1%) of the patient with MM
  - Care partners in both the US and EU4+UK were statistically more likely to smoke and consume alcohol compared with matched non-care partners (*P*<.05)
  - The number of care partners in both the US and EU4+UK who had a Charlson Comorbidity Index ≥3 was statistically greater compared with matched non-care partners (*P*<.05)

DIRECT HEALTHCARE COSTS

- PPPY direct healthcare costs were much higher among care partners compared with matched non-care partners (US: $119,904 vs $7,270; EU4+UK: 25,273€ vs 3,865€) and were driven by higher hospitalization rates (**Figure 2**)

INDIRECT HEALTHCARE COSTS

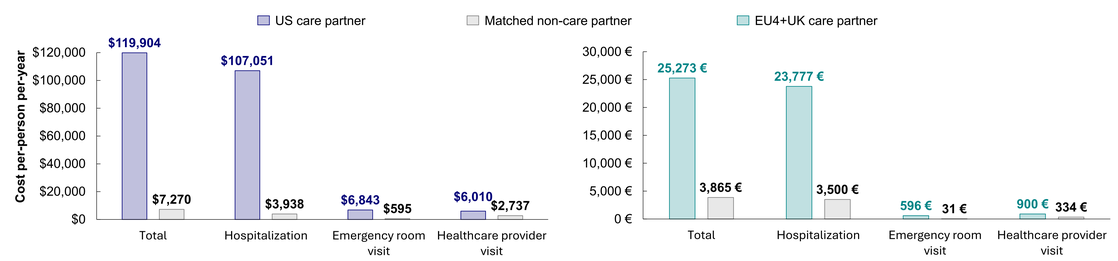
- Total PPPY indirect costs (due to lost wages) were also much higher for care partners compared with matched non-care partners (US: $48,604 vs $13,894; EU4+UK: 14,257€ vs 5,928€) (**Figure 3**)

Table 1. Demographics and health characteristics of care partners and matched non–care partners in the US and EU4+UK

	US		EU4+UK	
	Care partners n=105	Matched non–care partners n=105	Care partners n=70	Matched non–care partners n=70
Age, mean (SD), years	39.1 (13.0)	40.0 (14.1)	36.9 (13.4)	38.2 (14.5)
Female, n (%)	44 (41.9)	44 (41.9)	24 (34.3)	24 (34.3)
Ethnicity, n (%)				
White, not Hispanic	64 (61.0)	71 (67.6)	N/A	N/A
Attained a university degree, n (%)	60 (57.1)	56 (53.3)	23 (32.9)	31 (44.3)
Currently employed, n (%)	85 (81.0)*	69 (65.7)	44 (62.9)	45 (64.3)
BMI category, n (%)[a]				
Underweight (BMI <19)	10 (9.7)	4 (3.9)	6 (8.0)	4 (6.3)
Normal weight (BMI 19 to <25)	45 (43.1)	47 (45.1)	39 (56.0)	27 (39.1)
Overweight (BMI 25 to <30)	29 (27.8)	26 (24.5)	11 (16.0)	25 (35.9)
Obese (BMI ≥30)	20 (19.4)	28 (26.5)	14 (20.0)	13 (18.8)
Currently smoke, n (%)	66 (62.9)*	21 (20.0)	41 (58.6)*	20 (28.6)
Currently consume alcohol, n (%)	98 (93.3)*	65 (61.9)	67 (95.7)*	46 (65.7)
Charlson Comorbidity Index, n (%)				
0	43 (41.0)	46 (43.8)	29 (41.4)	34 (48.6)
1	14 (13.3)	13 (12.4)	5 (7.1)	5 (7.1)
2	17 (16.2)*	29 (27.6)	15 (21.4)	20 (28.6)
≥3	31 (29.5)*	17 (16.2)	21 (30.0)*	11 (15.7)

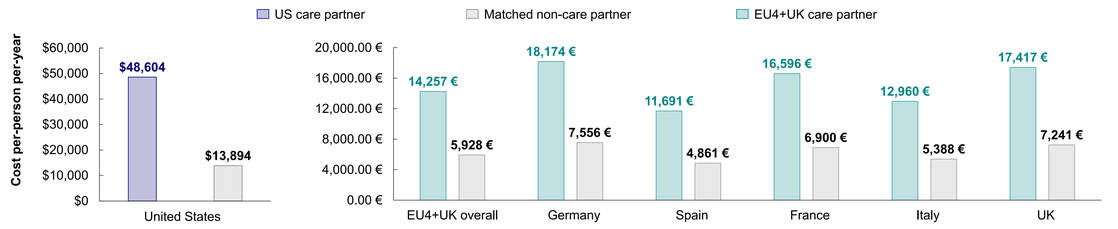
[a]Sample sizes were imputed for BMI ranges. *Significant difference (P<.05) compared with matched non–care partners, within a region
BMI=body mass index; EU4=France, Germany, Italy, and Spain; N/A=not available

Figure 2. Estimated direct costs of care partners and matched non-care partners in the US and EU4+UK[a]



[a] Direct costs due to hospitalization, emergency room visits, and healthcare provider visits. Monetary values represent the mean HCRU multiplied by the estimated mean unit cost
EU4=France, Germany, Italy, and Spain; HCRU=healthcare resource utilization

Figure 3. Estimated indirect costs of care partners and matched non-care partners in the US and EU4+UK[a]



[a] Indirect costs due to lost wages from missed/impaired work. Monetary values represent the mean WPAI multiplied by the estimated median wage rate
EU4=France, Germany, Italy, and Spain; WPAI=Work Productivity and Activity Impairment