

SYSTEMATIC LITERATURE REVIEW OF HEALTH STATE UTILITY VALUES IN PATIENTS WITH HUNTINGTON'S DISEASE: EVIDENCE FROM THE EUROPE AND UNITED STATES

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BACKGROUND

- Huntington's disease (HD) is an inherited neurodegenerative disorder that heavily affects motor, cognitive, and psychological functions of the patients
- Health state utility values (HSUVs) are essential parameters in model-based economic evaluations and used to calculate quality-adjusted life-years (QALYs) to inform healthcare policy decision-making
- The systematic literature review (SLR) aimed to identify and summarise the published evidence related to HSUVs in HD patients

METHODS

- This review followed the standard methodology for conducting SLR as per guidelines provided by the National Institute for Health and Care Excellence (NICE)
- The results of this review were reported as per Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines
- Key biomedical databases (Embase[®], MEDLINE[®], NHS EED[®]) were searched from database inception to May 2022 to identify relevant evidence reporting HSUVs in HD patients
- Two independent reviewers performed the screening and data extraction activities with conflicts resolved by a third independent reviewer

RESULTS

- A PRISMA diagram for the screening process is presented in **Fig 1**
- Out of 1,241 publications, 13 studies met the inclusion criteria (**Fig 2**); United States (US) (n=4) and Europe (n=9)
- Among the 13 studies, HD patients ranged from 60 [1] to 5,560 [2], with lower proportion of males (32-49%)
- The mean age was 46-56 years among HD patients (n=8)
- EQ-5D (n=9), SF-6D (n=2), TTO/EQ-5D VAS (n=1) and EQ-5D/SF-6D (n=1) were the validated instruments used to assess HSUVs

US

- The average HSUV of HD patients in the US was 0.34 [3]
- HSUVs by TTO suggested poor health status with increasing disease severity (severe [0.07], moderate/severe [0.26], moderate/mild [0.48], and mild [0.64]) [4]

Europe

- Overall, the mean HSUV assessed via EQ-5D in HD patients ranged from 0.25 (France) [5] to 0.56 (the UK) [6]
- Women generally had lower HSUVs as compared to men [Fig 3]
- A consistent decline in HSUVs were observed with an increase in disease duration [Table 2], age [Table 1], and disease severity [Table 3, 4], indicating poor health status as the disease progresses

