

**PHG Needs Assessment Calculator**  
**Mali**  
**Teratogens**

Welcome to the PHG Health Needs Assessment Calculator for Teratogens. The contents of this file are listed below.

| <b>Full name of the sheet</b>  | <b>Short name</b> |
|--|-------------------|
| Country demographic, maternal health and socioeconomic indicators              | Demography        |
| Country health service data  | HealthServices    |
| Teratogenic risk factors for congenital disorders in women of reproductive age | TER-NA1.1         |
| Epidemiology of birth defects caused by teratogens                             | TER-NA1.2         |
| TER Interventions 1:Effect of preconception screening and treatment            | TER-Interv1       |
| TER Interventions 2:Effect of prenatal screening and pregnancy termination     | TER-Interv2       |
| TER Needs Assessment Calculator 3: Quantitative assessment of interventions    | TER-NA3           |

(There is no sheet TER-NA2.)

**Mali****Shared Data****Demographic, maternal health and socio-economic indicators**

Please read first! If you have already completed a needs assessment for a different topic in this country, you will be able to copy the Demography information from that Calculator into here. The information should be the same.

By default, the Toolkit contains information at the national level.

If you would like to use a different population, then replace country information with that of your specific population of interest.

| Number of persons by age-group and sex<br>Age group | Estimates             |         |         | Your estimates |        |       | Chosen estimates |        |       |
|---|-----------------------|---------|---------|----------------|--------|-------|------------------|--------|-------|
|   | Male                  | Female  | Total   | Male           | Female | Total | Male             | Female | Total |
| 0-4 years   | 161360                | 152920  | 314280  |                |        | 0     |                  |        | 0     |
| 5-9 years   | 146970                | 140300  | 287270  |                |        | 0     |                  |        | 0     |
| 10-14 years   | 149900                | 143010  | 292900  |                |        | 0     |                  |        | 0     |
| 15-19 years   | 163280                | 154030  | 317310  |                |        | 0     |                  |        | 0     |
| 20-24 years   | 167650                | 157460  | 325110  |                |        | 0     |                  |        | 0     |
| 25-29 years   | 146440                | 147240  | 293680  |                |        | 0     |                  |        | 0     |
| 30-34 years   | 131190                | 141300  | 272490  |                |        | 0     |                  |        | 0     |
| 35-39 years   | 138130                | 152280  | 290410  |                |        | 0     |                  |        | 0     |
| 40-44 years   | 149200                | 163560  | 312750  |                |        | 0     |                  |        | 0     |
| 45-49 years   | 154150                | 164730  | 318880  |                |        | 0     |                  |        | 0     |
| 50-54 years   | 145560                | 153020  | 298580  |                |        | 0     |                  |        | 0     |
| 55-59 years   | 126150                | 131210  | 257360  |                |        | 0     |                  |        | 0     |
| 60-64 years   | 116310                | 120770  | 237080  |                |        | 0     |                  |        | 0     |
| 65+ years   | 268300                | 318750  | 587040  |                |        | 0     |                  |        | 0     |
| Total   | 2164590               | 2240580 | 4405200 | 0              | 0      | 0     | 0                | 0      | 0     |
| Female population aged 15-44 years                  |                       | 915870  |         |                | -      |       |                  | -      |       |
| Data year   | 2011 reported in 2011 |         |         |                |        |       |                  |        |       |
| Source, Year  | UN 2011               |         |         |                |        |       |                  |        |       |

**Ethnicity. Please enter data for the main ethnic groups if you are working with a population that is different from that of the country.**

| Ethnic group | Number | % population |
|--------------|--------|--------------|
|              |        |              |
|              |        |              |
|              |        |              |
|              |        |              |

| <b>Fertility and mortality</b>                                 | <b>Estimate</b> | <b>Source, Year</b> | <b>Your estimate</b> | <b>Source, Year</b> | <b>Chosen estimate</b> | <b>Source, Year</b> |
|--|-----------------|---------------------|----------------------|---------------------|------------------------|---------------------|
| Crude birth rate: live births (LB) / year / 1000 population    | 45.87           | Unicef, 2013        |                      |                     |                        |                     |
| Still birth rate: still births (SB) / year / 1000 total births | 23.18           | WHO, 2009           |                      |                     |                        |                     |
| Total births in 1000s (LB+SB) per year                         | 728             | Unicef, 2013        |                      |                     |                        |                     |
| Infant mortality rate: infant deaths / 1000 LB / year          | 98.2            | Unicef, 2013        |                      |                     |                        |                     |
| Under-5 mortality rate: U5 deaths / 1000 LB / year             | 175.6           | Unicef, 2013        |                      |                     |                        |                     |
| Percentage births in women >35 years                           |                 |                     |                      |                     |                        |                     |
| Life expectancy at birth (yrs)                                 | 51.44           | Unicef, 2013        |                      |                     |                        |                     |
| % of marriages consanguineous                                  |                 |                     |                      |                     |                        |                     |

