THE GLOBAL PREVALENCE OF ANAEMIA IN 2011

World Health Organization

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CONTENTS

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SCOPE AND PURPOSE

This document describes estimates of the prevalence of anaemia for the year 2011 in preschool-age children (6–59 months) and women of reproductive age (15–49 years), by pregnancy status, and by regions of the United Nations and World Health Organization (WHO), as well as by country. This report is based on analyses previously published *(1)* to estimate trends (from 1995 to 2011) in the distribution of blood haemoglobin concentrations and the prevalence of anaemia in these same population groups.

This document may serve as a resource for estimating the baseline prevalence of anaemia in women of reproductive age, in working towards achieving the second global nutrition target 2025, a 50% reduction of anaemia in women of reproductive age *(2)*, as outlined in the *Comprehensive implementation plan on maternal, infant and young child nutrition* and endorsed by the Sixty-fifth World Health Assembly, in resolution WHA65.6*(3)* .

BACKGROUND

Anaemia, defined as a low blood haemoglobin concentration, has been shown to be a public health problem that affects low-, middle- and high-income countries and has significant adverse health consequences, as well as adverse impacts on social and economic development *(1, 4–6)*. Although the most reliable indicator of anaemia at the population level is blood haemoglobin concentration, measurements of this concentration alone do not determine the *cause* of anaemia. Anaemia may result from a number of causes, with the most significant contributor being iron deficiency.[1] Approximately 50% of cases of anaemia are considered to be due to iron deficiency, but the proportion probably varies among population groups and in different areas, according to the local conditions *(1, 7, 8)*. Other causes of anaemia include other micronutrient deficiencies (e.g. folate, riboflavin, vitamins A and B_{12}), acute and chronic infections (e.g. malaria, cancer, tuberculosis and HIV), and inherited or acquired disorders that affect haemoglobin synthesis, red blood cell production or red blood cell survival (e.g. haemoglobinopathies) *(9, 10)*.

Anaemia resulting from iron deficiency adversely affects cognitive and motor development, causes fatigue and low productivity *(8, 9, 11)* and, when it occurs in pregnancy, may be associated with low birth weight and increased risk of maternal and perinatal mortality *(12, 13)*. In developing regions, maternal and neonatal mortality were responsible for 3.0 million deaths in 2013 and are important contributors to overall global mortality *(14, 15)*. It has been further estimated that 90 000 deaths in both sexes and all age groups are due to iron deficiency anaemia alone *(16)*. Any strategy implemented to prevent or treat anaemia should be tailored to local conditions, taking into account the specific etiology and prevalence of anaemia in a given setting and population group.

METHODS

The study design, data sources and statistical modelling methods on which this report is based have been presented in detail elsewhere *(1)*. The methods were designed to assess trends in the distribution of blood haemoglobin concentrations between 1995 and 2011, using a statistical model (described

[1] *Iron deficiency anaemia and anaemia are often used synonymously and the prevalence of anaemia has often been used as a proxy for iron deficiency anaemia. However, it is important to realize that not all anaemia is caused by iron deficiency.*

below in "Application of a statistical model to estimate trends in the distribution of blood haemoglobin concentrations and their uncertainties"); however, only the estimates from 2011 are presented here. Briefly, the analysis included three steps, described under the subheadings that follow.

Identification of data sources for blood haemoglobin concentration and anaemia through a systematic review; accessing and extracting data; and systematically assessing the population representativeness of data

A PubMed search was carried out for relevant search terms related to anaemia, haemoglobin and iron status, searching for studies published after 1 January 1990. In addition to indexed articles, many reports of national and international agencies were identified and accessed through requests to each corresponding organization.

Data that were representative of the population level, or representative of at least three regions within the country, were included. Data mainly came from the Micronutrients Database of the WHO Vitamin and Mineral Information System (VMNIS), which summarizes data on the micronutrient status of populations, collected from the scientific literature and through collaborators, including WHO regional and country offices, United Nations organizations, ministries of health, research and academic institutions, and nongovernmental organizations. In some cases, anonymized individual-level data were obtained from multi-country surveys, including demographic and health surveys, multiple indicator cluster surveys, reproductive health surveys and malaria indicator surveys. Data sources were included if:

- blood haemoglobin concentration was measured;
- the study reported anaemia or mean blood haemoglobin concentration for preschool-age children or women of reproductive age;
- a probabilistic sampling method was used;
- the sample size was at least 100;
- data were collected after 1990;
- data were from the 190 countries designated for the original analysis.

Details on the selection of data sources are available as web appendices for the original publication *(1,17);* however, this document only presents data for 185 Member States of WHO (see Annexes 1 and 3).

Adjustment of data on blood haemoglobin concentrations for altitude and smoking

Total and severe anaemia were defined according to WHO thresholds for blood haemoglobin concentration for individuals living at sea level *(18).* High altitude and smoking both increase haemoglobin concentration *(18)*, so, where applicable, data that had been adjusted for altitude and smoking status were used whenever possible. Biologically implausible haemoglobin values (<25 g/L or >200 g/L) were excluded.

Application of a statistical model to estimate trends in the distribution of blood haemoglobin concentrations and their uncertainties

A Bayesian hierarchical mixture model *(1)* was used to estimate trends in the distribution of blood haemoglobin concentrations for children and for women of reproductive age by pregnancy status. Briefly, the model calculates estimates for each country and year, informed by data from that country and year themselves, if available, and by data from other years in the same country and in other countries with data for similar time periods, especially countries in the same region. The model borrows data to a greater extent when data are non-existent or weakly informative, and to a lesser degree for data-rich countries and regions. The resulting estimates are also informed by covariates that help predict blood haemoglobin concentrations (e.g. maternal education, prevalence of sickle-cell disorders, mean weight-for-age *z*-score for children). The uncertainty ranges (credibility intervals)[1] reflect the major sources of

[1] *As a Bayesian statistical model was used, 95% credibility intervals were calculated. These are analogous to confidence intervals, which are used in frequentist statistics.*

uncertainty, including sampling error, non-sampling error due to issues in sample design/measurement, and uncertainty from making estimates for countries and years without data. All analyses were done separately for children and women of reproductive age. Estimates were made for: preschool-age children (6–59 months),[1] women of reproductive age (15–49 years), and pregnant women (15–49 years) and non-pregnant women (15–49 years) separately. Data from male and female children were pooled.

The time frame for the estimates presented in the original analyses *(1)* was 1995–2011. The complete population distributions of blood haemoglobin concentrations for every country and year were estimated, which allowed calculation of the relevant summary statistics. For example, from the population distributions, the mean population blood haemoglobin concentration and the total number of individuals affected by, and the population prevalence of, severe anaemia for each country and year were calculated. Distributions for regions were calculated as population-weighted averages of the constituent countries. The prevalence of haemoglobin values below the WHO-recommended population-specific haemoglobin threshold concentration in blood was used to classify countries by the level of significance of the public health problem *(18)*. Although esimates for each year (1995 to 2011) have been generated, the current report only presents estimates for the year 2011.

An additional analysis was carried out to estimate the prevalence of anaemia that may be attributed to iron deficiency. In this analysis, the attribution of iron deficiency to the prevalence of anaemia was calculated as the population that would not be anaemic if iron supplements were given. Meta-analyses of the effect of iron supplementation on mean blood haemoglobin concentration in children aged 0–59 months and pregnant women and non-pregnant women aged 12–50 years were used to estimate the percentage of anaemia that could be eliminated by increased iron intake *(19–21)*.

RESULTS

Population coverage

The analysis performed *(1)* included 257 surveys conducted between 1990 and 2012, of which 232 (90%) were nationally representative sources. Two-hundred and five sources (80%) had data on women and 224 (87%) had data on children. Of the 194 WHO Member States, estimates of the prevalence of anaemia were not made for nine countries because covariate data were not available. Of the remaining 185 countries, 95 (51%) and 101 (55%) had at least one data source for children and women, respectively, covering 82–85% of the global population of children and women. Data were most sparse in the WHO European Region. In contrast, all countries in the WHO South-East Asia Region had at least one data source, as did 78% of countries in the African Region.