Figure 1: PRISMA diagram for the screening process

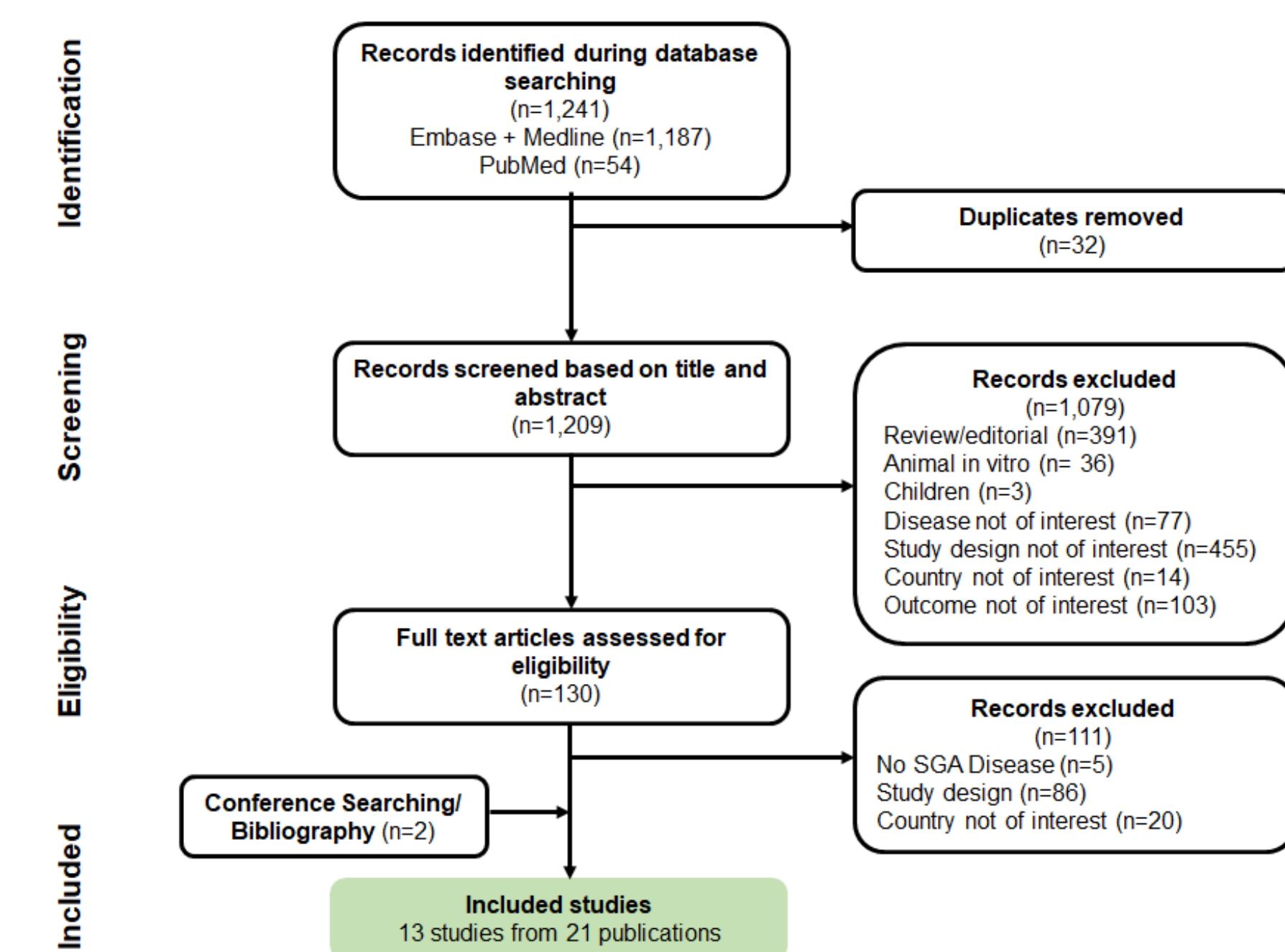


Figure 2: Inclusion