

Health-related Quality of Life/Patient Reported Outcomes in Health Technology Assessment submissions of Rare Hematological Diseases

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HTA42

Background

Health-related quality of life (HRQoL) measures, including patient reported outcome (PRO) measures and clinician-reported outcome (ClinRO) measures, provide valuable insight from the patient and caregiver perspectives on disease burden and the impact of treatment. The use of HRQoL measures in health technology assessments (HTAs) for rare diseases is of particular interest, given the relatively limited research and unmet need in this area.

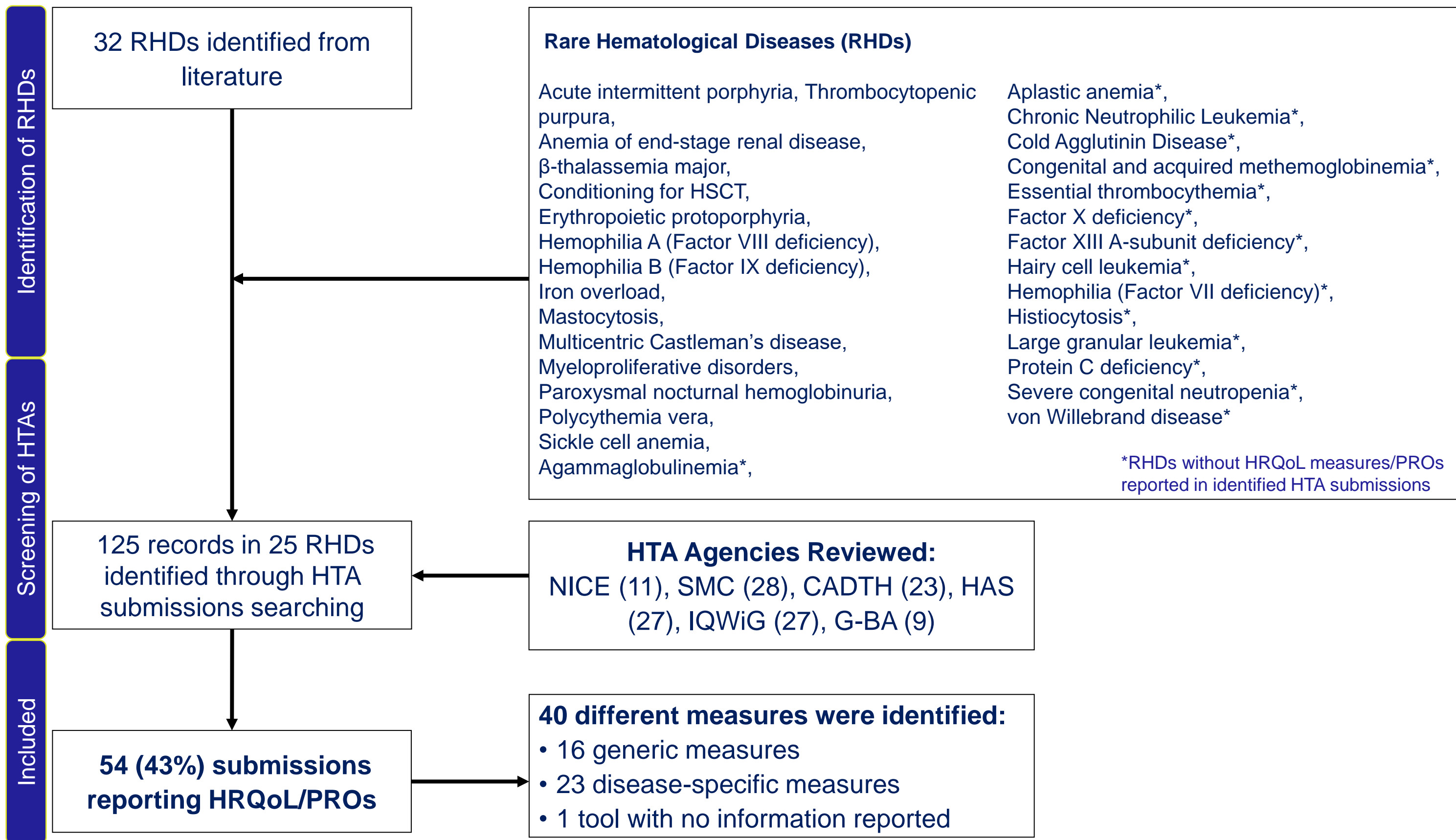
Objective

The objective of this review was to assess the frequency and types of HRQoL measures used in HTA submissions for rare hematological diseases (RHDs) and to serve as a guide for the selection of HRQoL measures in these indications.