Data for non-pregnant women and pregnant women were summed and weighted by the prevalence of pregnancy, to generate one value for all women of reproductive age. Although data for non-pregnant women and all women of reproductive age are very similar, they are shown for all three groups of women separately in the tables. The population covered by survey data at the regional and global level was calculated by summing the population (number of children and women) in countries with survey data and dividing by the total population in all countries in that region or globally. The proportion of the population covered by surveys, by WHO region, was over 90% in the African, South-East Asia and Western Pacific Regions and was lowest (18–23%) in the European Region (see Table 1). Annex 2 presents the results by United Nations region.

The proportion of the population and number of individuals with anaemia

The 2011 estimates suggest anaemia affects around 800 million children and women (see Table 2).

[1] *Estimates were made for children aged 6–59 months because few household surveys measure anaemia in children under 6 months of age. However, the estimate was applied to the entire population of children aged less than 5 years; thus, the number of children affected is for the age range 0–59 months.*

Globally, the mean blood haemoglobin concentration was 111 g/L (95% credibility interval[1] [CI]: 110–113) in children, 126 g/L (95% CI: 124–128) in non-pregnant women, and 114 g/L (95% CI: 112–116) in pregnant women (see Table 2), indicating that, on average, all population groups were above the threshold for mild anaemia (110 g/L for children and pregnant women and 120 g/L for non-pregnant women). In 2011, the highest prevalence of anaemia was in children (42.6%, 95% CI: 37–47), and the lowest prevalence was in non-pregnant women (29.0%, 95% CI: 23.9–34.8). In addition, the global prevalence of anaemia for pregnant women was 38.2% (95% CI: 33.5–42.6) and for all women of reproductive age was 29.4% (95% CI: 24.5–35.0). Severe anaemia is associated with substantially worse mortality and cognitive and functional outcomes; in 2011, its prevalence in children and women ranged from 0.9% to 1.5%. Haemoglobin concentrations in pregnant women were lower than in non-pregnant women. However, as the threshold for defining anaemia is lower for pregnant women, the prevalences of anaemia in pregnant and non-pregnant women were only about nine percentage points apart. These prevalences translate to 273.2 million (95% CI: 241.8–303.7) children, 496.3 million (95% CI: 409.3–595.1) non-pregnant women, and 32.4 million (95% CI: 28.4–36.2) pregnant women, giving a total of 528.7 million (95% CI: 440.3–629.4) women of reproductive age with anaemia worldwide in 2011. Of these, 9.6 million (95% CI: 6.9–14.4) children, 19.4 million (95% CI: 12.7–29.4) non-pregnant women and 0.8 million (95% CI: 0.5–1.1) pregnant women had severe anaemia, giving a total of 20.2 million (95% CI: 13.3–30.5) women of reproductive age.

Mean blood haemoglobin concentrations and prevalences of anaemia varied substantially across regions and countries. In 2011, the WHO South-East Asia, Eastern Mediterranean and African Regions had the lowest mean blood haemoglobin concentrations and the highest prevalences of anaemia across population groups (see Table 2). Children in these three regions had a mean blood haemoglobin concentration between 104 and 109 g/L (i.e. below the threshold for mild anaemia), with more than half of children in the South-East Asia and African Regions (53.8% or more) classified as having anaemia; severe anaemia was highest in the African Region, with 3.6% of children affected. While women in these regions had higher blood haemoglobin levels than children, the mean blood haemoglobin concentration was also lowest for all women in the same three regions. The prevalence of anaemia was 37.7% to 41.5% for non-pregnant women and 38.9% to 48.7% for pregnant women in these regions. The countries with the lowest blood haemoglobin levels and highest prevalences of anaemia were in the WHO African Region (see Annex 3); this reflects the high prevalence of factors affecting anaemia in this region, such as malaria, sickle cell and thalassaemias. Children in the African Region represented the highest *proportion* of individuals affected with anaemia, at 62.3% (95% CI: 59.6–64.8), while the greatest *number* of children and women with anaemia resided in the South-East Asia Region, including 96.7 million (95% CI: 71.7–115.0) children and 202.0 million (95% CI: 141.8–254.3) women of reproductive age (see Table 2) in 2011. The Eastern Mediterranean Region had the next highest anaemia burden for children, accounting for 35.7 million (95% CI: 29.7–41.9) children with anaemia, and the Western Pacific Region had the next highest anaemia burden for women, accounting for 96.2 million (95% CI: 53.5–175.3) women with anaemia in 2011.

Classification of countries by degree of public health significance of anaemia, based on blood haemoglobin concentration

The level of the public health problem across countries is illustrated by maps for children and women of reproductive age in Figs. 1 and 2. Additional maps may also be customized and downloaded, using the WHO Global targets tracking tool *(22)*. The tracking tool was designed to allow users to explore various scenarios that take into account different rates of progress for the six global nutrition targets for improving maternal, infant and young child nutrition *(3)*, including a 50% reduction of anaemia in women of reproductive age *(2)*.

There are no countries for which country-level estimates were generated where anaemia is not at least a mild public health problem (i.e. the prevalence of anaemia is at least 5%) in children and women (see Table 3). Anaemia is a moderate-to-severe public health problem for pregnant women in all but two of the countries analysed. For children and women, the majority of WHO Member States (141 to 182,

[1] *As a Bayesian statistical model was used, 95% credibility intervals were calculated. These are analogous to confidence intervals, which are used in frequentist statistics.*

depending on the population group) have a moderate-to-severe public health problem with anaemia.

The prevalence of anaemia attributed to iron deficiency

Available meta-analyses suggest that iron supplementation would increase the mean blood haemoglobin concentration by 8.0 g/L (95% CI: 5.0–11.0) in children, 10.2 g/L (95% CI: 6.1–14.2) in pregnant women and 8.6 g/L (95% CI: 3.9–13.4) in non-pregnant women *(19–21)*. Applying these shifts to estimated blood haemoglobin concentrations indicates that about 42% of anaemia in children would be amenable to iron supplementation and about 50% of anaemia in women could be eliminated by iron supplementation (see Table 4).

DISCUSSION

The estimates presented in this document are based on data available in the Micronutrients Database of the WHO VMNIS *(23)*. Analyses were performed in a consistent manner for children and women, and by pregnancy status, with reporting of uncertainty *(1)*. Overall, a high proportion of countries had nationally representative survey data available for the three population groups most vulnerable to anaemia: preschool-age children (6–59 months), pregnant women (15–49 years of age) and non-pregnant women (15–49 years of age).

Unfortunately, despite the extensive data search, data for blood haemoglobin concentrations are still limited, compared to other nutritional indicators such as child anthropometry *(1, 24);* this was especially true in the high-income countries of the WHO European Region. As a result, the estimates may not capture the full variation across countries and regions, tending to "shrink" towards global means when data are sparse *(1)*. Additionally, it was not possible to incorporate into the analyses some potentially important predictors of blood haemoglobin concentration, especially dietary iron and iron supplementation, because of limited data. At this time, other population groups, such as adolescents, the elderly and men, have been excluded, also because of limited data. These additional population groups may account for around 45% of all cases of anaemia *(25).*

Despite the relatively limited data available, the proportion of the population covered by at least one anaemia survey conducted between 1995 and 2011 is relatively high (greater than 80%) for all population groups globally. Regionally, the WHO African, South-East Asia and Western Pacific Regions had very high coverage, with over 90% of the population covered by anaemia survey data for children and women, while the WHO European Region had only 18–23% of the population covered by survey data.

For the year 2011, it is estimated that roughly 43% of children, 38% of pregnant women, and 29% of non-pregnant women and 29% of all women of reproductive age have anaemia globally, corresponding to 273 million children, 496 million non-pregnant women and 32 million pregnant women. Previous estimates of anaemia were published jointly by the WHO Department of Nutrition for Health and Development and the United States Centers for Disease Control and Prevention in 2008 for the years 1993–2005 *(25).* Different methodology was used in generating the estimates but the results were consistent. However, because different methodology was used, the estimates should not be compared to infer trends in the prevalence of anaemia.