| <b>Maternal health</b>                                 | <b>Estimate</b> | <b>Source, Year</b> | <b>Your estimate</b> | <b>Source, Year</b> | <b>Chosen estimate</b> | <b>Source, Year</b> |
|--|-----------------|---------------------|----------------------|---------------------|------------------------|---------------------|
| Prenatal visits – at least 1 visit (%)                 | 70.4            | Unicef, 2013        |                      |                     |                        |                     |
| Prenatal visits – at least 4 visits (%)                | 35.4            | Unicef, 2013        |                      |                     |                        |                     |
| Births attended by skilled health personnel (%)        | 49              | Unicef, 2013        |                      |                     |                        |                     |
| Contraception prevalence rate (%)                      | 8.2             | Unicef, 2013        |                      |                     |                        |                     |
| Unmet need for family planning (%)                     | 31.2            | WHO, 2006           |                      |                     |                        |                     |
| Total fertility rate                                   | 6.23            | Unicef, 2013        |                      |                     |                        |                     |
| % home births  |                 |                     |                      |                     |                        |                     |
| % births at health care services                       | 45.10           | Unicef, 2013        |                      |                     |                        |                     |
| <b>Newborn health</b>                                  | <b>Estimate</b> | <b>Source, Year</b> | <b>Your estimate</b> | <b>Source, Year</b> | <b>Chosen estimate</b> | <b>Source, Year</b> |
| Number of neonatal examinations by SBA / trained staff |                 |                     |                      |                     |                        |                     |
| % neonatal examinations by SBA/ trained staff          |                 |                     |                      |                     |                        |                     |

| <b>Socio-economic indicators</b>               | <b>Estimate</b> | <b>Source, Year</b> | <b>Your estimate</b> | <b>Source, Year</b> | <b>Chosen estimate</b> | <b>Source, Year</b> |
|--|-----------------|---------------------|----------------------|---------------------|------------------------|---------------------|
| Gross national income per capita (PPP int. \$) | 1050            | Unicef, 2013        |                      |                     |                        |                     |
| % population living on < US\$1 per day         | 51.4            | Unicef, 2013        |                      |                     |                        |                     |
| Birth registration coverage (%)                | 80.8            | WHO 2010            |                      |                     |                        |                     |
| Death registration coverage (%)                |                 |                     |                      |                     |                        |                     |

LB = live births

PPP = purchasing power parity

SBA = skilled birth attendant

**Mali**  
**Shared Data**  
**Health Services Data**

**Please read first!** If you have already completed a needs assessment for a different topic in this country, you will be able to copy the Health Services information from that Calculator into here. The information should be the same.

This section provides health-service-related information for your country.

**By default, the Toolkit contains information at the national level.**

**If you would like to use a different population, then replace country information with that of your specific population of interest.**

| <b>Health Expenditure</b>  | <b>Estimate</b> | <b>Source, Year</b> | <b>Your estimate</b> | <b>Source, Year</b> | <b>Chosen estimate</b> | <b>Source, Year</b> |
|--|-----------------|---------------------|----------------------|---------------------|------------------------|---------------------|
| Per capita total expenditure on health (PPP int. \$)                                   | 73.2            | WHO 2011            |                      |                     |                        |                     |
| Total expenditure on health as percentage of GDP                                       | 6.8             | WHO 2011            |                      |                     |                        |                     |
| Per capita government expenditure on health (PPP int. \$)                              | 33.3            | WHO 2011            |                      |                     |                        |                     |
| External resources for health as percentage of total expenditure on health             | 26              | WHO 2011            |                      |                     |                        |                     |
| General government expenditure on health as percentage of total expenditure on health  | 45.4            | WHO 2011            |                      |                     |                        |                     |
| Out-of-pocket expenditure as percentage of private expenditure on health               | 99.6            | WHO 2011            |                      |                     |                        |                     |
| Private expenditure on health as percentage of total expenditure on health             | 54.6            | WHO 2011            |                      |                     |                        |                     |
| General government expenditure on health as percentage of total government expenditure | 12.2            | WHO 2011            |                      |                     |                        |                     |