Methods

- A list of 32 RHDs was identified by Gahl et al.[1] The HTA websites of NICE, SMC, CADTH, HAS, IQWiG and G-BA were reviewed for completed submissions since 2000 for drugs used in any of the 32 RHDs. Data regarding the frequency and type of HRQoL measures used were collected.
- HRQoL measures were designated as disease-specific if they assessed the special states and concerns of diagnostic groups [2], and generic if the tool provided data that can be used in comparison with other conditions.[3]

Figure 1. Flow chart of study method and overview of search results



Conclusions

- More than half of the RHDs of interest used both generic measures and disease-specific measures for HRQoL.
- The most frequently used generic HRQoL measures were EQ-5D (including VAS), SF-36, and EORTC QLQ-C30. HAEM-A-QOL (and its variations) was the most frequently used disease-specific measure. HTA submissions in hemophilia had a larger variety of measures compared to other conditions.
- SF-36 and EQ-5D were used for a wide variety of indications, including hemophilia, immune/idiopathic thrombocytopenic purpura, β -thalassemia major, myelofibrotic disorders, anemia, Multicentric Castleman's disease (MCD), porphyria, iron overload, paroxysmal nocturnal hemoglobinuria (PNH), and sickle cell anemia.
- Generic measures were mostly reported for myelofibrosis, polycythemia vera, and paroxysmal nocturnal hemoglobinuria. Disease-specific measures were most often used in hemophilia submissions, followed by ITP and myelofibrosis.
- In some conditions such as mastocytosis, polycythemia vera, sickle cell anemia, iron overload, PNH, acquired thrombotic thrombocytopenic purpura, and HSCT conditioning, a lack of disease-specific measures was observed; in these conditions only generic measures were reported, with EORTC QLQ-C30 being the most commonly used tool. Submissions relating to erythropoietic protoporphyria all used disease-specific HRQoL measures.

Strengths

HRQoL/PROs endpoints can play an important role in determining the value for money of therapies. By including evaluations from six HTA agencies relating to 32 RHDs, this study provides a comprehensive overview of the HRQoL measures most commonly used in RHD-related HTAs.

Limitations

Classifying the HRQoL measures into disease-specific and generic has some limitations, as there are measures that are designed for non-hematologic indications (such as DLQI for dermatologic diseases); however, it was considered disease-specific for erythropoietic protoporphyria since DLQI was used to measure a specific aspect (i.e., dermatologic) of this condition. Therefore, we could not draw any conclusion about the impact of the measures on the HTA outcome and further studies are needed.

References

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Disclosures/Acknowledgements

Nothing to disclose

Results

- Across HTAs, 125 unique submissions in 25 different RHDs were identified and reviewed. A total of 54 (43%) submissions reporting HRQoL measures were identified (**Figure 1**).
- Of the HTAs reviewed, SMC had the highest number of submissions (28), and G-BA had the lowest number of submissions (9); there were more than 20 submissions from SMC, CADTH, HAS, and IQWiG each. CADTH had the highest number of submissions reporting HRQoL (12), followed by NICE, HAS, and IQWiG (9 each). Generic measures were used more often than disease-specific measures (**Figure 2**).