Correcting anaemia requires an integrated approach based on identifying and addressing the contributing factors. Low blood haemoglobin concentrations may be caused by genetic traits like sickle cell and thalassaemias; inadequate bioavailable dietary iron, folic acid and/or vitamin B_{12}; malaria, schistosomiasis, hookworm, or human immunodeficiency virus (HIV) infections; and some noncommunicable diseases *(8, 9, 18, 26–29)*. The analysis conducted to better understand the prevalence of anaemia attributed to iron deficiency estimates that the proportion of all anaemia amenable to iron was around 50% in women and

42% in children, but higher for severe anaemia (over 50% for children and non-pregnant women and over 60% for pregnant women) and in regions where there are fewer other causes of anaemia (e.g. in the WHO Region of the Americas and European Region). The proportion was lowest where other factors contribute to anaemia, for example, <45% in non-pregnant women in different parts of the WHO African and South-East Asia Regions. Iron deficiency anaemia should ideally be addressed through dietary diversification and improved access to foods that have high levels of bioavailable iron, including animal products. Daily or intermittent iron supplementation, alone or together with folic acid and other micronutrients, can be used for high-risk groups (children, pregnant women and women of reproductive age), to improve iron intakes *(7, 30–33)*. However, supplementation programmes need to address challenges that have limited their effectiveness, such as poor attendance at antenatal clinics, insufficient doses for supplementation, or insufficient emphasis on behavioural aspects of using supplements on a regular basis *(34)*. Other food-based approaches, such as fortification of staple foods and condiments, can also be used to improve iron intake in the general population *(35, 36)*. Fortification of wheat flour with iron and other vitamins and minerals is currently mandated in 80 countries but the extent of coverage varies *(37)*.

Given that it is estimated that at least half of anaemia cases will have causes other than iron deficiency, current strategies to control anaemia may need to be re-evaluated to ensure that the various factors contributing to anaemia have been identified and addressed properly in an integrated manner. In malaria-endemic regions, malaria control can reduce anaemia and severe anaemia by over a quarter and by 60%, respectively *(27)*. The role of malaria in the etiology of anaemia is probably greatest in the WHO African Region, the region with the lowest mean blood haemoglobin concentration among children for 2011, and the region with the most countries with high rates of *Plasmodium falciparum* parasite infection *(38)*. In malaria-endemic regions, iron supplementation should be integrated with prevention and treatment of malaria *(30–33, 39)*, which can together have synergistically beneficial effects on haemoglobin status. Preventive interventions, including insecticide-treated bednets and intermittent preventive treatment, also improve blood haemoglobin concentrations in children and pregnant women living in malaria-endemic areas *(9, 27)*. Sickle cell traits and thalassaemias may have a more important role in parts of the WHO African, Eastern Mediterranean and South-East Asia Regions *(40, 41)*. There is also an increased need for improved water and sanitation and deworming in populations affected by hookworms and schistosomiasis; these populations typically live in rural tropical regions with poor sanitation facilities, especially in areas of Asia and Africa *(28, 42)*.

CONCLUSIONS

Reducing anaemia is recognized as an important component of the health of women and children, and the second global nutrition target for 2025 calls for a 50% reduction of anaemia in women of reproductive age *(2)*. In low-income countries, the prevalence of anaemia remains high and is an area of priority. If the current trends are maintained *(1)*, there is a probability of less than 25% in all regions of reaching the global target of reducing the prevalence of anaemia by 50% in women of reproductive age. To make a significant impact, it is likely that a combination of key programmes that address the determinants of low blood haemoglobin concentrations will be required. These strategies should be tailored to local conditions, taking into account the specific etiology and prevalence of anaemia in a given setting and population group *(9, 10)*, and should be built into the primary health-care system and existing programmes.

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Table 1. Number of countries and percentage of population covered by surveys of anaemia prevalence (national or subnational), by WHO region

WHO region	Number of countries in region[a]	Children aged 6–59 months		Non-pregnant women aged 15–49 years		Pregnant women aged 15–49 years		All women of reproductive age (15–49 years)	
		Countries	Coverage (%)	Countries	Coverage (%)	Countries	Coverage (%)	Countries	Coverage (%)
African Region	46	35	93.7	36	90.8	35	93.9	36	91.1
Region of the Americas	34	15	86.0	14	64.3	13	65.8	14	64.4
South-East Asia Region	11	9	96.8	11	100.0	10	97.8	11	100.0
European Region	51	12	22.7	13	18.4	11	21.7	13	18.6
Eastern Mediter-ranean Region	21	12	77.2	13	81.1	11	69.2	13	80.9
Western Pacific Region	22	12	90.3	14	96.7	14	95.1	14	96.6
Global	185	95	85.0	101	81.3	94	83.2	101	81.5

[a] Excludes WHO Member States of Cook Islands (Western Pacific Region), Monaco (European Region), Nauru (Western Pacific Region), Niue (Western Pacific Region), Palau (Western Pacific Region), Saint Kitts and Nevis (Region of the Americas), San Marino (European Region) and Tuvalu (Western Pacific Region). Former Sudan is included in lieu of Sudan and South Sudan, consistent with the situation from 1 January to 9 July 2011.

Table 2. Global and WHO regional mean blood haemoglobin concentration and prevalence of anaemia by population group for 2011

WHO region	Mean (95% CI) blood haemoglobin concentration (g/L)	Percentage (95% CI) of population with anaemia[a]	Number (95% CI) of people with anaemia (millions)[b]	Percentage (95% CI) of population with severe anaemia[c]	Number (95%CI) of people with severe anaemia (millions)[b]
Children aged 6–59 months					
African Region	104 (103 to 105)	62.3 (59.6 to 64.8)[c]	84.5 (81.0 to 87.9)[c]	3.6 (2.9 to 4.4)	4.9 (4.0 to 6.0)
Region of the Americas	119 (117 to 121)	22.3 (17.7 to 27.9)	17.1 (13.5 to 21.3)	0.2 (0.1 to 0.5)	0.18 (0.1 to 0.4)
South-East Asia Region	107 (104 to 112)	53.8 (39.9 to 63.9)	96.7 (71.7 to 115.0)	1.5 (0.4 to 3.7)	2.7 (0.8 to 6.6)
European Region	119 (115 to 122)	22.9 (14.9 to 32.8)	12.7 (8.2 to 18.1)	0.3 (0.1 to 0.8)	0.2 (0.0 to 0.5)
Eastern Mediterranean Region	109 (106 to 112)	48.6 (40.4 to 57.0)	35.8 (29.7 to 41.9)	2.0 (1.0 to 3.1)	1.5 (0.7 to 2.3)
Western Pacific Region	120 (114 to 125)	21.9 (12.0 to 36.9)	25.7 (14.2 to 43.4)	0.2 (0.0 to 0.6)	0.2 (0.0 to 0.7)
Global	111 (110 to 113)	42.6 (37.7 to 47.4)	273.2 (241.8 to 303.7)	1.5 (1.0 to 2.2)	9.6 (6.9 to 14.1)

Table 2. Global and WHO regional mean blood haemoglobin concentration and prevalence of anaemia by population group for 2011, continued

