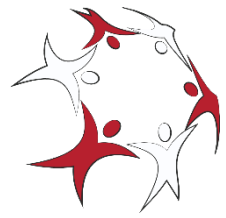# Outcome data

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EHC Steering Committee

World Haemophilia Day 2017

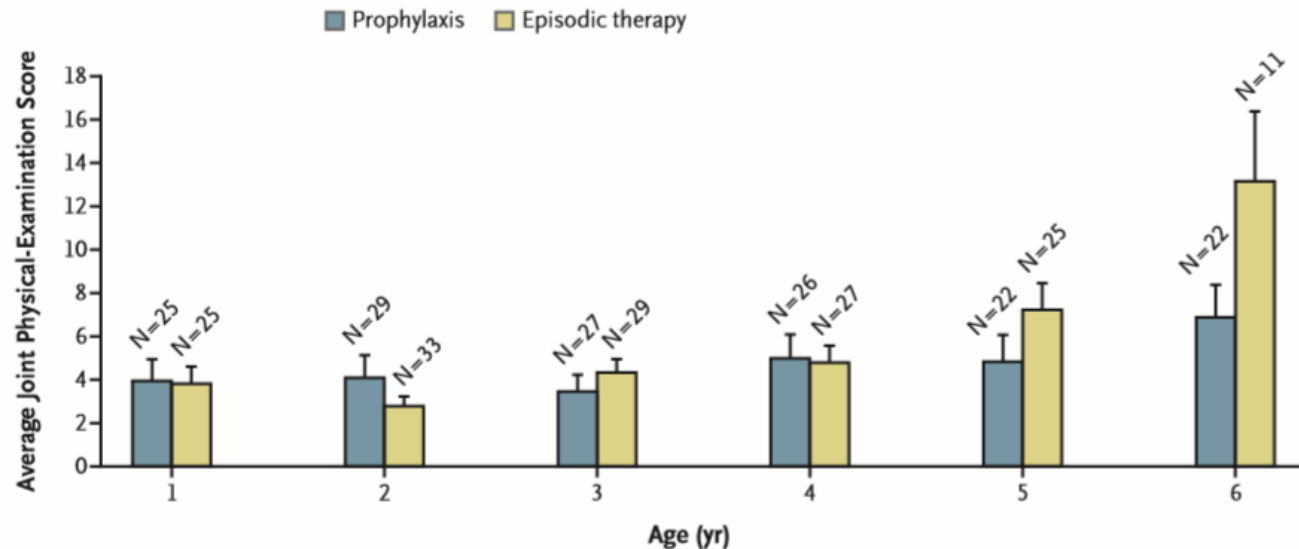EDQM, Strasbourg

28 November 2016

Recommendation 10

Outcome data including health related quality of life should be collected with appropriate study design, e.g. annualised bleed rates (ABR), mortality, joint score and time off education or employment.

- Adequate treatment of haemophilia is an <u>investment</u>

- How can we show the returns?

Limitations of data collection in haemophilia

- Haemophilia is a rare disease

- Benefits of high-quality haemophilia care are multidimensional (some hard to capture numerically)

- Ethical issues

Manco-Johnson M, Abshire T, Shapiro A, *et al. N Engl J Med.* 2007;357(6):535–44.
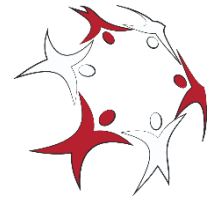
Growing demand for outcome measures

- In times of austerity haemophilia is a tempting target of financial scrutiny

- HTA bodies assessing haemophilia drugs and care programs often point out limited amount or lack of high-quality evidence for benefits of different interventions

Growing demand for outcome measures (2)

- Common considerations:
- prophylaxis vs episodic therapy
- prophylaxis in children only vs continued into adulthood
- tertiary prophylaxis
- low, intermediate or high-dose prophylaxis
- The role of outcome measure tools (objective and patient reported outcomes)
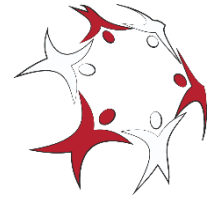
Challenges in use of outcome measure tools

- Objective tools desired but do not tell „the whole story"

- Different perceptions of outcome and benefit

- annual bleeding rate vs what a bleed means to an individual

- joint score vs how a damaged joint affects daily life

A. http://reference.medscape.com/features/slideshow/hemophilia-a

http://www.personneltoday.com/hr/disability-discrimination-10-conditions-employers-might-realise-can-disability/

Challenges in use of outcome measure tools (2)

- number of days missed from school/work per year due to bleeds/debilitating joint damage

- use of painkillers

- burden to the family, anxiety

- bleeding sites are not limited to joints (dangers of soft-tissue and limb- or life-threatening bleeds)

Health-related quality of life tools

- Tools that measure HRQoL are not flawless, but:

- bridge the scientific evidence and policy gap

- allow deeper understanding of the impact of haemophilia than objective tools alone

- engage patients as collaborators in research efforts

Involvement of patients in research

- Patients insight can improve validity of data analysis
- importance of the right definitions: „bleed is not a bleed is not a bleed"

Bleeds were defined as any complaint requiring treatment with clotting factor concentrate. Joint bleeds were defined as bleeds located in shoulders, elbows, wrists, hips, knees or ankles.