| <b>Health Workforce</b>   | <b>Estimate</b> | <b>Source, Year</b> | <b>Your estimate</b> | <b>Source, Year</b> | <b>Chosen estimate</b> | <b>Source, Year</b> |
|---|-----------------|---------------------|----------------------|---------------------|------------------------|---------------------|
| Number of nursing and midwifery personnel                       | 4383            | WHO, 2008           |                      |                     |                        |                     |
| Nursing and midwifery personnel density (per 10,000 population) | 3               | WHO, 2008           |                      |                     |                        |                     |
| Number of physicians  | 729             | WHO, 2008           |                      |                     |                        |                     |
| Physician density (per 10,000 population)                       | 0.49            | WHO, 2008           |                      |                     |                        |                     |
| Number of obstetricians   |                 |                     |                      |                     |                        |                     |
| Number of paediatricians  |                 |                     |                      |                     |                        |                     |
| Number of paediatric surgeons                                   |                 |                     |                      |                     |                        |                     |
| Number of paediatric cardiac surgeons                           |                 |                     |                      |                     |                        |                     |
| Number of paediatric neurosurgeons                              |                 |                     |                      |                     |                        |                     |
| Number of clinical geneticists                                  |                 |                     |                      |                     |                        |                     |
| Number of genetic counsellors                                   |                 |                     |                      |                     |                        |                     |
| Number of community health workers                              |                 |                     |                      |                     |                        |                     |
| Number of skilled birth attendants (SBA)                        |                 |                     |                      |                     |                        |                     |
| Density of SBA  |                 |                     |                      |                     |                        |                     |
| Number of lab staff providing cytogenetic testing               |                 |                     |                      |                     |                        |                     |

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| Number of lab staff providing molecular genetics             |  |  |  |  |  |  |
| Number of lab staff providing biochemical tests for genetics |  |  |  |  |  |  |
| Number of skilled health attendants                          |  |  |  |  |  |  |

| <b>Infrastructure</b>   | <b>Estimate</b> | <b>Source, Year</b> | <b>Your estimate</b> | <b>Source, Year</b> | <b>Chosen estimate</b> | <b>Source, Year</b> |
|---|-----------------|---------------------|----------------------|---------------------|------------------------|---------------------|
| Number of maternity units   |                 |                     |                      |                     |                        |                     |
| Number of services providing specialised care for people with CD            |                 |                     |                      |                     |                        |                     |
| Number of family planning services  |                 |                     |                      |                     |                        |                     |
| Number of preconception services  |                 |                     |                      |                     |                        |                     |
| Number of services providing prenatal care                                  |                 |                     |                      |                     |                        |                     |
| Number of services providing newborn care                                   |                 |                     |                      |                     |                        |                     |
| Number of facilities providing genetic services                             |                 |                     |                      |                     |                        |                     |
| Number of laboratories providing cytogenetics                               |                 |                     |                      |                     |                        |                     |
| Number of laboratories providing molecular genetics                         |                 |                     |                      |                     |                        |                     |
| Number of laboratories providing biochemical tests for genetics             |                 |                     |                      |                     |                        |                     |
| Number of facilities for safe terminations of pregnancies for fetal defects |                 |                     |                      |                     |                        |                     |

PPP = purchasing power parity

GDP = gross domestic product

SBA = skilled birth attendant

CD = congenital disorders

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**Teratogens**  
**Teratogenic risk factors for congenital disorders in women of reproductive age**

| <b>Risk factors</b>  | <b>Proportion of women with risk factor</b> | <b>Qualitative assessment*</b> | <b>Variation</b> | <b>Source</b> |
|--|---|--------------------------------|------------------|---------------|
| Teratogen exposure: environmental, agricultural and occupational |   |                                |                  |               |
| Exposure to teratogenic prescribed and non-prescribed medicines  |   |                                |                  |               |
| Syphilis   |   |                                |                  |               |
| Rubella susceptibility   |   |                                |                  |               |
| Rubella infection  |   |                                |                  |               |
| Other infections (e.g. CMV or HIV)                               |   |                                |                  |               |
| Alcohol consumption  |   |                                |                  |               |
| Tobacco use  |   |                                |                  |               |
| Iodine deficiency  |   |                                |                  |               |
| Folate deficiency  |   |                                |                  |               |
| Other risk factors   |   |                                |                  |               |
| Obesity  |   |                                |                  |               |
| Diabetes   |   |                                |                  |               |

\* Complete if numerical data are unavailable. Use numbers from 1 to 5, where 1 = low importance and 5 = high importance.