WHO region	Mean (95% CI) blood haemoglobin concentration (g/L)	Percentage (95% CI) of population with anaemia[a]	Number (95% CI) of people with anaemia (millions)[b]	Percentage (95% CI) of population with severe anaemia[c]	Number (95%CI) of people with severe anaemia (millions)[b]
Non-pregnant women aged 15–49 years					
African Region	124 (121 to 126)	37.8 (31.8 to 43.7)	69.9 (58.8 to 80.7)	1.8 (1.3 to 2.7)	3.3 (2.4 to 5.1)
Region of the Americas	131 (128 to 134)	16.5 (12.2 to 23.7)	38.1 (28.1 to 54.7)	0.5 (0.3 to 1.1)	1.3 (0.7 to 2.6)
South-East Asia Region	121 (117 to 126)	41.5 (28.7 to 52.6)	190.6 (131.7 to 241.3)	1.9 (0.7 to 3.8)	8.6 (3.4 to 17.5)
European Region	128 (126 to 130)	22.5 (16.4 to 30.1)	48.4 (35.2 to 64.7)	0.6 (0.3 to 1.2)	1.3 (0.7 to 2.6)
Eastern Mediterranean Region	123 (120 to 126)	37.7 (30.7 to 45.6)	55.2 (44.9 to 66.8)	1.8 (1.1 to 2.6)	2.6 (1.6 to 3.8)
Western Pacific Region	129 (124 to 134)	19.8 (10.9 to 36.6)	92.6 (50.8 to 170.9)	0.5 (0.2 to 1.3)	2.2 (0.8 to 6.0)
Global	126 (124 to 128)	29.0 (23.9 to 34.8)	496.3 (409.3 to 595.1)	1.1 (0.7 to 1.7)	19.4 (12.7 to 29.4)
Pregnant women aged 15–49 years					
African Region	111 (110 to 114)	46.3 (40.6 to 51.0)	9.2 (8.13 to 10.1)	1.5 (1.0 to 2.3)	0.3 (0.2 to 0.5)
Region of the Americas	119 (116 to 122)	24.9 (19.0 to 32.5)	2.4 (1.8 to 3.1)	0.3 (0.1 to 0.6)	0.0 (0.0 to 0.1)
South-East Asia Region	110 (106 to 114)	48.7 (36.1 to 58.9)	11.5 (8.5 to 13.9)	1.1 (0.5 to 2.2)	0.3 (0.1 to 0.5)
European Region	118 (115 to 121)	25.8 (19.8 to 33.6)	1.8 (1.4 to 2.3)	0.3 (0.1 to 0.6)	0.0 (0.0 to 0.0)
Eastern Mediterranean Region	113 (111 to 116)	38.9 (32.7 to 46.3)	3.9 (3.3 to 4.6)	1.1 (0.6 to 1.6)	0.1 (0.1 to 0.2)
Western Pacific Region	119 (114 to 124)	24.3 (15.1 to 37.7)	3.6 (2.2 to 5.5)	0.4 (0.1 to 0.9)	0.1 (0.0 to 0.1)
Global	114 (112 to 116)	38.2 (33.5 to 42.6)	32.4 (28.41 to 36.2)	0.9 (0.6 to 1.3)	0.8 (0.5 to 1.1)
All women of reproductive age (15–49 years)					
African Region	123 (120 to 125)	38.6 (32.9 to 44.2)	79.1 (67.3 to 90.5)	1.8 (1.3 to 2.7)	3.6 (2.6 to 5.5)
Region of the Americas	131 (128 to 133)	16.8 (12.6 to 23.8)	40.5 (30.2 to 57.3)	0.5 (0.3 to 1.1)	1.3 (0.7 to 2.7)
South-East Asia Region	121 (117 to 125)	41.9 (29.4 to 52.7)	202.0 (141.8 to 254.3)	1.8 (0.7 to 3.8)	8.9 (3.5 to 18.1)
European Region	128 (125 to 130)	22.6 (16.6 to 29.9)	50.2 (36.8 to 66.5)	0.6 (0.3 to 1.2)	1.4 (0.7 to 2.7)
Eastern Mediterranean Region	122 (120 to 125)	37.8 (31.0 to 45.5)	59.1 (48.4 to 71.2)	1.8 (1.1 to 2.5)	2.7 (1.7 to 3.9)
Western Pacific Region	129 (124 to 134)	19.9 (11.1 to 36.3)	96.2 (53.5 to 175.3)	0.5 (0.2 to 1.3)	2.3 (0.8 to 6.1)
Global	125 (124 to 127)	29.4 (24.5 to 35.0)	528.7 (440.3 to 629.4)	1.1 (0.7 to 1.7)	20.2 (13.3 to 30.5)

CI: credibility interval.

[a] Anaemia is defined as blood haemoglobin concentration <110 g/L for children and pregnant women and <120 g/L for non-pregnant women.

[b] Estimates of the number of children affected correspond to the age range 0–59 months.

[c] Severe anaemia is defined as blood haemoglobin concentration <70 g/L for children and pregnant women and <80 g/L for non-pregnant women.

Table 3. Number of countries[a] categorized by public health significance of anaemia, 2011

Category of public health problem[b]	Children (6–59 months)	Non-pregnant women (15–49 years)	Pregnant women (15–49 years)	All women of reproductive age (15–49 years)
None	0	0	0	0
Mild	32	44	2	42
Moderate	84	109	146	110
Severe	69	32	37	33

[a] Excludes WHO Member States of Cook Islands (Western Pacific Region), Monaco (European Region), Nauru (Western Pacific Region), Niue (Western Pacific Region), Palau (Western Pacific Region), Saint Kitts and Nevis (Region of the Americas), San Marino (European Region) and Tuvalu (Western Pacific Region). Former Sudan is included in lieu of Sudan and South Sudan, consistent with the situation from 1 January to 9 July 2011.

[b] The prevalence of anaemia as a public health problem is categorized as follows: <5%, no public health problem; 5–19.9%, mild public health problem; 20–39.9%, moderate public health problem; ≥40%, severe public health problem.

Table 4. Estimated percentage (95% CI) of anaemia[a] that is amendable to iron supplementation

WHO region	Children (6–59 months)	Non-pregnant women (15–49 years)	Pregnant women (15–49 years)
African Region	32 (30 to 34)	41 (36 to 46)	44 (42 to 47)
Region of the Americas	56 (48 to 63)	55 (44 to 62)	60 (52 to 68)
South-East Asia Region	41 (34 to 54)	45 (35 to 53)	47 (42 to 54)
European Region	54 (44 to 65)	55 (46 to 61)	62 (54 to 71)
Eastern Mediterranean Region	38 (33 to 43)	45 (39 to 50)	49 (46 to 54)
Western Pacific Region	64 (46 to 73)	59 (44 to 70)	61 (49 to 72)
Global	42 (38 to 46)	49 (43 to 53)	50 (47 to 53)

CI: credibility interval.

[a] Anaemia is defined as blood haemoglobin concentration <110 g/L for children and pregnant women and <120 g/L for non-pregnant women.

Fig.1. Global estimates of the prevalence of anaemia in infants and children aged 6–59 months, 2011

