Text A. Accounting for complex survey design

All of the surveys in our analysis used complex survey designs. Specifically, in designing a representative survey, the target populations were usually divided into strata based on geographical regions within the country and whether place of residence was rural or urban; within each stratum, a number of clusters were randomly selected. Clusters may be villages, administrative units, or census units. Households or participants were then randomly sampled within each cluster. Because total population may differ among strata and clusters, individuals or households in smaller units have a higher probability of being selected than those in larger units. To account for the differences in probability of being sampled, each observation is assigned a sample weight. These weights are calculated to make the survey data representative of the total population.

An implication of the sampling method is that the so-called effective sample size of the survey (ESS) is different from its actual sample size. This occurs primarily because individuals are clustered: though still nationally representative, cluster-based sampling is different than performing a true random sample of the entire population. To accurately incorporate this information into our model, we estimated ESS using the `estat effects` command of the Stata version 10.1 `svy` suite of commands (StataCorp, 2009). This command generates the design effect (DEFF), which is the ratio between the (usually smaller) effective sample size and real sample size, e.g. a survey with 1000 subjects with a DEFF of 2.0 has an ESS of 500.

The DEFF may differ for different indicators (primary vs. secondary infertility). We calculated an ESS \( n \) for each survey-indicator pair, and used \( n \) and the calculated prevalence as the inputs into the Bayesian hierarchical model described in Text C.

Text B. Methods to account for bias due to incomplete information on marriage status and contraceptive use

Many household surveys ascertain current contraceptive use, but do not collect information on past contraceptive use over a defined exposure period. Likewise, data on time since first union are available more often than data on couple status during a defined exposure period. Failure to account for changing contraceptive use over time can lead to biases in secondary infertility estimates of more than 100% for some age groups, and assuming that exposure is continuous from the time of first union can lead to smaller biases, generally under 5%\(^1\). We used data from surveys that collected data on continuous contraceptive use and couple status to develop regression equations to predict unbiased estimates of infertility (taking into account continuous contraceptive use and union status) from biased estimates (calculated assuming that current contraceptive use reflects past contraceptive use, and that the respondent has been in a union continuously since her first union).

Two linear regressions were developed to estimate unbiased primary and secondary infertility from biased primary and secondary infertility estimates, respectively. This analysis pooled household surveys which collected continuous contraceptive use and union status, a total of 53 Demographic and Health Surveys (DHS; see Table B). For primary infertility, the dependent variable was the natural log of the unbiased estimate of infertility, and the independent variables were the natural log of the biased estimate, and a an indicator variable for women under age 30, among whom current contraception use as a proxy for past use leads to a larger bias\(^1\). For secondary infertility, the dependent variable was the natural log of the unbiased estimate of infertility prevalence; independent variables were the natural log of the biased estimate, age, square of age, and the prevalence of contraceptive use in the survey sample. Regressions were restricted to surveys in which 30 or more individuals were identified as infertile to avoid using uncertain data points to fit the regression. We calculated uncertainty in the predicted prevalences using the standard error predicted using the `stdf` option in Stata 10.1; this option provides a standard error for a single prediction or forecast\(^2\).
Predictive variables in ordinary least squares linear regression to predict primary infertility prevalence. Dependent variable is the natural log of the unbiased prevalence estimate. N = 75 and the adjusted $R^2$ of the regression is 0.928.

| Predictor                                                                 | Coefficient               |
|--------------------------------------------------------------------------|---------------------------|
| Constant                                                                 | -0.23 (-0.47, -0.01)     |
| Natural log of biased prevalence estimate (calculated using current contraceptive use as a proxy for past use, and time since first union as a proxy for time in a union) | 0.95 (0.89, 1.02)         |
| Indicator variable equal to 1 for ages < 30 and equal to 0 for ages ≥ 30 | -0.042 (-0.080, -0.003) |

Predictive variables in ordinary least squares linear regression to predict secondary infertility prevalence. Dependent variable is the natural log of the unbiased prevalence estimate. N = 197 and the adjusted $R^2$ of the regression is 0.972.

| Predictor                                                                 | Coefficient               |
|--------------------------------------------------------------------------|---------------------------|
| Constant                                                                 | -2.8 (-3.4, -2.1)         |
| Natural log of biased prevalence estimate (calculated using current contraceptive use as a proxy for past use, and time since first union as a proxy for time in a union) | 1.03 (0.97, 1.09)         |
| Age (years)                                                              | 0.14 (0.10, 0.18)         |
| Square of age (years)                                                    | -0.0017 (-0.0024, -0.0010) |
| Prevalence of contraceptive use in the survey sample                     | -0.54 (-0.73, -0.35)      |

Text C. Bayesian hierarchical model

We fit four Bayesian hierarchical logistic regressions to separately estimate the prevalence of and exposure to primary and secondary infertility for couples in each country-age group, indexed by the age of the female partner. We selected uninformative priors for all parameters fit in this model. For observation $h$, we define $y_h$ to be the number of subjects with infertility (as defined in the main text) out of a total effective sample size $n_h$. Our model includes a 6-level hierarchy:

- 1,653 observations are denoted $o$ and indexed by $h$.
- 277 studies are denoted $st$ and indexed by $i$.
- 104 countries are denoted $c$ and indexed by $j$.
- 21 subregions are denoted $sb$ and indexed by $k$.
- 8 regions are denoted $r$ and indexed by $l$.
- Global-level effects are denoted $g$.

Our logistic regression is as follows, with covariates $X$ defined below. $p_h$ is the prevalence of infertility for a given observation $h$:

$$
\begin{align*}
y_h & \sim \text{Binomial}(n_h, p_h), \\
p_h & = \logit^{-1} \left( a^\theta + a^o_{i[h]} + a^r_{l[h]} + a^c_{j[h]} + a^{sb}_{k[h]} + a^{st}_{t[i[h]]} + b^\theta t_i[h] + b^o_{i[h]} t_i[h] + X_h \beta \right),
\end{align*}
$$

\footnote{Chinese data were used only for primary infertility, and some DHS data were not used for the exposure models because the surveys only included ever-married women (see main text and Table B).}
We calculate $y_h$ based on the analyses described in Text A and Text B, in order to reflect uncertainty from each survey’s complex design and the uncertainty from the adjustments we make to prevalence. In Text B we described our methods to estimate unbiased primary and secondary infertility from biased primary and secondary infertility. This gave us unbiased estimates and standard errors surrounding these estimates. To propagate these errors, we adjusted the variance for observations from bias-corrected studies in our Bayesian model as follows: rather than using the $y_h$’s as the data in our likelihood function at each iteration of our sampler, we first multiplied each $y_h$ by a draw from a log-normal distribution with mean 1 and standard deviation equal to the standard error calculated for the bias-correction.

The hierarchical $a$’s have normally distributed priors:

$$
\begin{align*}
    a^g &\sim \mathcal{N}(0, 1000), \\
    a^r_i &\sim \mathcal{N}(0, \sigma^2_r), \\
    a^{sb}_k &\sim \mathcal{N}(0, \sigma^2_{sb}), \\
    a^c_j &\sim \mathcal{N}(0, \sigma^2_c), \\
    a^{st,i}_i &\sim \mathcal{N}(0, \sigma^2_{st,i}), \\
    a^o_h &\sim \mathcal{N}(0, \sigma^2_o).
\end{align*}
$$

where the global, regional, subregional, and country standard deviations were given uniform priors $\mathcal{U}(0, 100)$. Study-specific random effects allow for additional variability in studies not explained by sampling uncertainty. The variance of the study-specific random effects depends on whether the study is national or subnational, so:

$$
\sigma_{st,i} = \begin{cases} 
\sigma^{\text{national}} & \text{if study } i \text{ is nationally representative} \\
\sigma^{\text{subnational}} & \text{otherwise.}
\end{cases}
$$

The $a^o_h$ error terms, one per observation, allow for an overdispersed binomial distribution in our data. The resulting model is called the Binomial-normal model. Since this parameter is constrained by a common normal distribution with variance $\sigma^2_o$, the degree of overdispersion that is necessary is informed by the data, and shrinks to zero if the data are binomially distributed.