Figure 2. HTA submissions on RHDs by type of HRQoL measures reported

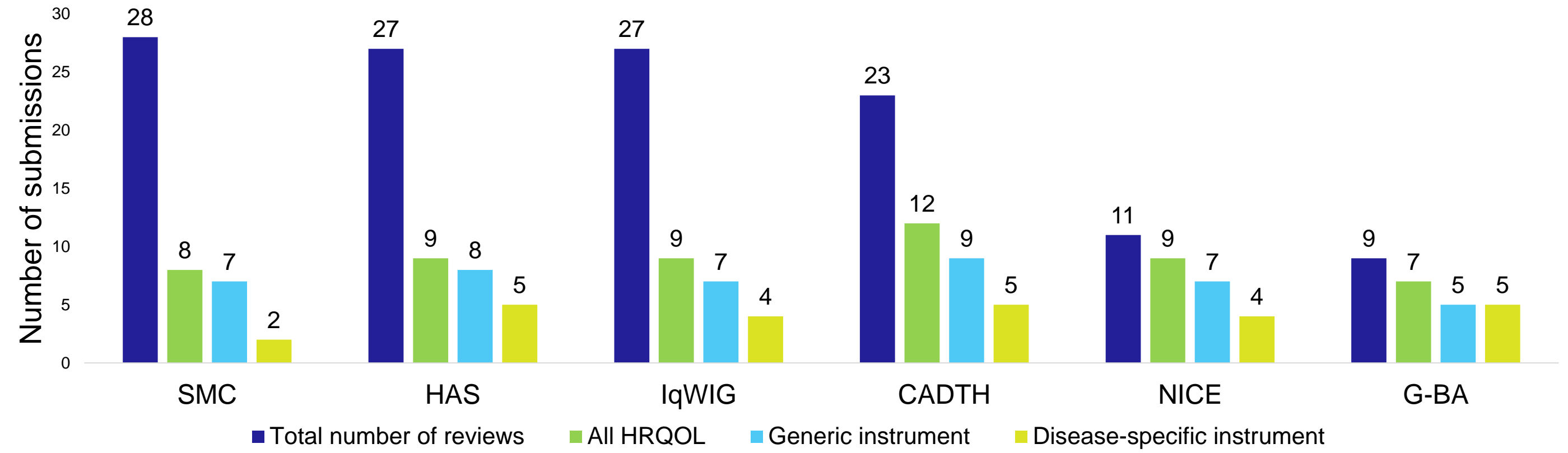
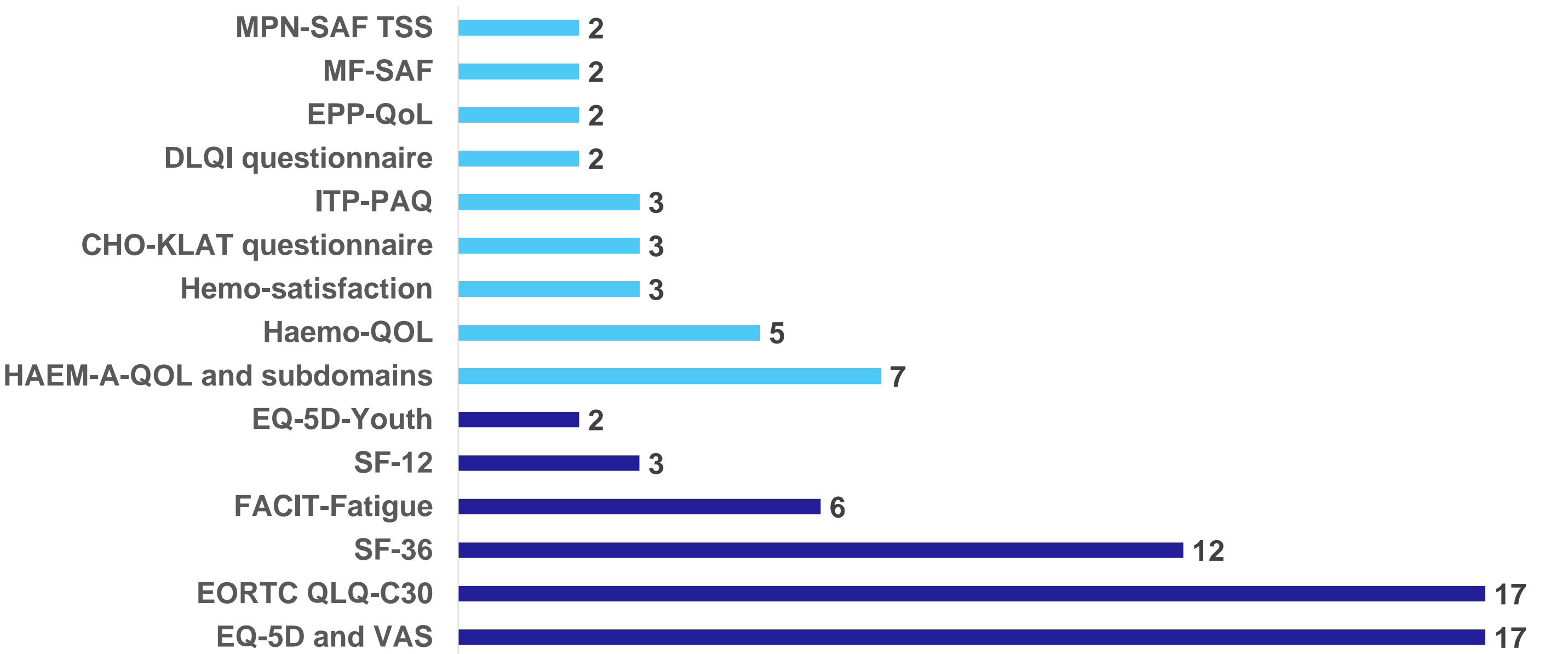


