TRACHOMA TECHNICAL REPORT

Table of Contents

I.   Data Dictionary

Column	Header Name	Description
A	Country	Name of country according to WHO format.
B	WHO Region	WHO-classified region.
C	Population	Population size of country.
D	Trachoma DALYs	WHO estimated DALYs (all ages; Male)
E	Trachoma DALYs	WHO estimated DALYs (all ages; Female)
F	Trachoma DALYs	WHO estimated DALYs (all)
G	Trachoma Treatment Coverage; Prevalence	Sourced from WHO PCT databank
H	Trachoma Treatment Coverage; Number Treated	Sourced from WHO PCT databank
I	Trachoma Treatment Coverage	Sourced from WHO PCT databank
J	Trachoma Treatment Coverage; Estimated Trachoma Treatment Coverage	Regional and global averages are applied if no country level data is available
K	Prevalence %; Male	Hand inputted data from the GBD results tool

L	Prevalence %: Female	Hand inputted data from the GBD results tool
M	Prevalence %; Total	Hand inputted data from the GBD results tool
N	Trachoma Efficacy; Azithromycin Original	Hand inputted data sourced from numerous studies found by the systematic review team
O	Trachoma Efficacy; Azithromycin Estimated	Regional and global averages are applied if no country level data is available
P	Treatment Guidelines; Trachoma 1 if Endemic	Determined by the NTD guidelines, Source WHO
Q	Impact; Azithromycin	General impact formula is applied

II. Scoring Calculations

This is the current scoring mechanism, where D = DALYs, θ = treatment coverage, e = efficacy, and p = prevalence:

$$\text{Impact} = \frac{D \cdot \theta \cdot e}{(1 - \theta \cdot e)} * p$$

1. For each country, DALY values are sourced from the IHME.

2. Efficacy for first-line drugs are calculated based on data from numerous studies: we use country-specific drug-specific data if available, otherwise we use regional drug-specific data averaged across all countries. Otherwise, we use global averages.

3. Treatment coverage is calculated by dividing prevalence from number treated, both sourced from the WHO PCT databank. If country-specific treatment coverage from the WHO is available, then this is used. If not, then the regional average of the treatment coverage based on available data is used. If no regional data is available,

4. Prevalence data is sourced from the GBD results tool. This data is also used to determine STH's country-level endemicity. If the average of all STH diseases is greater than 50%, endemicity is labeled as 2. If the average of all STH diseases is greater than 20%, endemicity is labeled as 1. Anything lower is labeled as 0.

5. If more than one drug is used in a regimen (e.g. IVM+ALB), we give each drug equal credit in impact.

III. An Example Scoring Calculation: Pliva

The following shows the calculation of the final impact score for the company, Pliva. This company is credited with the patent for one Trachoma drug, Azithromycin.

Taking Algeria as an example:

DALY	**=2289.04473**	(Cell F6)
Treatment coverage	**= 85.57%**	(Cell J6)
Efficacy (Estimated)	**= 85.83%**	(Cell O6)
Prevalence	**= 0.0000506**	(Cell M6)
Endemicity	**= 1**	(Cell P6)
Treatment	**= Azithromycin**	
Disease targeted	**= Trachoma**	

Impact for Trachoma in Algeria:

=(2289.04473 * 85.57% * 85.83%)/(1 - 85.57% * 85.83%)

= 6332.15

The process above is repeated for every country so that an impact score for every country is obtained. To get the total impact score for Pliva, we sum the impact scores where the drug used for treatment is Azithromycin.

IV. Assumptions

Data	Column/Range	Value Assumed
Treatment Coverage	G:J	If country-specific treatment coverage is not available, regional average of the treatment coverage based on available data is used. If no regional data is available, then the global average of available regional data is used.
Efficacy	N:O	If country-specific efficacy for the first-line drug is not available, we use the average efficacy for that drug in the respective region. If no regional data is available, then the global average of available regional data is used.