Year of study denoted $t$ was included as a hierarchically modeled covariate. A global slope $b^g$ had prior $\mathcal{N}(0, 1000)$ and additionally separate region-specific slopes $b^r_i$ had normal priors with mean zero and a shared standard deviation with a uniform prior $\mathcal{U}(0, 100)$. Before fitting the model, year values were normalized to have mean 0 and standard deviation 1.

Additional covariates representing characteristics of the data at the observation, study, and country levels were included. The observation-specific characteristics differed by indicator modeled. For all models, the observation-specific covariates included indicators for each age category, denoted by indicator variables $z^0, z^1, \ldots, z^4$ (corresponding to membership in the age groups 20-24, 25-29, 30-34, 35-39, 40-44). To model the exposure to primary infertility, we additionally included interactions between indicators for each age category and high income status, denoted by indicator variables $v^0, v^1, \ldots, v^4$ (corresponding to membership in a high income region and in the age groups 20-24, 25-29, 30-34, 35-39, 40-44). The age coefficients shared a normal prior with mean 0 and uniform $\mathcal{U}(0, 20)$ standard deviation. The study-level covariate is whether the study is from the World Fertility Survey series $\text{wfs}[i]$ (an indicator variable), with prior $\mathcal{N}(0, 1000)$. The country-level covariate is mean years of maternal education $\text{mat}[j]$, with prior $\mathcal{N}(0, 1000)$. Mean years of education was normalized to have mean 0 and standard deviation 1.

For primary and secondary prevalence of infertility and exposure to secondary infertility, our covariates are:

$$
X_h \beta = \beta_0 z^0_h + \beta_1 z^1_h + \beta_2 z^2_h + \beta_3 z^3_h + \beta_4 z^4_h + \beta_5 \text{wfs}[i] + \beta_6 \text{mat}[j]
$$
For exposure to primary infertility, our covariates are:

\[ X_h \beta = \beta_0 z_h^0 + \beta_1 z_h^1 + \beta_2 z_h^2 + \beta_3 z_h^3 + \beta_4 z_h^4 + \beta_5 v_h^0 + \beta_6 v_h^1 + \beta_7 v_h^2 + \beta_8 v_h^3 + \beta_9 v_h^4 + \beta_{10} wfs_i[h] + \beta_{11} mat_j[h] \]

Other than age (described above) the covariates were all assigned uninformative uniform priors.

To fit the parameters of our Bayesian hierarchical model to our dataset, we used the PyMC package in python\(^4\), which provides an implementation of Markov chain Monte Carlo (MCMC) sampling. We specified our model as described above. For each of the four indicators (primary or secondary, prevalence or exposure), we had the following sampling scheme: we ran four chains in parallel. After a burn-in of 5 million iterations, we ran each chain for an additional 5 million iterations, and then thinned our chains by a factor of 12,500, thus obtaining 400 posterior draws from each chain for a total of 1,600 draws for each model.

To assess mixing and convergence, we inspected graphical summaries, including plots of traces and autocorrelation plots, and also summary plots comparing parameter estimates from different chains for the same model. The sampling scheme described above was arrived at through tuning based on trace and autocorrelation plots, which showed us how well the MCMC sampler was exploring the parameter space—we used a large number of iterations and thinned our chains because we had high autocorrelation initially. We also calculated the Gelman-Rubin R-hat statistic\(^5\), which allowed us to monitor convergence by ensuring that the parallel chains eventually converged to the same distribution for each parameter.

To predict primary and secondary infertility and exposure for each country-year-age unit, we include global, regional, and country effects, covariate effects, and age effects. Study effects (\(a^{st}\)) and error terms (\(a^{oh}\)) are not included when making predictions, and the World Fertility Survey covariate \(wfs_i[h]\) is set to 0. For predictions we use the following equation, where the values of the parameters from the MCMC sampling at each iteration give a separate posterior prediction at that iteration:

\[ p_h = \logit^{-1} \left( a^g + a_i^r + a_k^r + a_j^r + b_h^r t_i[h] + b_i^r t_i[h] + X_h \beta \right) \]

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Table A. Countries and territories in analysis regions and subregions. Countries not in the high-income region are considered to be low- or middle-income countries.

| **High Income region**          |                                                                                           |
|---------------------------------|-------------------------------------------------------------------------------------------|
| Asia-Pacific, high income      | Brunei Darussalam, Japan, Republic of Korea, Singapore                                    |
| Australasia                     | Australia, New Zealand                                                                    |
| North America, high income      | Canada, United States of America                                                           |
| Western Europe                  | Andorra, Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland,     |
|                                 | Ireland, Israel, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, |
|                                 | United Kingdom                                                                            |

| **Central/Eastern Europe and Central Asia region** |
|---------------------------------------------------|
| Central Asia                                     | Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Turkmenistan,  |
|                                                 | Uzbekistan                                                                               |
| Central Europe                                   | Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, Macedonia  |
|                                                 | (Former Yugoslav Republic of), Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia   |
| Eastern Europe                                   | Belarus, Estonia, Latvia, Lithuania, Moldova, Russian Federation, Ukraine                 |

| **East Asia/Pacific region**                    |                                                                                           |
|-------------------------------------------------|-------------------------------------------------------------------------------------------|
| East Asia                                       | China, Hong Kong SAR (China), Macau SAR (China), Democratic People’s Republic of Korea,   |
|                                                 | Taiwan                                                                                    |
| Southeast Asia                                  | Cambodia, Indonesia, Lao People’s Democratic Republic, Malaysia, Maldives, Myanmar,       |
|                                                 | Philippines, Sri Lanka, Thailand, Timor-Leste, Viet Nam                                    |
| Oceania                                         | Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Papua New Guinea,    |
|                                                 | Samoa, Solomon Islands, Tonga, Vanuatu                                                    |

| **Latin America/Caribbean region**              |                                                                                           |
|-------------------------------------------------|-------------------------------------------------------------------------------------------|
| Andean Latin America                            | Bolivia, Ecuador, Peru                                                                     |
| Central Latin America                           | Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama,        |
|                                                 | Venezuela (Bolivarian Republic of)                                                        |
| Southern Latin America                          | Argentina, Chile, Uruguay                                                                  |
| Tropical Latin America                          | Brazil, Paraguay                                                                           |
| Caribbean                                       | Antigua and Barbuda, Bahamas, Barbados, Belize, Cuba, Dominica, Dominican Republic,       |
|                                                 | Grenada, Guyana, Haiti, Jamaica, Puerto Rico, Saint Lucia, Saint Vincent and the          |
|                                                 | Grenadines, Suriname, Trinidad and Tobago                                                  |

| **North Africa/Middle East region**             |                                                                                           |
|-------------------------------------------------|-------------------------------------------------------------------------------------------|
| North Africa and Middle East                    | Algeria, Bahrain, Egypt, Iran (Islamic Republic of), Iraq, Jordan, Kuwait, Lebanon,       |
|                                                 | Libyan Arab Jamahiriya, Morocco, Occupied Palestinian Territory, Oman, Qatar, Saudi Arabia, |
|                                                 | Syrian Arab Republic, Tunisia, Turkey, United Arab Emirates                                 |