Fischer et al. Haemophilia. 22, 80-86, 2016

Involvement of patients in research (2)

- Patients community may proactively help in data collection

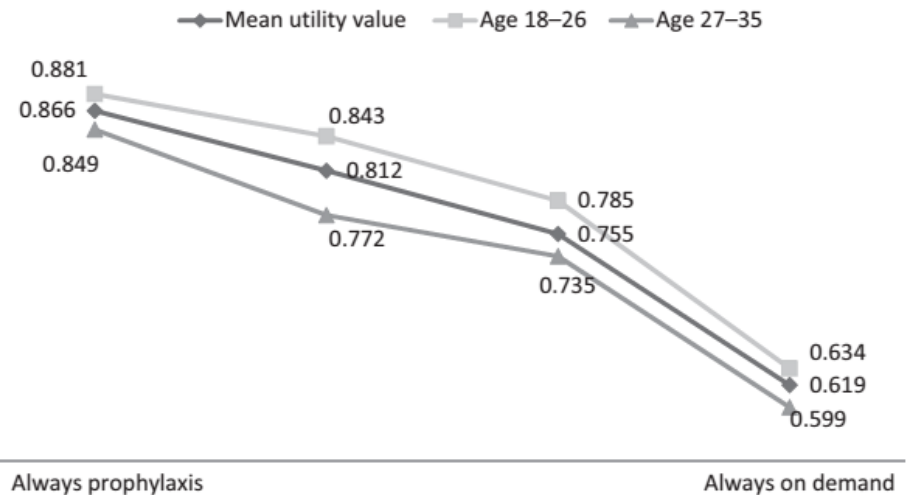- Patient-led data collection and analyses initiatives may help create advocacy tools

Fig. 1. Comparison of health utility value by the time spent on prophylaxis.

Noone et al. Haemophilia. 19, 44-50, 2013

Involvement of patients in research (3)

- While both patients and clinicians appreciate the value of outcome measures, they have been shown to be underused in clinical settings
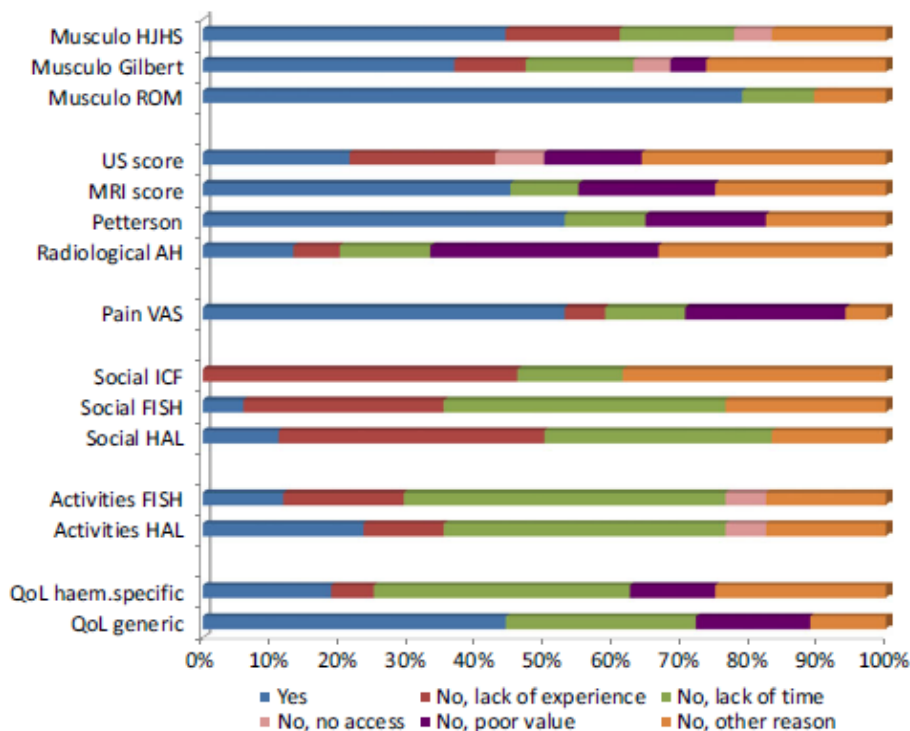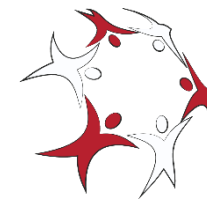

Fig. 1. Summary of outcome tools used by participating physicians. HJHS, Haemophilia Joint Health Score; Gilbert, Gilbert score (WFH); ROM, range of motion; US, ultrasound; MRI, magnetic resonance imaging; AH, Arnold–Hilgartner system; VAS, visual analogue scale; ICF, International Classification of Functioning, Disability and Health; FISH, Functional Independence Score in Haemophilia; HAL, Haemophilia Activity List; QoL, quality of life.

