

Supplementary Material

Economic Implication of Targeting Higher Trough Level with Extended Half-Life FVIII Prophylaxis

FVIII products	Case Name	Dose frequency (hours)	Trough level		
			1%	3%	5%
			<i>Annual IU per patient</i>		
Turoctocog alfa pegol	BASE	96.0	134,772	404,316	673,860
	ALT	84.0	93,244	279,731	466,218
Rurioctocog alfa pegol	BASE	84.0	154,227	462,681	771,135
	ALT	84.0	154,227	462,681	771,135
Efmoroctocog alfa	BASE	88.4	187,871	563,612	939,354
	ALT	72.0	106,523	319,570	532,617
Damoctocog alfa pegol	BASE	120.0	290,320	870,959	1,451,598
	ALT	84.0	93,244	279,731	466,218

Table S1. Annual per patient infusion units of EHL FVIII products to sustain different trough levels (main and alternative scenarios)

BASE: main analysis; ALT: alternative scenario

Dose (IU/Kg) - D

$$D = \frac{C(t)}{IR \times \frac{e^{-\frac{MRT}{\tau}}}{1 - e^{-\frac{MRT}{\tau}}}} \quad \text{with } V_{ss} = MRT \times CL, IR = \frac{1}{V_{ss}}$$

CL: clearance (ml/hour/kg)

C(t): FVIII activity level at time t

D: dose (IU/kg)

MRT: mean residence time (hours)

IR: incremental recovery ((IU/ml)/(IU/kg))

t: time since dose (hours)

τ: dosing interval (hours)

V_{ss}: volume of distribution at steady state (ml/kg)

Figure S1. Pharmacokinetics equation for Extending Half-Life (EHL) FVIII products

Ref: Benson G, et al. Clinicoecon Outcomes Res. 2021;13:39-51 [9]

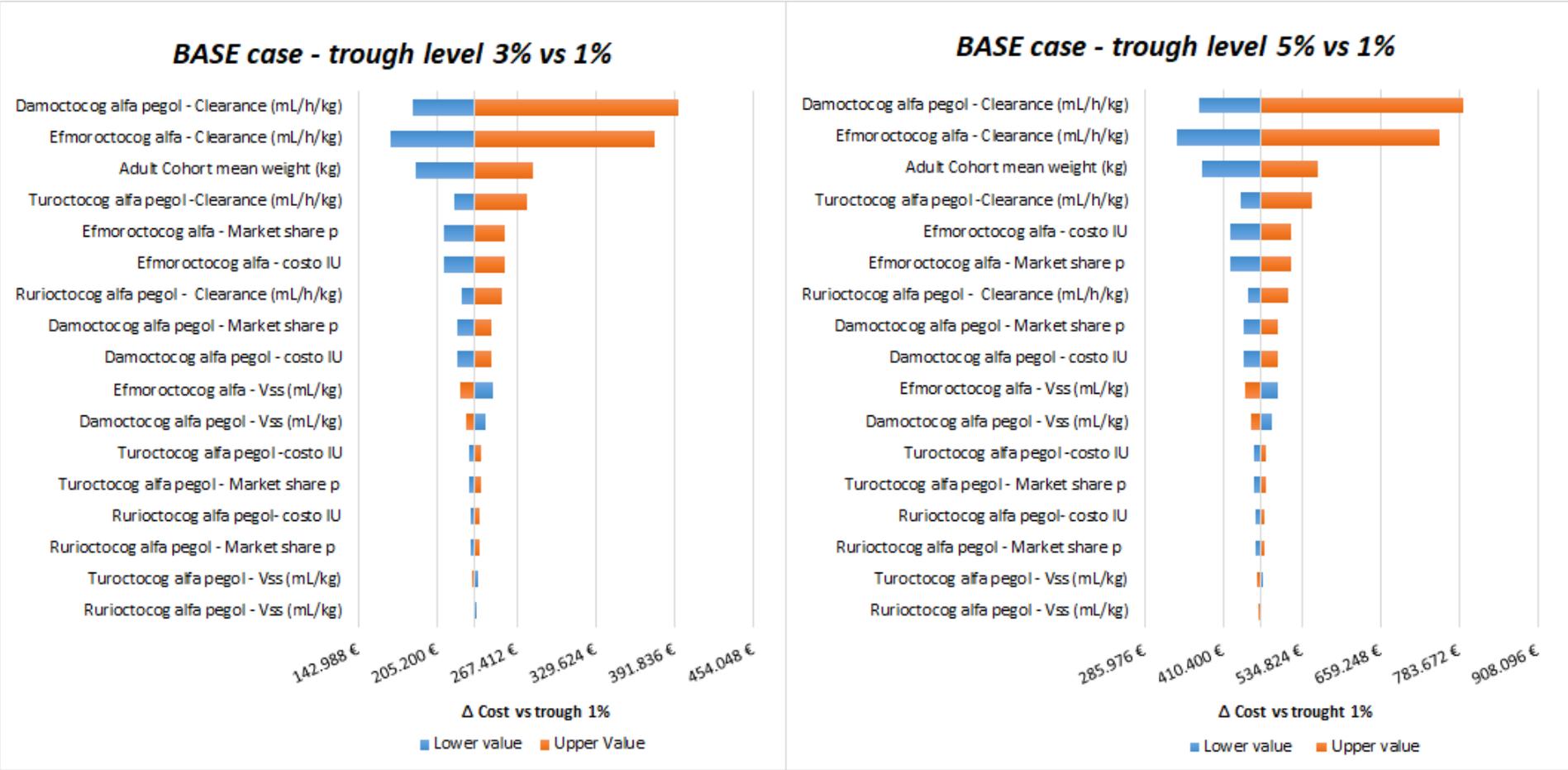


Figure S2. Tornado diagram. OWSA on annual per patient cost difference among setups with 3% and 5% vs 1% trough level