| **South Asia region**                           |                                                                                           |
|-------------------------------------------------|-------------------------------------------------------------------------------------------|
| South Asia                                      | Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan                                    |

| **Sub-Saharan Africa region**                   |                                                                                           |
|-------------------------------------------------|-------------------------------------------------------------------------------------------|
| Central Africa                                  | Angola, Central African Republic, Congo, Democratic Republic of the Congo, Equatorial    |
|                                                 | Guinea, Gabon                                                                             |
| East Africa                                     | Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius,       |
|                                                 | Mozambique, Rwanda, Somalia, Sudan, Uganda, United Republic of Tanzania, Zambia            |
| Southern Africa                                 | Botswana, Lesotho, Namibia, South Africa, Swaziland, Zimbabwe                             |
| West Africa                                     | Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Côte d’Ivoire, Gambia, Ghana, Guinea,    |
|                                                 | Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, São     |
|                                                 | Tomé and Príncipe, Togo                                                                   |
| Country                  | Year | Survey                                                | Notes | Sample Size (Primary)* | Sample Size (Secondary)* | Survey Size** |
|--------------------------|------|-------------------------------------------------------|-------|------------------------|--------------------------|--------------|
| Albania                  | 2002 | Reproductive Health Survey                            | 1     | 3102                   | 1026                     | 4671         |
| Albania                  | 2009 | Demographic and Health Survey                         | 2     | 3362                   | 967                      | 5005         |
| Algeria                  | 1992 | Pan Arab Project for Child Development (PAPCHILD)      | 2, 3  | 3236                   | 2344                     | 4222         |
| Algeria                  | 2003 | Pan Arab Population and Family Health Project (PAPFAM) | 2, 3  | 4581                   | 3088                     | 6087         |
| Armenia                  | 2000 | Demographic and Health Survey                         | 1     | 2959                   | 704                      | 4456         |
| Armenia                  | 2005 | Demographic and Health Survey                         | 1     | 2628                   | 578                      | 4430         |
| Azerbaijan               | 2006 | Demographic and Health Survey                         | 2     | 3401                   | 936                      | 5917         |
| Bangladesh               | 1975 | World Fertility Survey                                 | 2, 3  | 3845                   | 2948                     | 4641         |
| Bangladesh               | 1993 | Demographic and Health Survey                         | 1, 3  | 6508                   | 3572                     | 7581         |
| Bangladesh               | 1996 | Demographic and Health Survey                         | 1, 3  | 5987                   | 3075                     | 7060         |
| Bangladesh               | 1999 | Demographic and Health Survey                         | 1, 3  | 6709                   | 3244                     | 8077         |
| Bangladesh               | 2004 | Demographic and Health Survey                         | 1, 3  | 7250                   | 3401                     | 8662         |
| Bangladesh               | 2007 | Demographic and Health Survey                         | 2, 3  | 7151                   | 3253                     | 8584         |
| Belgium                  | 1991 | Fertility and Family Survey                            | 2     | 1603                   | 454                      | 3234         |
| Belize                   | 1991 | Reproductive Health Survey                            | 2     | 1297                   | 733                      | 2160         |
| Benin                    | 1981 | World Fertility Survey                                 | 2     | 2132                   | 1743                     | 3187         |
| Benin                    | 1996 | Demographic and Health Survey                         | 2     | 2931                   | 2453                     | 3982         |
| Benin                    | 2001 | Demographic and Health Survey                         | 2     | 3112                   | 2544                     | 4555         |
| Benin                    | 2006 | Demographic and Health Survey                         | 2     | 9497                   | 7763                     | 13335        |
| Bolivia                  | 1989 | Demographic and Health Survey                         | 2     | 3459                   | 2412                     | 5566         |
| Bolivia                  | 1994 | Demographic and Health Survey                         | 1     | 3567                   | 2328                     | 6068         |
| Bolivia                  | 1998 | Demographic and Health Survey                         | 2     | 4593                   | 2869                     | 7746         |
| Bolivia                  | 2003 | Demographic and Health Survey                         | 2     | 7285                   | 4299                     | 12314        |
| Bolivia                  | 2008 | Demographic and Health Survey                         | 2     | 6775                   | 3639                     | 11834        |
| Brazil                   | 1986 | Demographic and Health Survey                         | 2     | 2608                   | 1373                     | 4582         |
| Brazil                   | 1991 | Demographic and Health Survey                         | 1     | 2151                   | 1039                     | 4277         |
| Brazil                   | 1996 | Demographic and Health Survey                         | 1     | 4834                   | 1708                     | 8928         |
| Burkina Faso             | 1992 | Demographic and Health Survey                         | 2     | 3520                   | 2885                     | 4507         |
| Burkina Faso             | 1998 | Demographic and Health Survey                         | 2     | 3516                   | 2948                     | 4493         |
| Burkina Faso             | 2003 | Demographic and Health Survey                         | 2     | 6650                   | 5501                     | 8623         |
| Burundi                  | 1987 | Demographic and Health Survey                         | 2     | 1819                   | 1574                     | 2953         |
| Cambodia                 | 2000 | Demographic and Health Survey                         | 2     | 6807                   | 4963                     | 10365        |
| Cambodia                 | 2005 | Demographic and Health Survey                         | 2     | 7076                   | 4206                     | 11486        |
| Cambodia                 | 2010 | Demographic and Health Survey                         | 2     | 7461                   | 3964                     | 12779        |
| Cameroon                 | 1978 | World Fertility Survey                                 | 2     | 3836                   | 3044                     | 5808         |
| Cameroon                 | 1991 | Demographic and Health Survey                         | 2     | 1890                   | 1541                     | 2704         |
| Cameroon                 | 1998 | Demographic and Health Survey                         | 2     | 2342                   | 1807                     | 3871         |
| Cameroon                 | 2004 | Demographic and Health Survey                         | 2     | 4612                   | 3477                     | 7243         |
| Central African Republic | 1994 | Demographic and Health Survey                         | 2     | 2829                   | 2278                     | 4171         |
| Chad                     | 1996 | Demographic and Health Survey                         | 2     | 4010                   | 3398                     | 5197         |
| Chad                     | 2004 | Demographic and Health Survey                         | 2     | 3138                   | 2674                     | 4089         |
| Country                   | Year | Survey                                           | Notes | Sample Size (Primary)* | Sample Size (Secondary)* | Survey Size** |
|---------------------------|------|--------------------------------------------------|-------|------------------------|--------------------------|---------------|
| China (Gansu)             | 1987 | In-depth Fertility Sample Surveys                | 2, 4, 5 | 3765                   | --                       | 4951          |
| China (Guangdong)         | 1987 | In-depth Fertility Sample Surveys                | 2, 4, 5 | 4279                   | --                       | 5821          |
| China (Guizhou)           | 1987 | In-depth Fertility Sample Surveys                | 2, 4, 5 | 4270                   | --                       | 5520          |
| China (Hebei)             | 1985 | In-depth Fertility Sample Surveys                | 2, 4, 5 | 3306                   | --                       | 4470          |
| China (Liaoning)          | 1987 | In-depth Fertility Sample Surveys                | 2, 4, 5 | 4396                   | --                       | 5848          |
| China (Shaanxi)           | 1985 | In-depth Fertility Sample Surveys                | 2, 4, 5 | 2610                   | --                       | 3524          |
| China (Shanghai)          | 1985 | In-depth Fertility Sample Surveys                | 2, 4, 5 | 2258                   | --                       | 3635          |
| Colombia                  | 1976 | World Fertility Survey                           | 2     | 1731                   | 1123                     | 3621          |
| Colombia                  | 1986 | Demographic and Health Survey                    | 2     | 1881                   | 986                      | 3731          |
| Colombia                  | 1990 | Demographic and Health Survey                    | 1     | 2853                   | 1220                     | 6250          |
| Colombia                  | 1995 | Demographic and Health Survey                    | 1     | 3707                   | 1569                     | 8011          |
| Colombia                  | 2000 | Demographic and Health Survey                    | 1     | 3635                   | 1364                     | 8244          |
| Colombia                  | 2005 | Demographic and Health Survey                    | 1     | 11704                  | 4304                     | 26924         |
| Colombia                  | 2010 | Demographic and Health Survey                    | 2     | 17888                  | 6753                     | 34441         |
| Comoros                   | 1996 | Demographic and Health Survey                    | 2     | 1157                   | 880                      | 1997          |
| Congo                     | 2005 | Demographic and Health Survey                    | 2     | 2611                   | 2018                     | 5072          |