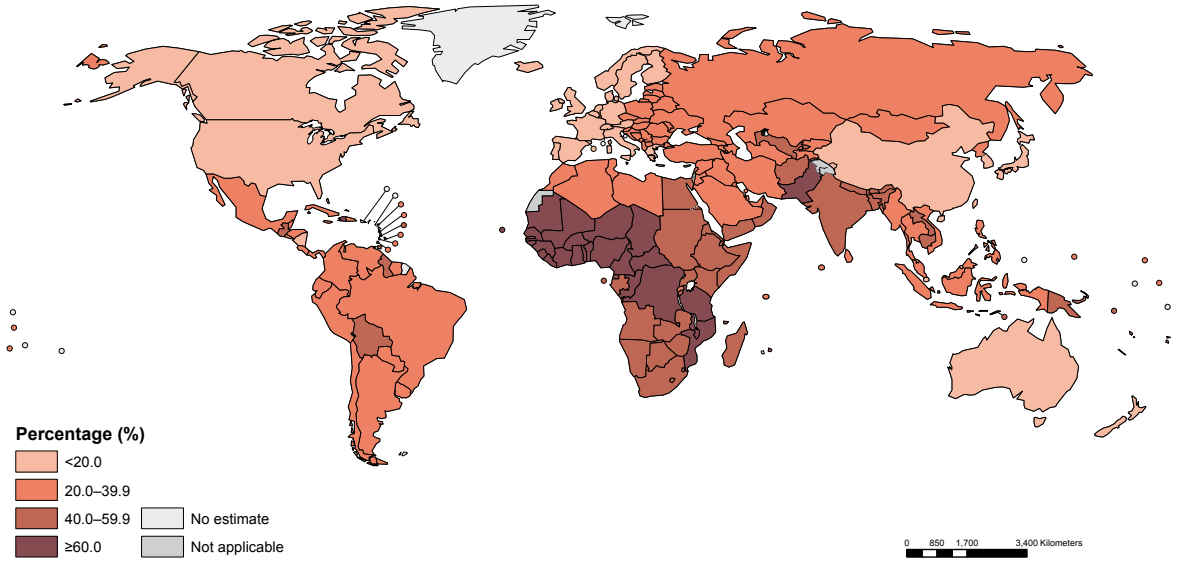
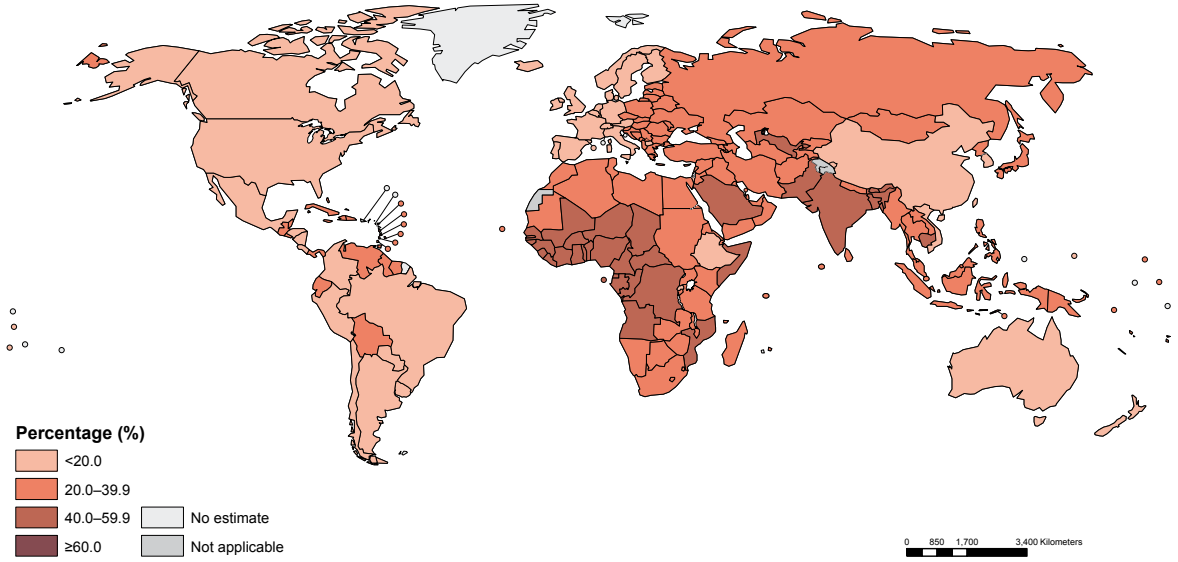
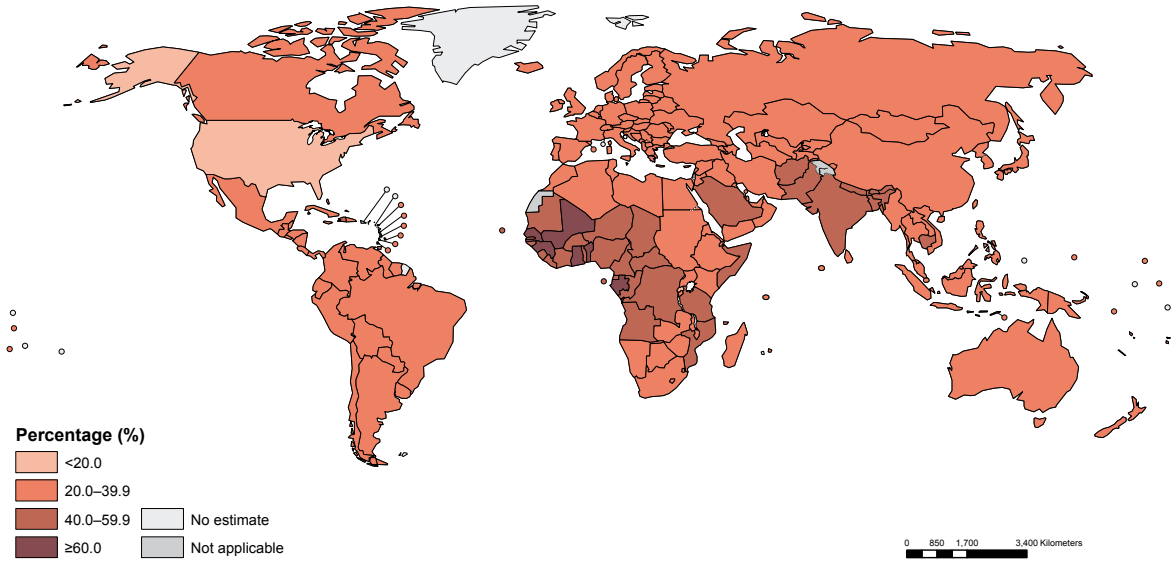


Fig.2. Global estimates of the prevalence of anaemia in women of reproductive age, 15–49 years, 2011

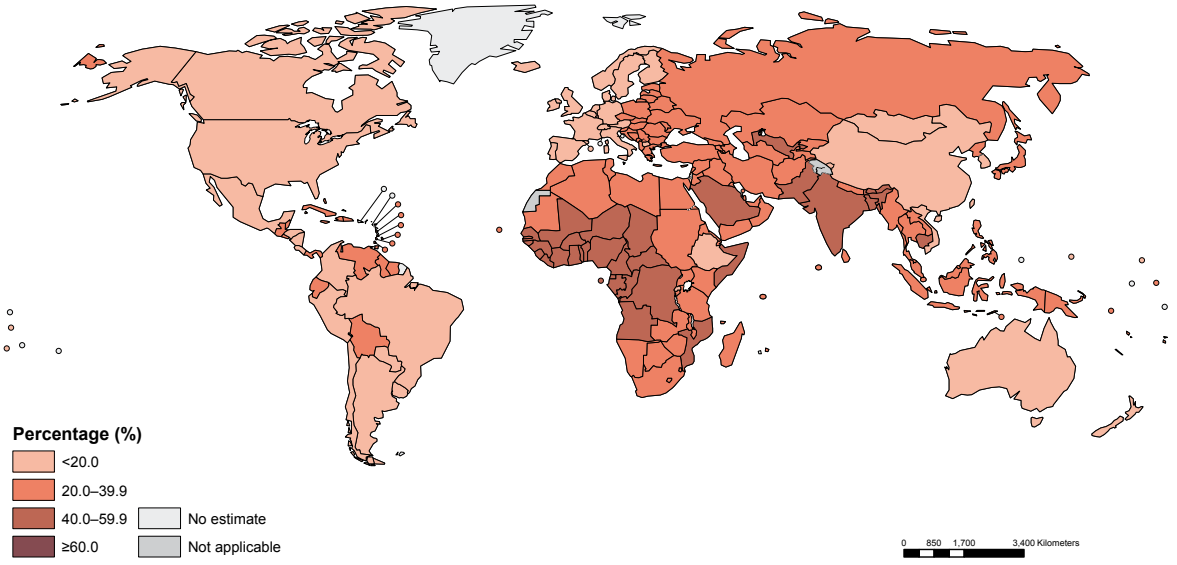
a. Prevalence of anaemia, all women aged 15–49 years, 2011



b. Prevalence of anaemia, pregnant women aged 15–49 years, 2011



c. Prevalence of anaemia, non-pregnant women aged 15–49 years, 2011



ANNEX 1. WHO MEMBER STATES GROUPED BY REGION, AS OF 2011

Table A1.1. WHO Member States grouped by WHO region

WHO region	WHO Member States, as of 1 January 2011
African Region	Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe
Region of the Americas	Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis,[b] Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, United States of America, Uruguay, Venezuela (Bolivarian Republic of)
Eastern Mediterranean Region	Afghanistan, Bahrain, Djibouti, Egypt, Iran (Islamic Republic of), Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Somalia, former Sudan[a], Syrian Arab Republic, Tunisia, United Arab Emirates, Yemen
European Region	Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Monaco,[b] Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, San Marino,[b] Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom of Great Britain and Northern Ireland, Uzbekistan
South-East Asia Region	Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste
Western Pacific Region	Australia, Brunei Darussalam, Cambodia, China, Cook Islands,[b] Fiji, Japan, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru,[b] New Zealand, Niue,[b] Palau,[b] Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Tonga, Tuvalu,[b] Vanuatu, Viet Nam

[a] Former Sudan is included in lieu of Sudan and South Sudan, consistent with the situation from 1 January to 9 July 2011.
[b] Estimates were not made for these WHO Member States because covariate data were not available.