Table 1. HRQoL measures used in each RHD

Indication	HRQoL measures/PROs	Indication	HRQoL measures/PROs
Bleeding prevention / hemophilia A	HAEMO-SYM (symptom assessment tool for adults with haemophilia)	Immune (idiopathic) thrombocytopenic purpura	Immune Thrombocytopenic Purpura Patient Assessment Questionnaire (ITP-PAQ)
	HAEM-A-QOL and subdomains		SF-36
	HAEMO-QOL		EQ-5D and VAS
	HAEMO-QoL-SF		Patient Global Assessment (PGA)
Hemophilia B	Hemo-satisfaction	Idiopathic thrombocytopenic purpura	FACIT-Th
	Canadian Haemophilia Outcomes--Kids Life Assessment Tool (CHO-KLAT)		SF-36
	Emicizumab Preference Survey (EmiPref Survey)		FACIT
	Satisfaction Questionnaire with Intravenous or Subcutaneous Hemophilia Injection (SQ-ISHI)		MCD total symptom score
Myeloproliferative disorders (including myelofibrosis)	FACT--Lymphoma (FACT-Lym)	Multicentric Castleman's disease (MCD)	FACIT-Fatigue
	Myelofibrosis Symptom Assessment Form (MF-SAF)		Porphyria Patient Experience Questionnaire (PPEQ)
	MPN-SAF Total Symptom Score		SF-12
	Myelofibrosis 8 dimensions (MF-8D)		SF-12
Anemia of end-stage renal disease	EQ-5D and VAS	Acute intermittent porphyria	Memorial Symptom Assessment Scale (MSAS)
	Brief Fatigue Inventory (BFI)		SF-36
	PROMIS Fatigue		EORTC QLQ-C30
	EORTC QLQ-C30		EQ-5D and VAS
Beta thalassemia major	FACT-Anemia	Mastocytosis	EQ-5D and VAS
	WPAI-Anemic Symptom		FACIT-Fatigue
	SF-36		Linear Analog Assessment Scale (LAAS)
	EQ-5D and VAS		EORTC QLQ-C30
	FACT-Bone Marrow Transplant (FACT-BMT)	Iron overload (including transfusional iron overload)	SF-36
	Transfusion-dependent QoL (TranQoL)		EORTC QLQ-C30
	SF-36		EQ-5D and VAS
	EQ-5D and VAS		EORTC QLQ-C30
	Pediatric Quality of Life (PedsQL)	Acquired thrombotic thrombocytopenic purpura	Standardized Mini-Mental State Examination (SMMSE)
		Conditioning for hematopoietic stem cell transplant	

Figure 3. Frequency of HRQoL measures used in two or more HTA submissions



Frequency and type of HRQoL measures

- Of the 40 different measures reported, the EQ-5D, EORTC QLQ-C30, and SF-36 were the most common generic measures reported, followed by FACIT-fatigue. The most common disease-specific tool included HAEM-A-QOL and its variations, and hemophilia-QOL tool (**Figure 3**).
- The following measures were reported once in submissions:
 - Generic measures:**
 - VAS pain, PGA, FACIT, Brief Fatigue Inventory, Brief Pain Inventory, MSAS, SMMSE, PROMIS Fatigue, PedsQL, LAAS; Haemo-QoL-SF, PPEQ, Haemo-SYM, EPP-QoL 2, MCD total symptom score,
 - Disease-specific measures:**
 - FACT-Anemia, FACT-Lym, FACT-BMT, FACIT-Th, EmiPref, SQ-ISHI, TranQoL, MF-8D.

Abbreviations

DLQI: Dermatology Life Quality Index; ClinRO: Clinician-reported outcome; EORTC QLQ-C30: European Organization For Research And Treatment Of Cancer Core Quality of Life questionnaire; EPP: erythropoietic protoporphyria; EQ-5D: Euro QoL-5 Dimension; HRQoL: Health-related quality of life; ITP: Immune Thrombocytopenic Purpura; FACIT: Functional Assessment of Chronic Illness Therapy; FACT: Functional Assessment of Cancer Therapy; PNH: Paroxysmal Nocturnal Hemoglobinuria; PR: Patient-reported outcome; SF-36: Short Form-36; QoL: Quality of life; RHD: Rare hematological disease; VAS: Visual analog Scale; WPAI: Work Productivity and Activity Impairment

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