| Costa Rica                | 1976 | World Fertility Survey                           | 2     | 1692                   | 948                      | 3473          |
| Czech Republic            | 1997 | Fertility and Family Survey                      | 2     | 913                    | 259                      | 1489          |
| Côte d'Ivoire             | 1980 | World Fertility Survey                           | 2     | 2661                   | 2276                     | 4145          |
| Côte d'Ivoire             | 1994 | Demographic and Health Survey                    | 2     | 3614                   | 3049                     | 5619          |
| Côte d'Ivoire             | 1998 | Demographic and Health Survey                    | 2     | 1112                   | 902                      | 2075          |
| Democratic Republic of the Congo | 2002 | Demographic and Health Survey                    | 1     | 8750                   | 3471                     | 16438         |
| Democratic Republic of the Congo | 2007 | Demographic and Health Survey                    | 2     | 4419                   | 3610                     | 7226          |
| Denmark                   | 1992 | European Studies of Infertility and Subfecundity | 1, 5 | 512                    | 105                      | 1028          |
| Djibouti                  | 2003 | Pan Arab Population and Family Health Project (PAPFAM) | 2, 3 | 1708                   | 1402                     | 2425          |
| Dominican Republic         | 1975 | World Fertility Survey                           | 2     | 1037                   | 753                      | 2103          |
| Dominican Republic         | 1986 | Demographic and Health Survey                    | 2     | 2927                   | 1665                     | 5119          |
| Dominican Republic         | 1991 | Demographic and Health Survey                    | 1     | 2473                   | 1145                     | 5110          |
| Dominican Republic         | 1996 | Demographic and Health Survey                    | 1     | 3097                   | 1359                     | 5954          |
| Dominican Republic         | 1999 | Demographic and Health Survey                    | 1     | 458                    | 179                      | 903           |
| Dominican Republic         | 2007 | Demographic and Health Survey                    | 2     | 11179                  | 4476                     | 18739         |
| Ecuador                   | 1987 | Demographic and Health Survey                    | 2     | 2069                   | 1273                     | 3381          |
| Country        | Year | Survey                                      | Notes | Sample Size (Primary)* | Sample Size (Secondary)* | Survey Size** |
|---------------|------|---------------------------------------------|-------|------------------------|--------------------------|--------------|
| Ecuador       | 1989 | Reproductive Health Survey                  | 2     | 2949                   | 1662                     | 5812         |
| Ecuador       | 1999 | Reproductive Health Survey                  | 2     | 6788                   | 3484                     | 10947        |
| Ecuador       | 2004 | Reproductive Health Survey                  | 2     | 4940                   | 2349                     | 8213         |
| Egypt         | 1980 | World Fertility Survey                       |       | 5227                   | 3753                     | 7234         |
| Egypt         | 1988 | Demographic and Health Survey               | 2, 3  | 5666                   | 3613                     | 7464         |
| Egypt         | 1991 | Pan Arab Project for Child Development      | 2, 3  | 5864                   | 3790                     | 7576         |
| Egypt         | 1992 | Demographic and Health Survey               | 2, 3  | 6459                   | 3944                     | 8321         |
| Egypt         | 1995 | Demographic and Health Survey               | 1, 3  | 9220                   | 5281                     | 12100        |
| Egypt         | 2000 | Demographic and Health Survey               | 1, 3  | 9307                   | 4980                     | 12702        |
| Egypt         | 2005 | Demographic and Health Survey               | 1, 3  | 11548                  | 5877                     | 15990        |
| Egypt         | 2008 | Demographic and Health Survey               | 1, 3  | 9627                   | 4611                     | 13635        |
| El Salvador   | 1985 | Demographic and Health Survey               | 2     | 2080                   | 1144                     | 3545         |
| El Salvador   | 1998 | Reproductive Health Survey                  | 2     | 5712                   | 2984                     | 9455         |
| El Salvador   | 2002 | Reproductive Health Survey                  | 2     | 3983                   | 2000                     | 8034         |
| El Salvador   | 2008 | Reproductive Health Survey                  | 2     | 4290                   | 1909                     | 9050         |
| Ethiopia      | 2000 | Demographic and Health Survey               | 2     | 6627                   | 5051                     | 10548        |
| Ethiopia      | 2005 | Demographic and Health Survey               | 1     | 5860                   | 4507                     | 9738         |
| Ethiopia      | 2011 | Demographic and Health Survey               | 2     | 7274                   | 5425                     | 11579        |
| Fiji          | 1974 | World Fertility Survey                       | 2, 3  | 3104                   | 1985                     | 4263         |
| Finland       | 1989 | Fertility and Family Survey                 | 2     | 3384                   | 926                      | 6816         |
| Gabon         | 2000 | Demographic and Health Survey               | 2     | 2263                   | 1733                     | 4219         |
| Germany       | 1992 | European Studies of Infertility and Subfecundity | 1, 5  | 921                    | 233                      | 1485         |
| Ghana         | 1988 | Demographic and Health Survey               | 2     | 2224                   | 1855                     | 3273         |
| Ghana         | 1993 | Demographic and Health Survey               | 2     | 2293                   | 1829                     | 3423         |
| Ghana         | 1998 | Demographic and Health Survey               | 2     | 2209                   | 1696                     | 3516         |
| Ghana         | 2003 | Demographic and Health Survey               | 2     | 2564                   | 1971                     | 4077         |
| Ghana         | 2008 | Demographic and Health Survey               | 2     | 2041                   | 1541                     | 3444         |
| Guatemala     | 1987 | Demographic and Health Survey               | 2     | 2655                   | 1978                     | 3978         |
| Guatemala     | 1995 | Demographic and Health Survey               | 1     | 5575                   | 4013                     | 8411         |
| Guinea        | 1999 | Demographic and Health Survey               | 2     | 3950                   | 3326                     | 4852         |
| Guinea        | 2005 | Demographic and Health Survey               | 2     | 4503                   | 3751                     | 5509         |
| Guyana        | 1975 | World Fertility Survey                       | 2     | 1682                   | 1038                     | 3314         |
| Haiti         | 1977 | World Fertility Survey                       | 2     | 839                    | 662                      | 2332         |
| Haiti         | 1994 | Demographic and Health Survey               | 2     | 2042                   | 1493                     | 3662         |
| Haiti         | 2000 | Demographic and Health Survey               | 2     | 3791                   | 2729                     | 6758         |
| Haiti         | 2005 | Demographic and Health Survey               | 2     | 4083                   | 2634                     | 7053         |
| Honduras      | 1996 | Reproductive Health Survey                  | 2     | 3633                   | 2441                     | 5600         |
| Honduras      | 2001 | Reproductive Health Survey                  | 2     | 4094                   | 2442                     | 6349         |
| Honduras      | 2005 | Demographic and Health Survey               | 2     | 8198                   | 4642                     | 13790        |
| India         | 1992 | Demographic and Health Survey               | 2, 3  | 59062                  | 27172                    | 73184        |
| India         | 1998 | Demographic and Health Survey               | 2, 3  | 58944                  | 24941                    | 74715        |
| India         | 2005 | Demographic and Health Survey               | 1     | 62785                  | 21778                    | 90623        |
| Indonesia     | 1976 | World Fertility Survey                       | 2, 3  | 5226                   | 3849                     | 7381         |
| Country                   | Year | Survey                                              | Notes | Sample Size (Primary)* | Sample Size (Secondary)* | Survey Size** |
|--------------------------|------|-----------------------------------------------------|-------|------------------------|--------------------------|--------------|
| Indonesia                | 1987 | Demographic and Health Survey                      | 2, 3  | 7777                   | 4195                     | 9860         |
| Indonesia                | 1991 | Demographic and Health Survey                      | 1, 3  | 14682                  | 7761                     | 19133        |
| Indonesia                | 1994 | Demographic and Health Survey                      | 1, 3  | 18359                  | 9522                     | 23834        |
| Indonesia                | 1997 | Demographic and Health Survey                      | 1, 3  | 18442                  | 8935                     | 24249        |
| Indonesia                | 2002 | Demographic and Health Survey                      | 1, 3  | 18565                  | 8322                     | 24464        |
| Indonesia                | 2007 | Demographic and Health Survey                      | 1, 3  | 20859                  | 9836                     | 27575        |
| Italy                    | 1992 | European Studies of Infertility and Subfecundity    | 1, 5  | 1667                   | 312                      | 2724         |
| Italy                    | 1995 | Fertility and Family Survey                         | 2     | 1710                   | 417                      | 4109         |
| Jamaica                  | 1975 | World Fertility Survey                              | 2     | 925                    | 608                      | 2296         |
| Jordan                   | 1990 | Demographic and Health Survey                      | 2, 3  | 4062                   | 3110                     | 5363         |
| Jordan                   | 1997 | Demographic and Health Survey                      | 1, 3  | 3579                   | 2446                     | 4785         |
| Jordan                   | 2002 | Demographic and Health Survey                      | 2, 3  | 4004                   | 2779                     | 5223         |
| Jordan                   | 2007 | Demographic and Health Survey                      | 2, 3  | 7103                   | 4705                     | 9409         |
| Jordan                   | 2009 | Demographic and Health Survey                      | 2, 3  | 6353                   | 4213                     | 8693         |
| Kazakhstan               | 1995 | Demographic and Health Survey                      | 2     | 1668                   | 606                      | 2741         |