**Mali****Teratogens****Epidemiology teratogen associated congenital disorders**

Please enter data either for a specific teratogen or for congenital disorders caused by teratogens as a whole.

| <b>Table TER-NA1.2a Burden of disease in pregnancy, at birth and at population level</b> |            |           |                                |
|--|------------|-----------|--------------------------------|
| Chosen estimates   |            |           |                                |
| Indicator  | Number (n) | n/1000 TB | Range of prevalence (/1000 TB) |
| Annual affected live births (LB)   |            |           |                                |
| Annual affected stillbirths (SB)   |            |           |                                |
| Annual affected births (LB+SB)   |            |           |                                |
| Annual affected persons (all age groups)   |            |           |                                |
|  |            |           |                                |
| <b>Table TER-NA1.2b Mortality indicators</b>   |            |           |                                |
| Chosen estimates   |            |           |                                |
| Indicator  | Number (n) | n/1000 LB | Range of prevalence (/1000 TB) |
| Annual overall mortality   |            |           |                                |
| Annual neonatal mortality  |            |           |                                |
| Annual infant mortality  |            |           |                                |
| Annual under-5 mortality   |            |           |                                |
| Mean life expectancy at birth among affected people                                      |            |           |                                |

TB = total births (live births + stillbirths)

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**TER Interventions 1:Effect of preconception screening and treatment**

|   |  |               |
|---|--|---------------|
| Baseline prevalence of teratogen-induced congenital disordersper 1000 total births (live + still) |  |               |
| Variables   |  |               |
| Proportion of women reducing teratogen risk to safe levels during pregnancy                       |  | Range: 0 to 1 |
| Effectiveness of interventions on the outcome   |  | Range: 0 to 1 |
| Results   |  |               |
| % prevalence reduction due to intervention per 1000 total births                                  |  | 0%            |
| Final prevalence of teratogen-induced congenital disorders per 1000 births                        |  | 0.000         |



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**TER Interventions 1: Effects of prenatal screening and pregnancy termination**

Assumption: prenatal services are equally used for cases which would lead to still births and live births.  
 This could overestimate the impact of ToP if in fact ToP is more likely for severe cases that would result in still birth.  
 Conversely, the impact of ToP could be underestimated if screening is only available to high-income women at lower risk.  
 100% specificity of prenatal diagnosis assumed.

|  |  |  |
|--|--|--|
| Baseline prevalence, per 1000 TB (LB + SB) |  | See previous sheet. Use baseline either before or after interventions. |
| <b>Variables</b>                           |  |  |
| Coverage of prenatal diagnosis             |  | Range: 0 to 1  |
| Choice of ToP in confirmed cases           |  | Range: 0 to 1  |
| <b>Results</b>                             |  |  |
| % prevalence reduction due to PNS          |  | 0%   |
| Prevalence reduction due to PNS            |  | 0.000  |
| Final prevalence after PNS                 |  | 0.000  |

PNS = prenatal screening  
 ToP = termination of pregnancy  
 TB = total births (live births + still births)

**Mali****Teratogens****TER Needs Assessment 3: Quantitative assessment of interventions**

| <b>Table TER-NA3a</b>                                   | <b>Estimated prevalence in the absence of interventions for TER</b> |                     |
|---|---|---------------------|
| Indicator   | Number (n)  | Prevalence (n/1000) |
| Women of childbearing age at increased teratogenic risk |   |                     |
| Potential live births                                   |   |                     |
| Potential still births                                  |   |                     |

| <b>Table TER-NA3b</b>                | <b>Current situation in relation to interventions before pregnancy</b> |                   |                       |
|--------------------------------------|--|-------------------|-----------------------|
| Intervention                         | Coverage (%)   | Cases averted (n) | Cases averted/1000 TB |
| Effect of family planning, education |  |                   |                       |
| Occupational health monitoring       |  |                   |                       |
| Environmental health monitoring      |  |                   |                       |
| Interventions to reduce risk         |  |                   |                       |
| Information on risks and exposures   |  |                   |                       |
| Overall effect                       |  |                   |                       |