criteria of the SLR

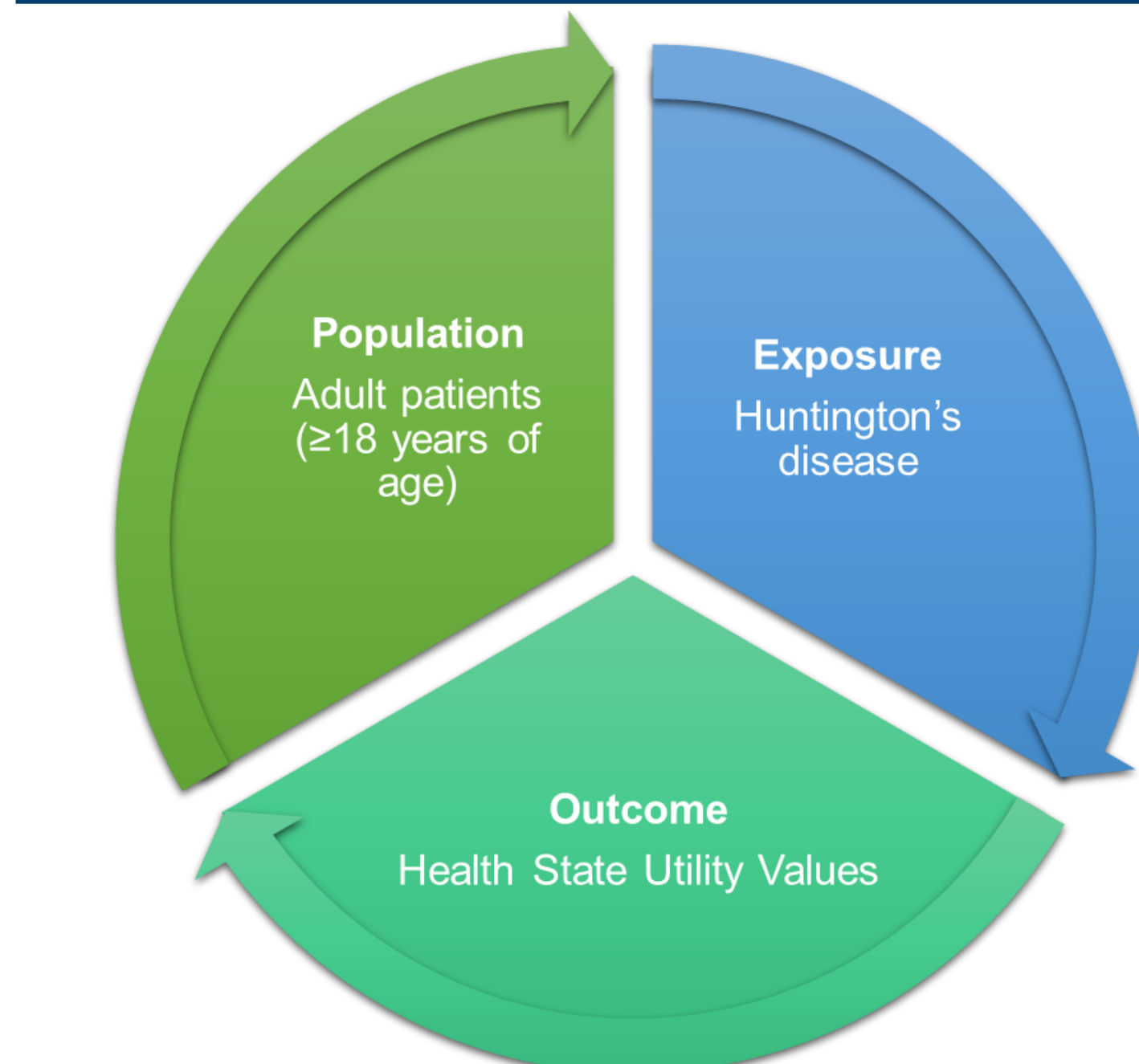


Figure 3: Mean SF-6D utility values by gender [2]