| Kazakhstan               | 1999 | Demographic and Health Survey                      | 1     | 2034                   | 571                      | 3489         |
| Kenya                    | 1977 | World Fertility Survey                              | 2     | 3679                   | 3269                     | 5645         |
| Kenya                    | 1989 | Demographic and Health Survey                      | 2     | 3371                   | 2673                     | 5242         |
| Kenya                    | 1993 | Demographic and Health Survey                      | 2     | 3142                   | 2385                     | 5312         |
| Kenya                    | 1998 | Demographic and Health Survey                      | 1     | 3200                   | 2125                     | 5505         |
| Kenya                    | 2003 | Demographic and Health Survey                      | 1     | 3142                   | 2134                     | 5865         |
| Kenya                    | 2008 | Demographic and Health Survey                      | 2     | 3368                   | 2416                     | 6007         |
| Kyrgyzstan               | 1997 | Demographic and Health Survey                      | 2     | 1856                   | 907                      | 2789         |
| Lebanon                  | 1996 | Pan Arab Project for Child Development (PAPCHILD)   | 2, 3  | 2018                   | 1058                     | 2579         |
| Lebanon                  | 2004 | Pan Arab Population and Family Health Project (PAPFAM) | 2, 3 | 1955                   | 877                      | 2441         |
| Lesotho                  | 1977 | World Fertility Survey                              | 2, 3  | 1974                   | 1587                     | 2944         |
| Lesotho                  | 2004 | Demographic and Health Survey                      | 2     | 2305                   | 1462                     | 4743         |
| Lesotho                  | 2009 | Demographic and Health Survey                      | 2     | 2416                   | 1396                     | 5138         |
| Liberia                  | 1986 | Demographic and Health Survey                      | 2     | 2457                   | 2052                     | 3664         |
| Liberia                  | 2006 | Demographic and Health Survey                      | 2     | 3220                   | 2596                     | 5148         |
| Libyan Arab Jamahiriya   | 1995 | Pan Arab Project for Child Development (PAPCHILD)   | 2, 3  | 3036                   | 2404                     | 3938         |
| Lithuania                | 1995 | Fertility and Family Survey                         | 2     | 1134                   | 367                      | 2293         |
| Madagascar               | 1992 | Demographic and Health Survey                      | 2     | 2508                   | 1915                     | 4498         |
| Madagascar               | 1997 | Demographic and Health Survey                      | 2     | 2948                   | 2251                     | 5008         |
| Madagascar               | 2003 | Demographic and Health Survey                      | 2     | 3392                   | 2280                     | 5761         |
| Madagascar               | 2008 | Demographic and Health Survey                      | 2     | 7935                   | 5363                     | 11917        |
| Malawi                   | 1992 | Demographic and Health Survey                      | 2     | 2422                   | 2019                     | 3430         |
| Malawi                   | 2000 | Demographic and Health Survey                      | 2     | 6068                   | 4684                     | 9392         |
| Malawi                   | 2004 | Demographic and Health Survey                      | 1     | 5088                   | 3883                     | 8521         |
| Malaysia                 | 1974 | World Fertility Survey                              | 2, 3  | 3723                   | 2650                     | 5139         |
| Maldives                 | 2009 | Demographic and Health Survey                      | 2     | 3996                   | 2045                     | 6266         |
| Country         | Year | Survey                                   | Notes | Sample Size (Primary)* | Sample Size (Secondary)* | Survey Size** |
|-----------------|------|------------------------------------------|-------|------------------------|--------------------------|--------------|
| Mali            | 1987 | Demographic and Health Survey           | 2     | 2109                   | 1688                     | 2407         |
| Mali            | 1995 | Demographic and Health Survey           | 2     | 5940                   | 4922                     | 7043         |
| Mali            | 2001 | Demographic and Health Survey           | 2     | 7661                   | 6321                     | 9347         |
| Mali            | 2006 | Demographic and Health Survey           | 2     | 8518                   | 6975                     | 10325        |
| Mauritania      | 1981 | World Fertility Survey                  | 2, 3  | 1827                   | 1492                     | 2725         |
| Mauritania      | 1990 | Pan Arab Project for Child Development (PAPCHILD) | 2, 3 | 2989                   | 2454                     | 4275         |
| Mexico          | 1976 | World Fertility Survey                  | 2     | 3562                   | 2794                     | 6150         |
| Mexico          | 1987 | Demographic and Health Survey           | 2     | 3724                   | 2199                     | 6391         |
| Moldova         | 1997 | Reproductive Health Survey              | 1     | 3177                   | 796                      | 4685         |
| Morocco         | 1980 | World Fertility Survey                  | 2     | 2375                   | 1864                     | 3878         |
| Morocco         | 1987 | Demographic and Health Survey           | 2, 3  | 3814                   | 2677                     | 4927         |
| Morocco         | 1992 | Demographic and Health Survey           | 1     | 3510                   | 2369                     | 6443         |
| Morocco         | 1997 | Pan Arab Project for Child Development (PAPCHILD) | 2, 3 | 3116                   | 1927                     | 4190         |
| Morocco         | 2003 | Demographic and Health Survey           | 2     | 5832                   | 3317                     | 11760        |
| Mozambique      | 1997 | Demographic and Health Survey           | 2     | 4142                   | 3319                     | 6249         |
| Mozambique      | 2003 | Demographic and Health Survey           | 2     | 5724                   | 4592                     | 8860         |
| Namibia         | 1992 | Demographic and Health Survey           | 2     | 1414                   | 1102                     | 3781         |
| Namibia         | 2000 | Demographic and Health Survey           | 2     | 1698                   | 1041                     | 4878         |
| Namibia         | 2006 | Demographic and Health Survey           | 2     | 2124                   | 1302                     | 6886         |
| Nepal           | 1976 | World Fertility Survey                  | 2, 3  | 3884                   | 2717                     | 4732         |
| Nepal           | 1996 | Demographic and Health Survey           | 2, 3  | 5604                   | 3331                     | 6648         |
| Nepal           | 2001 | Demographic and Health Survey           | 2, 3  | 5863                   | 3152                     | 6960         |
| Nepal           | 2006 | Demographic and Health Survey           | 2     | 5799                   | 2606                     | 7489         |
| Nepal           | 2011 | Demographic and Health Survey           | 2     | 6674                   | 2491                     | 8934         |
| Nicaragua       | 1997 | Demographic and Health Survey           | 1     | 5364                   | 2952                     | 9338         |
| Nicaragua       | 2001 | Demographic and Health Survey           | 2     | 5369                   | 2665                     | 8886         |
| Niger           | 1992 | Demographic and Health Survey           | 2     | 3914                   | 3258                     | 4703         |
| Niger           | 1998 | Demographic and Health Survey           | 2     | 4333                   | 3653                     | 5296         |
| Niger           | 2006 | Demographic and Health Survey           | 2     | 5349                   | 4539                     | 6713         |
| Nigeria         | 1990 | Demographic and Health Survey           | 2     | 4781                   | 3865                     | 6501         |
| Nigeria         | 1999 | Demographic and Health Survey           | 2     | 3914                   | 3007                     | 5863         |
| Nigeria         | 2003 | Demographic and Health Survey           | 2     | 3425                   | 2760                     | 5253         |
| Nigeria         | 2008 | Demographic and Health Survey           | 2     | 15988                  | 13023                    | 23889        |
| Pakistan        | 1975 | World Fertility Survey                  | 2, 3  | 3149                   | 2422                     | 3856         |
| Pakistan        | 1990 | Demographic and Health Survey           | 2, 3  | 4532                   | 3333                     | 5584         |
| Pakistan        | 2006 | Demographic and Health Survey           | 2, 3  | 6387                   | 4016                     | 8217         |
| Panama          | 1975 | World Fertility Survey                  | 2     | 1723                   | 1060                     | 3297         |
| Paraguay        | 1979 | World Fertility Survey                  | 2     | 1532                   | 1057                     | 3160         |
| Paraguay        | 1990 | Demographic and Health Survey           | 1     | 2355                   | 1546                     | 4072         |
| Peru            | 1977 | World Fertility Survey                  | 2, 3  | 3195                   | 2453                     | 4570         |
| Peru            | 1986 | Demographic and Health Survey           | 2     | 1988                   | 1241                     | 3506         |
| Peru            | 1992 | Demographic and Health Survey           | 1     | 6132                   | 3510                     | 11220        |
| Peru            | 1996 | Demographic and Health Survey           | 1     | 11960                  | 6818                     | 20678        |
| Country              | Year | Survey                                           | Notes | Sample Size (Primary)* | Sample Size (Secondary)* | Survey Size** |
|----------------------|------|--------------------------------------------------|-------|------------------------|--------------------------|---------------|
| Peru                 | 2000 | Demographic and Health Survey                    | 1     | 11101                  | 5525                     | 19673         |
| Philippines          | 1978 | World Fertility Survey                           | 2, 3  | 5873                   | 4327                     | 7727          |
| Philippines          | 1993 | Demographic and Health Survey                    | 1     | 6263                   | 3821                     | 10746         |
| Philippines          | 1998 | Demographic and Health Survey                    | 1     | 5713                   | 3388                     | 9819          |
| Philippines          | 2003 | Demographic and Health Survey                    | 1     | 5646                   | 3009                     | 9644          |
| Philippines          | 2008 | Demographic and Health Survey                    | 2     | 5511                   | 2996                     | 9383          |