Table A1.2. WHO Member States grouped by United Nations region and subregion *(43)*

United Nations region and subregion	WHO Member States, as of 1 January 2011
Africa	
Eastern Africa	Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Rwanda, Seychelles, Somalia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe
Middle Africa	Angola, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Sao Tome and Principe
Northern Africa	Algeria, Egypt, Libya, Morocco, former Sudan,[a] Tunisia
Southern Africa	Botswana, Lesotho, Namibia, South Africa, Swaziland
Western Africa	Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo
Americas	
Latin America and the Caribbean	
Caribbean	Antigua and Barbuda, Bahamas, Barbados, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Saint Kitts and Nevis,[b] Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago
Central America	Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama
South America	Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela (Bolivarian Republic of)
Northern America	Canada, United States of America
Asia	
Central Asia	Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan
Eastern Asia	China, Democratic People's Republic of Korea, Japan, Mongolia, Republic of Korea
Southern Asia	Afghanistan, Bangladesh, Bhutan, India, Iran (Islamic Republic of), Maldives, Nepal, Pakistan, Sri Lanka
South-Eastern Asia	Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam
Western Asia	Armenia, Azerbaijan, Bahrain, Georgia, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Turkey, United Arab Emirates, Yemen
Europe	
Eastern Europe	Belarus, Bulgaria, Czech Republic, Hungary, Poland, Republic of Moldova, Romania, Russian Federation, Slovakia, Ukraine
Northern Europe	Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Lithuania, Norway, Sweden, United Kingdom of Great Britain and Northern Ireland
Southern Europe	Albania, Andorra, Bosnia and Herzegovina, Croatia, Greece, Italy, Malta, Montenegro, Portugal, San Marino,[b] Serbia, Slovenia, Spain, the former Yugoslav Republic of Macedonia
Western Europe	Austria, Belgium, France, Germany, Luxembourg, Monaco,[b] Netherlands, Switzerland
Oceania	
Australia and New Zealand	Australia, New Zealand
Melanesia	Fiji, Papua New Guinea, Solomon Islands, Vanuatu
Micronesia	Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru,[b] Palau,[b]
Polynesia	Cook Islands,[b] Niue,[b] Samoa, Tonga, Tuvalu[b]

[a] Former Sudan is included in lieu of Sudan and South Sudan, consistent with the situation from 1 January to 9 July 2011
[b] Estimates were not made for these WHO Member States because covariate data were not available.

ANNEX 2. RESULTS BY UNITED NATIONS REGION, AS OF 2011

Table A2.1. Number of countries and percentage of population covered by surveys of anaemia prevalence (national or subnational), by United Nations region

United Nations region	Number of countries in region[a]	Children aged 6–59 months		Non-pregnant women aged 15–49 years		Pregnant women aged 15–49 years		All women of reproductive age (15–49 years)	
		Countries	Coverage (%)	Countries	Coverage (%)	Countries	Coverage (%)	Countries	Coverage (%)
Africa	53	40	94.0	41	91.8	40	94.2	41	92.0
Asia	47	30	89.6	36	94.7	32	89.5	36	94.7
Americas	34	15	86.0	14	64.3	13	65.8	14	64.4
Europe	40	5	12.3	5	10.9	4	11.9	5	10.9
Oceania	11	5	5.4	5	16.3	5	15.2	5	16.2
Global	185	95	85.0	101	81.3	94	83.2	101	81.5

[a] Excludes WHO Member States of Cook Islands (Oceania), Monaco (Europe), Nauru (Oceania), Niue (Oceania), Palau (Oceania), Saint Kitts and Nevis (Americas), San Marino (Europe), Tuvalu (Oceania). Former Sudan is included in lieu of Sudan and South Sudan, consistent with the situation from 1 January to 9 July 2011.

Table A2.2. Global and United Nations regional mean blood haemoglobin concentration and prevalence of anaemia by population group for 2011

United Nations region	Mean (95%CI) blood haemoglobin concentration (g/L)	Percentage (95% CI) of population with anaemia[a]	Number (95% CI) of people with anaemia (millions)[b]	Percentage (95% CI) of population with severe anaemia[c]	Number (95% CI) of people with severe anaemia (millions)[b]
Children aged 6–59 months					
Africa	105 (103 to 106)	60.2 (57.0 to 63.1)	95.0 (90.0 to 99.6)	3.3 (2.7 to 4.0)	5.2 (4.2 to 6.3)
Latin America and the Caribbean	117 (114 to 120)	29.1 (22.5 to 36.9)	15.5 (12.0 to 19.6)	0.3 (0.2 to 0.7)	0.2 (0.1 to 0.4)
Northern America	124 (122 to125)	7.0 (4.9 to 12.3)	1.6 (1.2 to 2.9)	0.0 (0.0 to 0.2)	0.0 (0.0 to 0.0)
Asia	112 (109 to 115)	42.0 (34.1 to 49.9)	152.2 (123.5 to 180.9)	1.1 (0.5 to 2.3)	4.1 (1.8 to 8.2)
Europe	120 (116 to 123)	19.3 (10.9 to 30.7)	7.8 (4.4 to 12.4)	0.2 (0.0 to 0.8)	0.1 (0.0 to 0.3)
Oceania	117 (112 to 122)	26.2 (14.5 to 41.6)	0.8 (0.4 to 1.3)	0.3 (0.0 to 1.3)	0.0 (0.0 to 0.0)
Global	111 (110 to 113)	42.6 (37.7 to 47.4)	273.2 (241.8 to 303.7)	1.5 (1.0 to 2.2)	9.6 (6.9 to 14.1)

Table A2.2. Global and United Nations regional mean blood haemoglobin concentration and prevalence of anaemia by population group for 2011, continued