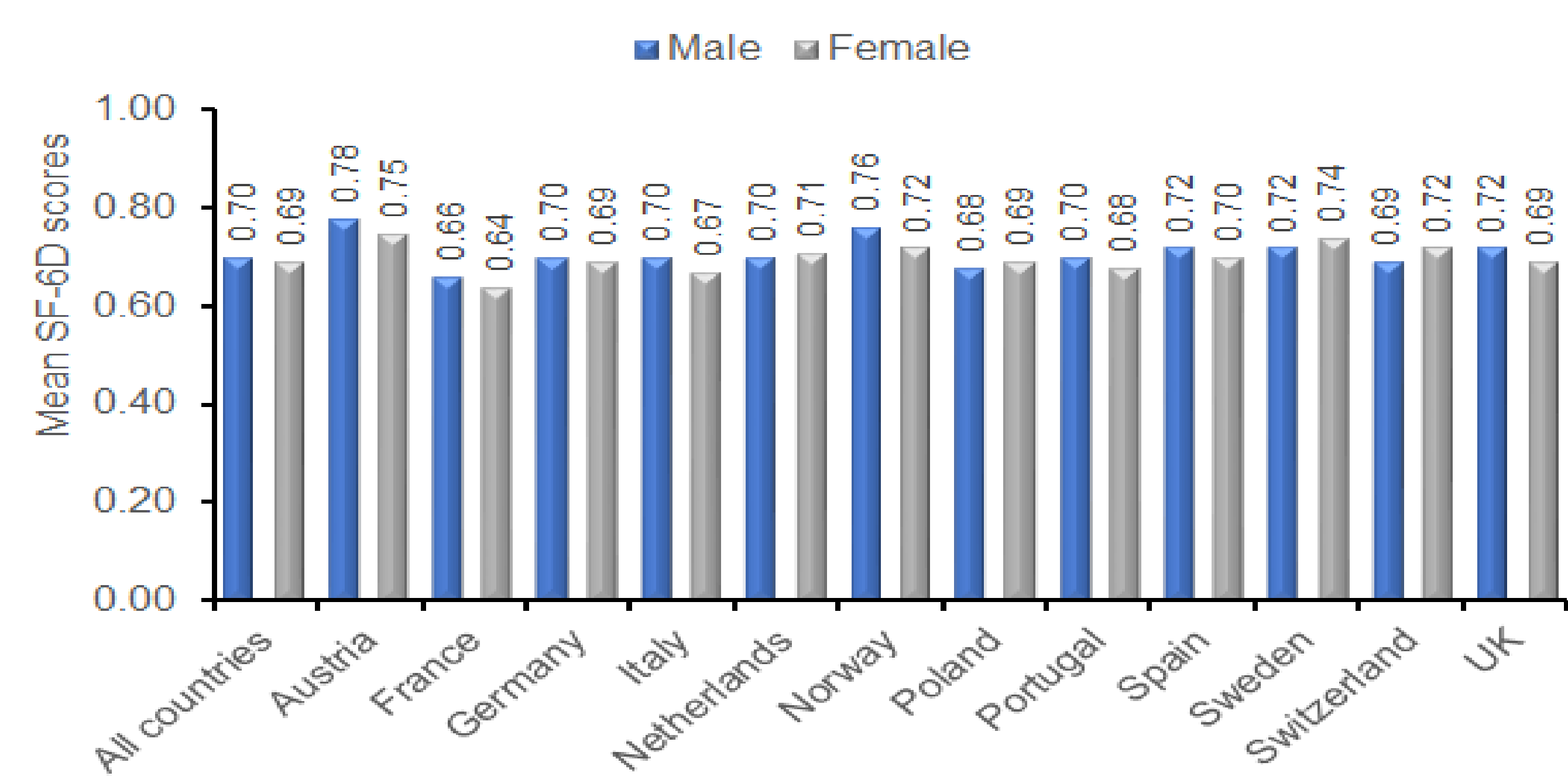


Table 1: Mean SF-6D utility values by age group [2]

Country	< 35 yrs	35-44 yrs	45-54 yrs	55-64 yrs	≥65 yrs
All countries	0.76	0.71	0.68	0.67	0.65
Austria	0.81	0.80	0.73	0.75	0.71
France	0.73	0.67	0.64	0.64	0.61
Germany	0.77	0.72	0.69	0.65	0.62
Italy	0.69	0.69	0.66	0.68	0.69
Netherlands	0.73	0.73	0.70	0.70	0.65
Norway	0.76	0.77	0.73	0.72	0.74
Poland	0.74	0.70	0.66	0.65	0.64
Portugal	0.78	0.69	0.66	0.64	0.65
Spain	0.79	0.74	0.68	0.66	0.64
Sweden	0.76	0.76	0.74	0.71	0.68
Switzerland	0.78	0.69	0.67	0.68	0.77
UK	0.75	0.71	0.71	0.70	0.68

Table 2: Mean SF-6D utility values by disease duration [2]

Country	< 1 yr	1-4 yrs	5-9 yrs	≥10 yrs
All countries	0.69	0.68	0.65	0.63
Austria	0.74	0.78	0.74	0.65
France	0.66	0.65	0.62	0.57
Germany	0.68	0.67	0.65	0.64
Italy	0.68	0.69	0.65	0.64
Netherlands	0.70	0.69	0.66	0.65
Norway	0.73	0.74	0.71	0.70
Poland	0.68	0.66	0.64	0.62
Portugal	0.66	0.67	0.63	0.61
Spain	0.69	0.68	0.65	0.60
Sweden	0.69	0.73	0.70	0.69
Switzerland	0.76	0.69	0.67	0.65
UK	0.72	0.69	0.67	0.67

Table 3: Mean EQ-5D utility values by disease severity

Country	Early	Mild	Moderate	Severe	Advanced
France [7]	-	0.79	0.39	-0.11	-
Italy [7]	-	0.59	0.39	0.25	-
France, Germany, Italy, Poland [8]	-	-	0.00	0.62	-
Germany, France, Italy, Spain, UK, US [9]	0.72	0.62	-	-	0.37
US [10]	0.80	-	-	-	0.71

Table 4: Mean SF-6D utility values by disease severity [2]

Country	I	II	III	IV or V
All countries	0.76	0.67	0.63	0.57
Austria	0.84	0.79	0.68	0.67
France	0.72	0.64	0.59	0.54
Germany	0.76	0.68	0.62	0.55
Italy	0.73	0.68	0.62	0.58
Netherlands	0.77	0.67	0.65	0.60
Norway	0.78	0.71	0.69	0.62
Poland	0.75	0.65	0.62	0.56
Portugal	0.75	0.63	0.58	0.48
Spain	0.78	0.65	0.64	0.56
Sweden	0.78	0.73	0.66	0.58
Switzerland	0.77	0.66	0.64	0.60
UK	0.78	0.68	0.65	0.60

CONCLUSIONS

- Despite the large variation in HSUVs, a consistent decline in health status can be seen as the disease progresses
- These findings indicate substantial impairment in individuals' quality of life and suggest value in early detection

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