| Poland               | 1991 | Fertility and Family Survey                      | 2     | 2033                   | 585                      | 3430          |
| Poland               | 1992 | European Studies of Infertility and Subfecundity | 1, 5  | 337                    | 64                       | 442           |
| Portugal             | 1979 | World Fertility Survey                           | 2, 3  | 2931                   | 1030                     | 4071          |
| Republic of Korea    | 1974 | World Fertility Survey                           | 2, 3  | 3232                   | 2084                     | 4627          |
| Republic of Moldova  | 2005 | Demographic and Health Survey                    | 1     | 2976                   | 628                      | 4887          |
| Rwanda               | 1992 | Demographic and Health Survey                    | 2     | 2546                   | 2151                     | 4699          |
| Rwanda               | 2000 | Demographic and Health Survey                    | 2     | 3265                   | 2610                     | 6967          |
| Rwanda               | 2005 | Demographic and Health Survey                    | 2     | 3717                   | 3131                     | 7821          |
| Rwanda               | 2010 | Demographic and Health Survey                    | 2     | 4435                   | 3337                     | 9606          |
| Sao Tome and Principe| 2008 | Demographic and Health Survey                    | 2     | 1258                   | 995                      | 1863          |
| Senegal              | 1978 | World Fertility Survey                           | 2     | 1967                   | 1724                     | 2882          |
| Senegal              | 1986 | Demographic and Health Survey                    | 2     | 2385                   | 1980                     | 3169          |
| Senegal              | 1992 | Demographic and Health Survey                    | 2     | 3292                   | 2746                     | 4513          |
| Senegal              | 1997 | Demographic and Health Survey                    | 2     | 4231                   | 3577                     | 6105          |
| Senegal              | 2005 | Demographic and Health Survey                    | 2     | 6644                   | 5253                     | 9933          |
| Sierra Leone         | 2008 | Demographic and Health Survey                    | 2     | 3909                   | 2978                     | 5591          |
| Slovenia             | 1995 | Fertility and Family Survey                      | 2     | 1681                   | 383                      | 2498          |
| South Africa         | 1998 | Demographic and Health Survey                    | 2     | 3240                   | 1719                     | 8396          |
| Spain                | 1992 | European Studies of Infertility and Subfecundity | 1, 5  | 562                    | 107                      | 857           |
| Spain                | 1995 | Fertility and Family Survey                      | 2     | 1745                   | 482                      | 3311          |
| Sri Lanka            | 1987 | Demographic and Health Survey                    | 2, 3  | 3733                   | 1759                     | 5092          |
| Sudan                | 1978 | World Fertility Survey                           | 2, 3  | 2080                   | 1728                     | 2653          |
| Sudan                | 1990 | Demographic and Health Survey                    | 2, 3  | 3740                   | 3040                     | 4940          |
| Sudan                | 1993 | Pan Arab Project for Child Development (PAPCHILD) | 2, 3  | 2876                   | 2358                     | 3751          |
| Swaziland            | 2006 | Demographic and Health Survey                    | 2     | 1207                   | 767                      | 3339          |
| Syrian Arab Republic | 1978 | World Fertility Survey                           | 2, 3  | 2755                   | 2143                     | 3543          |
| Syrian Arab Republic | 1993 | Pan Arab Project for Child Development (PAPCHILD) | 2, 3  | 3033                   | 2080                     | 3810          |
| Syrian Arab Republic | 2002 | Pan Arab Population and Family Health Project (PAPFAM) | 2, 3  | 4715                   | 2991                     | 5807          |
| Thailand             | 1987 | Demographic and Health Survey                    | 2, 3  | 4159                   | 1620                     | 5686          |
| Timor-Leste          | 2009 | Demographic and Health Survey                    | 2     | 5462                   | 4270                     | 8758          |
| Country                      | Year  | Survey                               | Notes | Sample Size (Primary)* | Sample Size (Secondary)* | Survey Size** |
|------------------------------|-------|--------------------------------------|-------|-------------------------|--------------------------|--------------|
| Togo                         | 1988  | Demographic and Health Survey        | 2     | 1701                    | 1444                     | 2393         |
| Togo                         | 1998  | Demographic and Health Survey        | 2     | 4303                    | 3539                     | 6159         |
| Trinidad and Tobago          | 1977  | World Fertility Survey               | 2     | 1470                    | 738                      | 3336         |
| Trinidad and Tobago          | 1987  | Demographic and Health Survey        | 2     | 1508                    | 772                      | 2844         |
| Tunisia                      | 1988  | Demographic and Health Survey        | 2, 3  | 2762                    | 1762                     | 3678         |
| Tunisia                      | 1994  | Pan Arab Project for Child Development (PAPCHILD) | 2, 3  | 2921                    | 1833                     | 3763         |
| Tunisia                      | 2002  | Pan Arab Population and Family Health Project (PAPFAM) | 2, 3  | 2443                    | 1321                     | 3199         |
| Turkey                       | 1978  | World Fertility Survey               | 2, 3  | 2860                    | 1754                     | 3578         |
| Turkey                       | 1993  | Demographic and Health Survey        | 1, 3  | 4308                    | 1593                     | 5514         |
| Turkey                       | 1998  | Demographic and Health Survey        | 1     | 4023                    | 1541                     | 6101         |
| Turkey                       | 2003  | Demographic and Health Survey        | 1, 3  | 2832                    | 1032                     | 6809         |
| Uganda                       | 1988  | Demographic and Health Survey        | 2     | 2009                    | 1714                     | 3244         |
| Uganda                       | 1995  | Demographic and Health Survey        | 2     | 3177                    | 2538                     | 5095         |
| Uganda                       | 2000  | Demographic and Health Survey        | 2     | 3187                    | 2497                     | 5153         |
| Uganda                       | 2006  | Demographic and Health Survey        | 2     | 3821                    | 3132                     | 5981         |
| Ukraine                      | 1999  | Reproductive Health Survey           | 1     | 3627                    | 589                      | 6045         |
| Ukraine                      | 2007  | Demographic and Health Survey        | 2     | 2718                    | 614                      | 4929         |
| United Republic of Tanzania  | 1992  | Demographic and Health Survey        | 2     | 3920                    | 3300                     | 6310         |
| United Republic of Tanzania  | 1996  | Demographic and Health Survey        | 2     | 3643                    | 2990                     | 5810         |
| United Republic of Tanzania  | 1999  | Demographic and Health Survey        | 2     | 1771                    | 1413                     | 2807         |
| United Republic of Tanzania  | 2004  | Demographic and Health Survey        | 1     | 4174                    | 3240                     | 7281         |
| United Republic of Tanzania  | 2010  | Demographic and Health Survey        | 2     | 4379                    | 3519                     | 7094         |
| United States of America     | 1988  | National Survey of Family and Growth | 1     | 2680                    | 729                      | 7199         |
| United States of America     | 1995  | National Survey of Family and Growth | 1     | 3487                    | 924                      | 9421         |
| United States of America     | 2002  | National Survey of Family and Growth | 1     | 2047                    | 666                      | 6488         |
| United States of America     | 2007  | National Survey of Family and Growth | 1     | 1770                    | 609                      | 6006         |
| Uzbekistan                   | 1996  | Demographic and Health Survey        | 2     | 2056                    | 983                      | 3148         |
| Venezuela (Bolivarian Republic of) | 1977 | World Fertility Survey | 2     | 1469                    | 928                      | 3130         |
| Viet Nam                     | 1997  | Demographic and Health Survey        | 1, 3  | 3767                    | 1408                     | 4937         |
| Viet Nam                     | 2002  | Demographic and Health Survey        | 1, 3  | 3794                    | 1011                     | 4777         |
| Country     | Year | Survey                                                                 | Notes | Sample Size (Primary)* | Sample Size (Secondary)* | Survey Size** |
|-------------|------|------------------------------------------------------------------------|-------|------------------------|--------------------------|--------------|
| Yemen       | 1991 | Pan Arab Project for Child Development (PAPCHILD)                     | 2, 3  | 3925                   | 3145                     | 4733         |
| Yemen       | 2003 | Pan Arab Population and Family Health Project (PAPFAM)                | 2, 3  | 7580                   | 5644                     | 9334         |
| Zambia      | 1992 | Demographic and Health Survey                                         | 2     | 2992                   | 2528                     | 4706         |
| Zambia      | 1996 | Demographic and Health Survey                                         | 2     | 3272                   | 2730                     | 5523         |
| Zambia      | 2001 | Demographic and Health Survey                                         | 2     | 3187                   | 2573                     | 5365         |
| Zambia      | 2007 | Demographic and Health Survey                                         | 2     | 3032                   | 2460                     | 5086         |
| Zimbabwe    | 1988 | Demographic and Health Survey                                         | 2     | 1798                   | 1499                     | 2890         |
| Zimbabwe    | 1994 | Demographic and Health Survey                                         | 1     | 2335                   | 1697                     | 4226         |
| Zimbabwe    | 1999 | Demographic and Health Survey                                         | 1     | 2109                   | 1391                     | 4057         |
| Zimbabwe    | 2005 | Demographic and Health Survey                                         | 1     | 3164                   | 1963                     | 6158         |
| Zimbabwe    | 2010 | Demographic and Health Survey                                         | 2     | 3494                   | 2379                     | 6559         |