United Nations region	Mean (95%CI) blood haemoglobin concentration (g/L)	Percentage (95% CI) of population with anaemia[a]	Number (95% CI) of people with anaemia (millions)[b]	Percentage (95% CI) of population with severe anaemia[c]	Number (95% CI) of people with severe anaemia (millions)[b]
Non-pregnant women aged 15–49 years					
Africa	124 (122 to 126)	36.9 (31.5 to 42.6)	85.1 (72.6 to 98.1)	1.6 (1.2 to 2.4)	3.8 (2.8 to 5.6)
Latin America and the Caribbean	131 (127 to 134)	18.7 (12.7 to 29.4)	28.7 (19.4 to 45.0)	0.7 (0.3 to 1.6)	1.1 (0.5 to 2.4)
Northern America	132 (130 to 134)	12.2 (9.1 to 17.0)	9.6 (7.2 to 13.4)	0.2 (0.1 to 0.5)	0.2 (0.7 to 0.4)
Asia	125 (122 to 128)	31.6 (24.1 to 40.5)	337.0 (257.4 to 432.4)	1.3 (0.7 to 2.2)	13.4 (7.3 to 23.1)
Europe	129 (126 to 131)	19.9 (13.5 to 28.4)	34.5 (23.4 to 49.1)	0.5 (0.2 to 1.2)	0.9 (0.4 to 2.01)
Oceania	129 (123 to 133)	19.5 (11.5 to 35.6)	1.7 (1.0 to 3.0)	0.8 (0.2 to 2.0)	0.1 (0.0 to 0.2)
Global	126 (124 to 128)	29.0 (23.9 to 34.8)	496.3 (409.3 to 595.1)	1.1 (0.7 to 1.7)	19.4 (12.7 to 29.4)
Pregnant women aged 15–49 years					
Africa	112 (110 to 114)	44.6 (39.3 to 49.0)	10.2 (9.0 to 11.2)	1.4 (0.9 to 2.1)	0.3 (0.2 to 0.51)
Latin America and the Caribbean	118 (114 to 123)	28.3 (20.1 to 38.6)	1.9 (1.4 to 2.6)	0.4 (0.2 to 0.9)	0.0 (0.0 to 0.1)
Northern America	121 (119 to 125)	17.1 (11.8 to 21.8)	0.5 (0.3 to 0.6)	0.1 (0.0 to 0.2)	0.0 (0.0 to 0.0)
Asia	113 (111 to 116)	39.3 (31.8 to 46.5)	18.5 (15.0 to 21.9)	0.9 (0.5 to 1.5)	0.4 (0.2 to 0.7)
Europe	118 (115 to 122)	24.5 (17.8 to 33.8)	1.2 (0.9 to 1.7)	0.2 (0.1 to 0.6)	0.0 (0.0 to 0.0)
Oceania	117 (112 to 122)	29.0 (18.4 to 42.8)	0.1 (0.1 to 0.2)	0.6 (0.1 to 1.5)	0.0 (0.0 to 0.0)
Global	114 (112 to 116)	38.2 (33.5 to 42.6)	32.4 (28.4 to 36.2)	0.8 (0.6 to 1.2)	0.8 (0.5 to 1.1)
All women of reproductive age (15–49 years)					
Africa	123 (121 to 125)	37.6 (32.4 to 43.0)	95.3 (82.1 to 108.0)	1.6 (1.2 to 2.4)	4.1 (3.0 to 6.0)
Latin America and the Caribbean	130 (126 to 134)	19.1 (13.1 to 29.4)	30.6 (20.9 to 46.9)	0.7 (0.3 to 1.6)	1.1 (0.5 to 2.5)
Northern America	131 (130 to 133)	12.4 (9.3 to 17.1)	10.1 (7.6 to 14.0)	0.2 (0.1 to 0.5)	0.2 (0.1 to 0.4)
Asia	124 (122 to 127)	31.9 (24.6 to 40.6)	355.5 (274.5 to 452.8)	1.2 (0.7 to 2.1)	13.8 (7.5 to 23.7)
Europe	129 (126 to 131)	20.1 (13.8 to 28.3)	35.7 (24.6 to 50.4)	0.5 (0.2 to 1.1)	0.9 (0.4 to 2.0)
Oceania	128 (123 to 132)	20.0 (12.0 to 35.5)	1.8 (1.1 to 3.2)	0.8 (0.2 to 1.9)	0.1 (0.0 to 0.2)
Global	125 (124 to 127)	29.4 (24.5 to 35.0)	528.7 (440.3 to 629.4)	1.1 (0.7 to 1.7)	20.2 (13.3 to 30.5)

CI: credibility interval.

[a] Anaemia is defined as blood haemoglobin concentration <110 g/L for children and pregnant women and <120 g/L for non-pregnant women.

[b] Estimates of the number of children affected correspond to the age range 0–59 months.

[c] Severe anaemia is defined as blood haemoglobin concentration <70 g/L for children and pregnant women and <80 g/L for non-pregnant women.

ANNEX 3. NATIONAL ESTIMATES OF ANAEMIA FOR THE YEAR 2011

Table A3.1. Country estimates for children aged 6–59 months

Country	Mean blood haemoglobin concentration (g/L)		Percentage of children with blood haemoglobin concentration <110 g/L		Percentage of children with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Afghanistan	111	102 to 121	44	20 to 69	1.8	0.2 to 6.4	Severe
Albania	119	113 to 123	22	10 to 37	0.1	0.0 to 0.3	Moderate
Algeria	*116*	*105 to 124*	*32*	*10 to 65*	*0.4*	*0.0 to 2.4*	*Moderate*
Andorra	*122*	*113 to 126*	*14*	*5 to 36*	*0.1*	*0.0 to 0.8*	*Mild*
Angola	109	105 to 112	52	43 to 63	0.9	0.4 to 2.0	Severe
Antigua and Barbuda	*113*	*103 to 122*	*38*	*15 to 67*	*0.9*	*0.1 to 4.6*	*Moderate*
Argentina	120	112 to 125	21	7 to 42	0.2	0.0 to 1.0	Moderate
Armenia	115	106 to 122	34	15 to 59	0.8	0.1 to 3.7	Moderate
Australia	*121*	*113 to 126*	*15*	*5 to 35*	*0.1*	*0.0 to 0.6*	*Mild*
Austria	*122*	*113 to 127*	*14*	*5 to 37*	*0.2*	*0.0 to 1.4*	*Mild*
Azerbaijan	114	107 to 121	35	16 to 57	0.3	0.1 to 1.1	Moderate
Bahamas (the)	*115*	*105 to 123*	*33*	*11 to 62*	*0.5*	*0.0 to 2.6*	*Moderate*
Bahrain	*116*	*106 to 124*	*32*	*10 to 63*	*0.2*	*0.0 to 0.9*	*Moderate*
Bangladesh	107	102 to 112	56	40 to 70	1.1	0.3 to 3.4	Severe
Barbados	*114*	*104 to 122*	*37*	*14 to 66*	*0.7*	*0.0 to 3.2*	*Moderate*
Belarus	*118*	*108 to 125*	*25*	*7 to 55*	*0.2*	*0.0 to 1.2*	*Moderate*
Belgium	*122*	*114 to 127*	*13*	*5 to 35*	*0.1*	*0.0 to 0.9*	*Mild*
Belize	*114*	*105 to 123*	*35*	*13 to 65*	*0.6*	*0.0 to 2.9*	*Moderate*
Benin	103	99 to 105	65	58 to 74	3.9	2.3 to 6.0	Severe
Bhutan	107	98 to 119	55	24 to 78	2.3	0.2 to 7.7	Severe
Bolivia (Plurinational State of)	107	102 to 113	56	38 to 68	1.7	0.4 to 4.1	Severe
Bosnia and Herzegovina	*117*	*106 to 125*	*28*	*8 to 60*	*0.3*	*0.0 to 1.6*	*Moderate*
Botswana	112	103 to 121	43	16 to 69	0.7	0.1 to 3.4	Severe
Brazil	118	111 to 124	24	8 to 46	0.2	0.0 to 1.3	Moderate
Brunei Darussalam	*120*	*112 to 125*	*18*	*5 to 40*	*0.1*	*0.0 to 0.4*	*Mild*
Bulgaria	*117*	*107 to 124*	*27*	*8 to 57*	*0.2*	*0.0 to 1.0*	*Moderate*
Burkina Faso	91	89 to 95	86	82 to 89	12.3	8.6 to 14.6	Severe
Burundi	110	106 to 113	47	37 to 59	0.9	0.3 to 2.3	Severe
Cabo Verde	*104*	*94 to 115*	*60*	*31 to 80*	*3.7*	*0.4 to 10.6*	*Severe*

