Supplementary material for methods:

To transfer VSL estimates from countries where formal studies have been undertaken to countries in which they have not, we use gross domestic product per capita (GDP per capita) as a conversion factor.[1] A key element of this transfer is the “income elasticity of VSL” (IE-VSL), which is a parameter that controls the degree to which VSL is sensitive to income. A greater IE-VSL when transferring from a higher to lower-income country results in lower VSL estimates. We have chosen an IE-VSL of 0.55 and 1.0 as our base case for high- and upper-middle-income countries (HICs/UMICs) and lower-middle and low-income countries (LMICS/LICs) respectively, with a sensitivity analysis using 0.55 and 1.5[1]

Converting DALYs averted to Economic Benefit
The rationale and theory of converting DALYs averted to economic benefit are more fully explained in the LCoGS publication.[2] Below, we outline the mathematical approach utilized for this paper.
To transfer VSL estimates, we adopted the following formula:[3]

(1) $$VSL_{p,i} = VSL_{p,U.S.} \cdot \left[\frac{YC_i}{YC_{U.S.}}\right]^{IE-VSL}$$

where VSL_p = the peak value of a statistical life, *YC* = GDP per capita, *U.S.* = United States of America, and *IE-VSL* = the income elasticity of VSL. We used the United States' Environmental Protection Agency's VSL estimate ($7·6 million in 2006 USD, adjusted to the year of study).
Evidence suggests that VSL and VSLY change with age, rising with age before falling.[4] To calculate an age-specific VSL (VSL_a), we used the following:

(2) $$VSL_{a,i} = VSL_{p,i} \cdot f(a)_i$$

where *a* represents age, and f(a) is a function that adjusts a country's peak VSL to VSL_a based on the proportion of life lived. f(a) is derived from data from Aldy and Viscusi.[4] The VSL of a child is controversial, but felt to be at least that of an adult[5,6].

(3) $$f(a) = \begin{cases} if\ \frac{a}{LE} \le 0.236;\ 19.41(0.236)^4 - 43.170(0.236)^3 + 27.65(0.236)^2 - 4.33(0.236) + 0.44 \\ if\ \frac{a}{LE} > 0.236;\ 19.41\left(\frac{a}{LE}\right)^4 - 43.170\left(\frac{a}{LE}\right)^3 + 27.65\left(\frac{a}{LE}\right)^2 - 4.33\left(\frac{a}{LE}\right) + 0.44 \end{cases}$$

The potential benefit of an intervention, in this case cleft repair, is taken to be inverse of the value of lost welfare due to a disease

(4) $$VLW_d = VSLY \cdot DALYS_d$$

$VSLY_a$ is defined as follows. We begin by estimating an age-specific VSL:

(5) $$VSL_{a,i,t} = VSLY_{a,i,t} \int_a^{LE_{a,i,t}} e^{-r(x-a)}\,dx$$

Where LE = life expectancy, and r = discount rate (3% in this study).
If we substitute equation (2) into equation (5), then we arrive at:

(6) $$VSL_{p,i,t} \cdot f(a)_i = VSLY_{a.i,t} \int_a^{LE_{a,i,t}} e^{-r(x-a)}\,dx$$

Integrate and solve for $VSLY_a$ to arrive at:

$$VSLY_{a,i,t} = VSL_{p,i,t} \cdot f(a)_i \cdot \frac{-r}{e^{r(a-LE_{a,i,t})} - 1}$$

References:
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5 Hammitt JK, Haninger K, Valuing fatal risks to children and adults: Effects of disease, latency, and risk aversion, J Risk Uncertainty 2010;40:57-83

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