* Sample size refers to the proportion of women who were included in the calculations of primary or secondary infertility (i.e., the denominator in the prevalence calculation)

** Survey size refers to the total number of women aged 15-44 surveyed.

Notes:
1. Information on past contraceptive use and past couple status were available
2. Data on current use of contraception and couple status were available, but data on past use and status were incomplete
3. Survey excluded never-married women
4. Data on secondary infertility from China were not used
5. Survey is representative of a subnational area
### Crossvalidation Statistics

|                      | Primary prevalence                                      | Secondary prevalence                                    |
|----------------------|--------------------------------------------------------|--------------------------------------------------------|
|                      | Median relative error                                   | Median relative error                                   |
|                      | 0.345 (0.029)                                           | 0.326 (0.035)                                           |
|                      | Root mean square error                                  | Root mean square error                                  |
|                      | 0.013 (0.001)                                           | 0.061 (0.007)                                           |
|                      | Fraction of data falling within 95% credible interval   | Fraction of data falling within 95% credible interval   |
|                      | 0.926 (0.041)                                           | 0.943 (0.017)                                           |
|                      |                                                        |                                                        |
|                      | Primary exposure                                        | Secondary exposure                                       |
|                      | Median relative error                                   | Median relative error                                   |
|                      | 0.061 (0.012)                                           | 0.167 (0.057)                                           |
|                      | Root mean square error                                  | Root mean square error                                  |
|                      | 0.091 (0.013)                                           | 0.131 (0.045)                                           |
|                      | Fraction of data falling within 95% credible interval   | Fraction of data falling within 95% credible interval   |
|                      | 0.961 (0.038)                                           | 0.943 (0.033)                                           |