Hermans et al. Haemophilia. 1-10, 2016

Seeking the right approach

- Ideally, evaluation of outcome should combine objective and self-reported instruments

- Both, objective and self-reported outcome tools may lack sensitivity and fail to correlate when comparing similar interventions (intermediate and high-dose prophy) in specific populations (everyone on early prophylaxis)
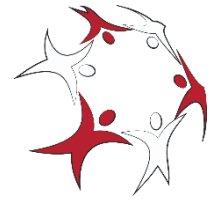
Table 4. Non-parametric correlations for self-reported outcome parameters.

Spearman's correlations	Annual joint bleeds							
5-year joint bleeds	0.87	5-year joint bleeds						
HAL_sum	NR	NR	HAL_sum					
HAL_upper extremities	NR	NR	0.76	HAL_upper extr				
HAL_lower extremities basic	NR	NR	0.92	0.61	HAL_lower extr basic			
HAL_lower extremities complex	NR	NR	0.96	0.66	0.90	HAL_lower extr complex	SF6D utility	EQ5D utility
SF36 Physical functioning	NR	NR	0.43	NR	NR	NR	0.73	0.66
SF36 Physical role limitations	NR	NR	NR	NR	NR	NR	0.69	0.56
SF36 Pain	NR	NR	NR	NR	NR	NR	0.69	0.64
SF36 General health	NR	NR	NR	NR	NR	NR	0.59	0.48
SF36 Social functioning	NR	NR	NR	NR	NR	NR	0.72	0.66
SF36 Emotional role limitations	NR	NR	NR	NR	NR	NR	0.50	0.42
SF36 Mental health	NR	NR	NR	NR	NR	NR	0.72	0.57
SF36 Vitality	NR	NR	NR	NR	NR	NR	0.58	NR
SF36 PCS	NR	NR	NR	NR	NR	NR	0.69	0.67
SF36 MCS	NR	NR	NR	NR	NR	NR	0.45	NR
SF6D Utility	NR	NR	0.41	NR	NR	NR	–	0.75
EQ-5D Utility	NR	NR	NR	NR	NR	NR	0.75	–

NR, non-relevant (Spearman's rho <0.40).
All correlations presented are statistically significant ($P < 0.01$).

Personalisation

- Growing trend toward personalisation of therapy

- Personalisation of patient-reported outcomes?

Personalisation (2)

- Goal attainment scaling (GAS) may overcome limitations of classical PROs and quantify even small, idiosyncratic benefits
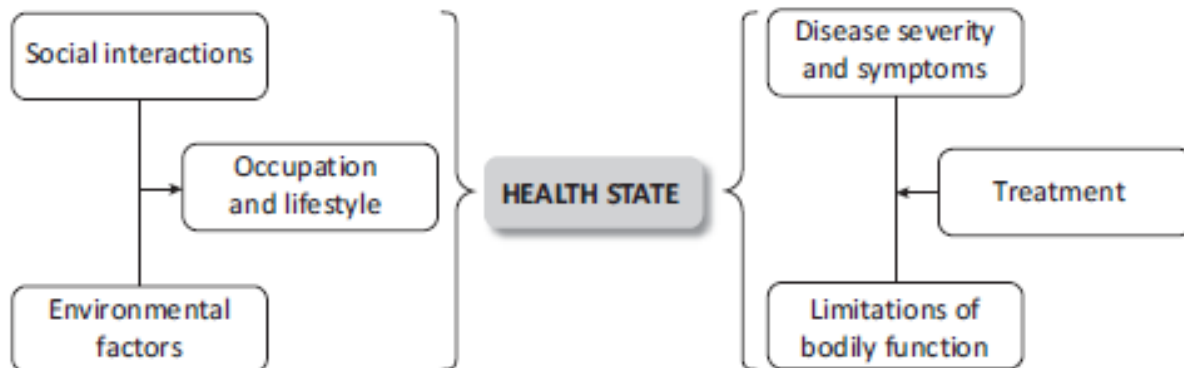

Fig. 1. Interactions between disease parameters, treatment effects and patient lifestyle determine overall health state.

Recht et al. Haemophilia. 22, 825-832, 2016

Conclusions

- Choosing and combining the right tools to capture the full spectrum of differences between haemophilia therapies is challenging

- Evaluation of outcomes should be routinely done to help optimise care and politically protect optimal care

- Optimal treatment and care should allow patients to achieve their full potential in life