Measuring the Health of a Population

It’s important to understand that a DALY is used to measure the health of a population, country, region etc., not just one person. So, to calculate the DALYs of a population, you would add up:

\[
\text{Years of life lost due to DEATH} + \text{Years lived with a DISABILITY} = \text{DALYs}
\]

Still sound too complicated? No worries, let’s break it down further with an example. The real calculations are a bit more complicated with models, coefficients, estimations, etc, but the CONCEPT is important to understand. And that’s what we’re focusing on here.

Let’s Say There is a Village of 100 People in 2012...

One child suddenly dies from malaria at age 3, when ideal life expectancy is 86. So that child lost 83 years of life.

- 86 \text{ LIFE EXPECTANCY} - 3 \text{ CURRENT AGE} = 83 \text{ YEARS OF LIFE LOST}

One man contracts TB when he’s 54. Over the course of his illness, let’s assume he will lose 3 years of healthy life.

- 3 \text{ DISABLED} \text{ YEARS LIVED WITH DISABILITY}

One woman suddenly dies in childbirth from postpartum hemorrhage at age 26, when ideal life expectancy is 86. She’s lost 60 years of life.

- 86 \text{ LIFE EXPECTANCY} - 26 \text{ CURRENT AGE} = 60 \text{ YEARS OF LIFE LOST}

The remaining 97 people in the village are all healthy and do not get sick or die in 2012.

So, to estimate the DALYs lost in this village in 2012:

\[
83 + 3 + 60 = 146 \text{ DALYs}
\]

Now, Let’s Say PSI Works in that Village...

Then those 146 years of healthy life lost could add up to 146 years of healthy life gained. Or in other words, 146 DALYs averted.

This is how PSI estimates its health impact.

\[
\text{The child could sleep under a bed net and survive} + \text{The man could receive TB treatment and get well} + \text{The woman could get misoprostol during delivery and survive} = 146 \text{ DALYs that could be averted}
\]