Supplemental Digital Content 1. Sensitivity analysis exploring potential selection bias induced by differential loss to follow-up or death on the estimated effect of severe immunodeficiency<sup>a</sup> at baseline on growth recovery for HIV-infected children with growth failure<sup>b</sup> at cART initiation in Soweto, South Africa, between April 2004 and March 2008.

	Hazard ratios (95% confidence intervals)		
	Observed study estimate <sup>e</sup>	Unobserved, hypothesized estimate for LTFU <sup>f</sup>	Posterior estimates <sup>9</sup>
		→ 0	0.67 (0.54, 0.83)
		0.06 (0.03, 0.11)	0.75 (0.61, 0.92)
		0.17 (0.10, 0.28)	0.82 (0.66, 1.01)
		0.30 (0.18, 0.51)	0.91 (0.74, 1.13)
		0.56 (0.33, 0.96)	0.93 (0.71, 1.23)
°Weight	1.03 (0.82, 1.30)	1.00 (0.57, 1.76)	1.02 (0.82, 1.26)
		1.81 (0.97, 3.36)	1.14 (0.92, 1.42)
		3.49 (1.70, 7.15)	1.28 (1.03, 1.59)
		6.37 (2.80, 14.47)	1.40 (1.12, 1.75)
		19.45 (6.17, 61.26)	1.58 (1.26, 1.98)
		→ ∞	1.81 (1.44, 2.28)
		<b>→</b> 0	0.57 (0.46, 0.69)
		0.05 (0.03, 0.0.09)	0.65 (0.53, 0.80)
		0.16 (0.10, 0.25)	0.73 (0.60, 0.90)
		0.31 (0.20, 0.49)	0.82 (0.67, 1.01)
		0.56 (0.36, 0.88)	0.92 (0.75, 1.14)
<sup>d</sup> Length/height	1.05 (0.83, 1.33)	0.97 (0.61, 1.56)	1.04 (0.84, 1.28)
		1.82 (1.08, 3.07)	1.18 (0.95, 1.46)
		3.36 (1.86, 6.07)	1.33 (1.06, 1.65)
		7.10 (3.48, 14.48)	1.49 (1.19, 1,86)
		21.76 (8.04, 58.88)	1.68 (1.34, 2.11)
		→ ∞	1.97 (1.56, 2.48)

Abbreviations: HIV, human immunodeficiency virus; cART, antiretroviral therapy <sup>a</sup>Degree of immunodeficiency at cART initiation defined by the 2006 WHO criteria.

<sup>b</sup>Growth failure was defined as a weight-for-age z-score (in the weight analysis) or a height-for-age z-score (in the length/height analysis) <-2.

<sup>c</sup>Estimated effect of the primary exposure or covariate on weight recovery (defined as attaining a weight-for-age z-score >-2), adjusted for the other covariates

<sup>d</sup>Estimated effect of the primary exposure or covariate on length/height recovery (defined as attaining a height-for-age z-score >-2), adjusted for the other covariates

<sup>e</sup>The observed study estimate is the crude HR observed among those who were not lost to follow-up and who did not die.

<sup>f</sup>The unobserved, hypothesized estimate represents the assumed HR for those who were lost to follow-up or who died.

<sup>9</sup>The posterior estimate represents the weighted summary of the observed study estimate and the unobserved, hypothesized estimate.