Table C: Crossvalidation statistics with standard errors: 10-fold crossvalidation was performed with replacement, where each sample left out 20% of the countries in the dataset (crossvalidation is described in the main text).
Figure A. Number of surveys by subregion.
1- Union is defined as marriage or cohabitation
2- Contraception use includes any method used to prevent birth
3- Wants a child, undecided, or declared infecund

**Figure B.** Primary infertility, women aged 20-44. Primary infertility prevalence is calculated as the number of infertile women (A) divided by the number of women who are both fertile and fertile (A and B). Exposure to primary infertility is calculated as the sum of women who are fertile, infertile and censored (A, B, and C) over all women.
Figure C. Secondary infertility, women aged 20-44 years. Secondary infertility prevalence is calculated as the number of infertile women (A) divided by the number of women who are both infertile and fertile (A and B). Exposure to secondary infertility is calculated as the sum of women who are fertile, infertile and censored (A, B, and C) over all women.

1- Union is defined as marriage or cohabitation
2- Last child refers to the most recent birth
3- Contraception use includes any method used to prevent pregnancy
4- Wants a child, undecided, or declared infecund
Figure D: Prevalence of primary infertility by age group, shown for each country-year of data on following pages. Legend for plots is given below.

- Nationally representative (error bars represent standard errors)
- Subnational
- World Fertility Survey
- Posterior means (model predictions)
- 95% credible interval
Prevalence (%) for different age groups in Madagascar (1992, 1997, 2003, 2008), Malawi (1992, 2000, 2004), and Malaysia (1974). The prevalence varies across the age groups and years, with some fluctuations observed in the data.
Figure E: Prevalence of secondary infertility by age group, shown for each country-year of data on following pages. Legend for plots is given below.

- Nationally representative (error bars represent standard errors)
- Subnational
- World Fertility Survey
- Posterior means (model predictions)
- 95% credible interval
Albania (2002)
Secondary Prevalence

Albania (2009)

Algeria (1992)

Algeria (2003)

Armenia (2000)

Armenia (2005)

Azerbaijan (2006)

Bangladesh (1975)
| Country      | Year  | Age Group  | Prevalence (%) |
|--------------|-------|------------|----------------|
| Bangladesh   | 1993  | 20-24      |                |
|              | 1996  | 20-24      |                |
|              | 1999  | 20-24      |                |
|              | 2004  | 20-24      |                |
|              | 2007  | 20-24      |                |
|              |       | 25-29      |                |
|              |       | 30-34      |                |
|              |       | 35-39      |                |
|              |       | 40-44      |                |

| Country      | Year  | Age Group  | Prevalence (%) |
|--------------|-------|------------|----------------|
| Belgium      | 1991  | 20-24      |                |
| Belize       | 1991  | 20-24      |                |
| Benin        | 1981  | 20-24      |                |
Figure F: Trends in prevalence of primary infertility by year, shown for each country with data on following pages. Infertility is indexed on the female partner; age-standardized prevalence among women aged 20-44 years is shown here. Legend for plots is given below.

- ♦ Nationally representative (error bars represent standard errors)
- □ Nationally representative, data do not cover the entire 20-44 year age range
- ▶ Subnational
- ▲ Subnational, data do not cover the entire 20-44 year age range
- ◂ World Fertility Survey
- ◄ World Fertility Survey, data do not cover the entire 20-44 year age range
- — Posterior means (model predictions)
- — 95% credible interval
Prevalence (%)

Fiji

Finland

Gabon

Germany

Ghana

Guatemala

Guinea

Guyana
Figure G: Trends in prevalence of secondary infertility by year, shown for each country with data on following pages. Infertility is indexed on the female partner; age-standardized prevalence among women aged 20-44 years is shown here. Legend for plots is given below.

- Nationally representative (error bars represent standard errors)
- Nationally representative, data do not cover the entire 20-44 year age range
- Subnational
- Subnational, data do not cover the entire 20-44 year age range
- World Fertility Survey
- World Fertility Survey, data do not cover the entire 20-44 year age range
- Posterior means (model predictions)
- 95% credible interval
Figure H: Trends in exposure to primary infertility by year, shown for each country with data on following pages. Infertility is indexed on the female partner; age-standardized prevalence among women aged 20-44 years is shown here. Legend for plots is given below.

- Nationally representative (error bars represent standard errors)
- Nationally representative, data do not cover the entire 20-44 year age range
- Subnational
- Subnational, data do not cover the entire 20-44 year age range
- World Fertility Survey
- World Fertility Survey, data do not cover the entire 20-44 year age range
- Posterior means (model predictions)
- 95% credible interval
Namibia

Nepal

Nicaragua

Niger

Nigeria

Pakistan

Panama

Paraguay
Figure I: Trends in exposure to secondary infertility by year, shown for each country with data on following pages. Infertility is indexed on the female partner; age-standardized prevalence among women aged 20-44 years is shown here. Legend for plots is given below.

- Nationally representative (error bars represent standard errors)
- Nationally representative, data do not cover the entire 20-44 year age range
- Subnational
- Subnational, data do not cover the entire 20-44 year age range
- World Fertility Survey
- World Fertility Survey, data do not cover the entire 20-44 year age range
- Posterior means (model predictions)
- 95% credible interval
Figure J: Age pattern of infertility prevalence and exposure, by development status and type of infertility. All countries were modeled to have the same age pattern for primary infertility, secondary infertility, and exposure to secondary infertility; the age pattern for exposure to primary infertility varied by development status. See Text C for details.
Figure K: Prevalence of primary infertility (out of women who seek a child) in 1990. (Map for 2010 is Figure 3 in the main text.) Infertility prevalence is indexed on the female partner; age-standardized prevalence among women aged 20-44 is shown here.

Figure L: Prevalence of secondary infertility (out of women who seek a child) in 1990. (Map for 2010 is Figure 4 in the main text.) Infertility prevalence is indexed on the female partner; age-standardized prevalence among women aged 20-44 is shown here.
Figure M: Exposure to primary infertility (out of all women) in 1990 (top) and 2010 (bottom) Infertility exposure is indexed on the female partner; age-standardized prevalence among all women is shown here.
Figure N: Exposure to secondary infertility (out of all women) in 1990 (top) and 2010 (bottom). Infertility exposure is indexed on the female partner; age-standardized prevalence among all women is shown here.
Figure O: Burden of primary infertility (out of all women) in 1990 (top) and 2010 (bottom). Infertility exposure is indexed on the female partner; age-standardized prevalence among women aged 20-44 is shown here.
Figure P: Burden of secondary infertility (out of all women) in 1990 (top) and 2010 (bottom). Infertility exposure is indexed on the female partner; age-standardized prevalence among women aged 20-44 is shown here.
Figure Q: Results of a sensitivity analysis comparing a 2-year exposure period to a 5-year exposure period. Data from DHS surveys are shown; surveys using the reproductive health calendar collected information on past contraceptive use and union statuses, whereas surveys using the questionnaire identify exposed unions using current contraceptive use and union status, without correction for incomplete information. Dotted lines indicate equal prevalence using the two exposure periods.