| <b>Table TER-NA3c</b>                | <b>Target situation in relation to interventions before pregnancy</b> |                   |                       |
|--------------------------------------|---|-------------------|-----------------------|
| Intervention                         | Coverage (%)  | Cases averted (n) | Cases averted/1000 TB |
| Effect of family planning, education |   |                   |                       |
| Occupational health monitoring       |   |                   |                       |
| Environmental health monitoring      |   |                   |                       |
| Interventions to reduce risk         |   |                   |                       |
| Information on risks and exposures   |   |                   |                       |
| Overall effect                       |   |                   |                       |

| <b>Table TER-NA3d</b>                         | <b>Current situation in relation to interventions during pregnancy</b> |                   |                       |
|---|--|-------------------|-----------------------|
| Intervention                                  | Coverage (%)   | Cases managed (n) | Cases managed/1000 TB |
| Education on risks                            |  |                   |                       |
| Targeted prenatal screening based on exposure |  |                   |                       |
| Prenatal diagnosis                            |  |                   |                       |
| Termination of pregnancy                      |  |                   |                       |
| Maternal protection legislation               |  |                   |                       |
| Information on risks and exposures            |  |                   |                       |
| Overall effect                                |  |                   |                       |

| <b>Table TER-NA3e</b>                         | <b>Target situation in relation to interventions during pregnancy</b> |                   |                       |
|---|---|-------------------|-----------------------|
| Intervention                                  | Coverage (%)  | Cases managed (n) | Cases managed/1000 TB |
| Education on risks                            |   |                   |                       |
| Targeted prenatal screening based on exposure |   |                   |                       |
| Prenatal diagnosis                            |   |                   |                       |
| Termination of pregnancy                      |   |                   |                       |
| Maternal protection legislation               |   |                   |                       |
| Information on risks and exposures            |   |                   |                       |
| Overall effect                                |   |                   |                       |

| <b>Table TER-NA3f</b>                        | <b>Current situation in relation to interventions after birth</b> |                   |                       |
|--|---|-------------------|-----------------------|
| Intervention                                 | Coverage (%)  | Cases managed (n) | Cases managed/1000 LB |
| Effect of newborn screening                  |   |                   |                       |
| Effect of newborn diagnosis                  |   |                   |                       |
| Effect of clinical and related interventions |   |                   |                       |
| Effect of social care and support            |   |                   |                       |
| Effect of education interventions            |   |                   |                       |
| Compensation legislation                     |   |                   |                       |
| Overall effect                               |   |                   |                       |

| <b>Table TER-NA3g</b>                        | <b>Target situation in relation to interventions after birth</b> |                   |                       |
|--|--|-------------------|-----------------------|
| Intervention                                 | Coverage (%)   | Cases managed (n) | Cases managed/1000 LB |
| Effect of newborn screening                  |  |                   |                       |
| Effect of newborn diagnosis                  |  |                   |                       |
| Effect of clinical and related interventions |  |                   |                       |
| Effect of social care and support            |  |                   |                       |
| Effect of education interventions            |  |                   |                       |
| Compensation legislation                     |  |                   |                       |
| Overall effect                               |  |                   |                       |

| <b>Table TER-NA3h</b>                         | <b>Current and desired outcomes</b> |                    |                         |                    |
|---|-------------------------------------|--------------------|-------------------------|--------------------|
|   | <b>Current situation</b>            |                    | <b>Target situation</b> |                    |
| Indicator                                     | Annual number (n)                   | Incidence (n/1000) | Annual number (n)       | Incidence (n/1000) |
| <b>Estimated affected pregnancies</b>         |                                     |                    |                         |                    |
| Live births (LB)                              |                                     |                    |                         |                    |
| Still births (SB)                             |                                     |                    |                         |                    |
| All births (LB+SB)                            |                                     |                    |                         |                    |
| <b>Estimated population prevalence</b>        |                                     |                    |                         |                    |
| All age groups                                |                                     |                    |                         |                    |
| <b>Estimated mortality / 1000 live births</b> |                                     |                    |                         |                    |
| Neonatal deaths                               |                                     |                    |                         |                    |
| Infant deaths                                 |                                     |                    |                         |                    |
| Under-5 deaths                                |                                     |                    |                         |                    |

TB = total births (live births + still births)