

Tables

Supplementary Table 1: Disability Weights for MPS III Multistage Model			
Comorbidity (Disability Weight)	Stage 1	Stage 2	Stage 3
mild developmental delay (0.043)[3, 25, 26]	*		
recurrent ear, nose and throat disease (0.027)[27, 28]	*		
bowel disturbance [mild] (0.074)[1, 4]	*		
moderate hearing loss due to age-related and other hearing loss (0.017) [27, 28]	*(50%)		
hyperactivity (0.045)[25, 29, 30]		*	
sleep disturbances [severe] (0.126)[25, 31]		*	*
bowel disturbance [moderate] (0.188)[1, 4]		*	
moderate developmental delay (0.1)[25]		*	
severe hearing loss due to age-related and other hearing loss (0.158) [4, 27, 28]		*(50%)	
severe loss of intellectual processes and motor function (0.402)[26, 29-31]			*
bowel disturbance [severe] (0.247) [1, 4]			*
severe developmental delay (0.16)[26]			*
complete hearing loss due to age-related and other hearing loss (0.215)[4, 27, 28]			*(50%)
less severe epilepsy (0.263)[32-36]			*(40%)
Cumulative Disability Weight (Multiplicative Comorbidity Method)	0.149	0.357	0.698

Supplementary Table 2: Caregiver Risk Increase	Depression		Anxiety		PTSD	
	OR	eRR	OR	eRR	OR	eRR
Mother	2.90[37]	2.42	2.42[37]	1.91	5.08[37]	4.19
<i>US Baseline Prevalence</i>	10.4%[42]		19.0% [43]		5.2%[44]	
<i>Absolute Risk Increase for MPS III</i>	14.8%		17.2%		16.6%	
Father	2.42[37]	2.25	NS[37]	NS	7.18[37]	6.46
<i>US Baseline Prevalence</i>	5.5%[42]		11.9%[43]		1.8%[44]	
<i>Absolute Risk Increase for MPS III</i>	6.8%		NS		9.8%	

Supplementary Table 3: DALYs per MPS III Birth per Patient	Males Total (YLL, YDL)	Females Total (YLL, YDL)
MPS IIIA	55.8 (49.98, 5.50)	58.18 (51.78, 5.50)
MPS IIIB	54.46 (46.29, 8.07)	57.06 (48.09, 8.07)
MPS IIIC	53.1 (41.77, 11.23)	55.7 (43.57, 11.23)
MPS IIID	55.08 (48.34, 6.64)	57.68 (50.14, 6.64)

DALYs per MPS III Birth (Caregivers)	Father	Mother
All Subtypes	2.08	4.40

Supplementary Table 4: Caregiver DALYs by Disease Comorbidity (Disability Weight)		
DALYs per MPS III Birth	Father	Mother
Moderate major depressive disorder (0.396) [19, 37]	0.678*	1.464*
Moderate Anxiety Disorder (0.133) [19, 37]	N/A	0.572*
PTSD (0.57) [19, 37]	1.401*	2.362*
*Calculations derived from eRR using methods described in main text.		