Table A3.1. Country estimates for children aged 6–59 months, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of children with blood haemoglobin concentration <110 g/L		Percentage of children with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Cambodia	107	105 to 110	55	46 to 64	0.9	0.4 to 1.8	Severe
Cameroon	104	101 to 107	63	56 to 70	2.6	1.3 to 4.3	Severe
Canada	*122*	*113 to 127*	*14*	*5 to 36*	*0.2*	*0.0 to 1.4*	*Mild*
Central African Republic (the)	100	92 to 108	72	52 to 84	5.0	0.9 to 11.5	Severe
Chad	99	90 to 108	74	53 to 87	6.0	0.9 to 13.6	Severe
Chile	*119*	*110 to 125*	*21*	*6 to 49*	*0.3*	*0.0 to 2.2*	*Moderate*
China	121	113 to 129	19	6 to 38	0.1	0.0 to 0.7	Mild
Colombia	121	115 to 126	28	19 to 38	0.2	0.1 to 0.7	Moderate
Comoros (the)	*108*	*98 to 117*	*51*	*26 to 75*	*2.5*	*0.2 to 9.0*	*Severe*
Congo (the)	104	103 to 106	65	60 to 70	1.2	0.6 to 2.2	Severe
Costa Rica	115	107 to 122	33	14 to 57	0.4	0.0 to 1.9	Moderate
Côte d'Ivoire	100	97 to 102	75	70 to 78	4.1	2.2 to 6.4	Severe
Croatia	*117*	*107 to 124*	*27*	*8 to 58*	*0.2*	*0.0 to 1.3*	*Moderate*
Cuba	*115*	*105 to 123*	*34*	*13 to 62*	*0.5*	*0.0 to 2.8*	*Moderate*
Cyprus	*120*	*109 to 125*	*19*	*5 to 48*	*0.4*	*0.0 to 3.3*	*Mild*
Czech Republic (the)	*117*	*107 to 124*	*27*	*8 to 57*	*0.2*	*0.0 to 1.2*	*Moderate*
Democratic People's Republic of Korea (the)	*114*	*105 to 122*	*34*	*14 to 61*	*0.5*	*0.0 to 2.8*	*Moderate*
Democratic Republic of the Congo (the)	102	98 to 108	67	53 to 76	3.4	1.2 to 6.9	Severe
Denmark	*122*	*113 to 127*	*14*	*5 to 36*	*0.2*	*0.0 to 1.3*	*Mild*
Djibouti	*111*	*102 to 120*	*43*	*18 to 70*	*1.5*	*0.1 to 6.1*	*Severe*
Dominica	*114*	*104 to 122*	*37*	*15 to 65*	*0.5*	*0.0 to 2.8*	*Moderate*
Dominican Republic (the)	*115*	*105 to 123*	*33*	*12 to 63*	*0.5*	*0.0 to 2.7*	*Moderate*
Ecuador	*112*	*104 to 120*	*40*	*18 to 67*	*0.4*	*0.0 to 2.3*	*Severe*
Egypt	111	104 to 120	45	21 to 67	0.3	0.1 to 0.9	Severe
El Salvador	116	112 to 120	30	19 to 41	0.2	0.0 to 0.6	Moderate
Equatorial Guinea	103	99 to 107	66	54 to 75	3.3	1.0 to 7.2	Severe
Eritrea	*105*	*94 to 114*	*59*	*34 to 79*	*3.5*	*0.4 to 10.9*	*Severe*
Estonia	*118*	*107 to 125*	*26*	*8 to 57*	*0.3*	*0.0 to 1.5*	*Moderate*
Ethiopia	108	105 to 111	50	41 to 59	2.9	1.3 to 4.6	Severe
Fiji	115	107 to 123	32	12 to 56	0.2	0.0 to 1.3	Moderate
Finland	*122*	*113 to 128*	*14*	*5 to 37*	*0.2*	*0.0 to 1.8*	*Mild*
France	*122*	*113 to 127*	*14*	*5 to 37*	*0.2*	*0.0 to 1.0*	*Mild*

Table A3.1. Country estimates for children aged 6–59 months, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of children with blood haemoglobin concentration <110 g/L		Percentage of children with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Gabon	105	102 to 108	60	52 to 67	2.0	0.9 to 3.8	Severe
Gambia (the)	102	93 to 113	65	38 to 83	5.1	0.6 to 11.9	Severe
Georgia	*118*	*107 to 125*	*26*	*8 to 59*	*0.4*	*0.0 to 2.1*	*Moderate*
Germany	*122*	*113 to 127*	*14*	*5 to 36*	*0.2*	*0.0 to 1.5*	*Mild*
Ghana	98	93 to 102	76	66 to 83	6.5	2.5 to 11.1	Severe
Greece	*121*	*112 to 127*	*15*	*5 to 39*	*0.2*	*0.0 to 1.4*	*Mild*
Grenada	*113*	*103 to 121*	*40*	*16 to 68*	*0.7*	*0.1 to 3.8*	*Severe*
Guatemala	110	107 to 114	47	34 to 58	0.6	0.2 to 1.4	Severe
Guinea	98	95 to 101	76	70 to 80	6.2	3.5 to 8.6	Severe
Guinea-Bissau	*100*	*91 to 109*	*71*	*47 to 86*	*5.5*	*0.7 to 12.8*	*Severe*
Guyana	112	106 to 118	41	24 to 61	0.6	0.1 to 2.1	Severe
Haiti	106	104 to 109	62	52 to 67	1.0	0.5 to 1.9	Severe
Honduras	113	106 to 119	39	21 to 60	0.4	0.1 to 1.5	Moderate
Hungary	*117*	*107 to 124*	*27*	*8 to 58*	*0.2*	*0.0 to 1.2*	*Moderate*
Iceland	*122*	*113 to 128*	*14*	*5 to 39*	*0.2*	*0.0 to 1.5*	*Mild*
India	106	101 to 112	59	40 to 72	1.8	0.4 to 4.9	Severe
Indonesia	114	111 to 119	32	21 to 44	0.3	0.1 to 1.1	Moderate
Iran (Islamic Republic of)	116	106 to 123	32	10 to 61	0.3	0.0 to 1.1	Moderate
Iraq	*115*	*104 to 124*	*36*	*10 to 69*	*0.5*	*0.0 to 2.3*	*Moderate*
Ireland	*122*	*113 to 128*	*14*	*5 to 38*	*0.3*	*0.0 to 2.0*	*Mild*
Israel	*121*	*113 to 126*	*15*	*5 to 36*	*0.1*	*0.0 to 0.5*	*Mild*
Italy	*122*	*113 to 127*	*14*	*5 to 36*	*0.2*	*0.0 to 1.2*	*Mild*
Jamaica	*116*	*106 to 124*	*32*	*11 to 61*	*0.6*	*0.1 to 2.9*	*Moderate*
Japan	*121*	*113 to 126*	*15*	*5 to 39*	*0.1*	*0.0 to 1.0*	*Mild*
Jordan	116	111 to 120	31	19 to 45	0.1	0.1 to 0.3	Moderate
Kazakhstan	116	107 to 124	30	9 to 59	0.5	0.0 to 2.4	Moderate
Kenya	109	105 to 112	46	40 to 56	2.0	0.9 to 3.9	Severe
Kiribati	*113*	*105 to 121*	*37*	*16 to 63*	*0.2*	*0.0 to 1.3*	*Moderate*
Kuwait	*118*	*107 to 124*	*26*	*7 to 59*	*0.2*	*0.0 to 0.9*	*Moderate*
Kyrgyzstan	114	105 to 123	36	12 to 65	0.6	0.0 to 2.5	Moderate
Lao People's Democratic Republic (the)	112	104 to 120	42	19 to 66	0.8	0.1 to 3.2	Severe
Latvia	*118*	*108 to 125*	*26*	*8 to 54*	*0.3*	*0.0 to 1.6*	*Moderate*

Table A3.1. Country estimates for children aged 6–59 months, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of children with blood haemoglobin concentration <110 g/L		Percentage of children with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Lebanon	118	109 to 124	24	7 to 53	0.2	0.0 to 0.9	Moderate
Lesotho	109	105 to 113	48	36 to 61	1.2	0.4 to 2.6	Severe
Liberia	101	99 to 104	72	64 to 76	3.0	1.3 to 5.1	Severe
Libya	*116*	*105 to 125*	*30*	*8 to 64*	*0.3*	*0.0 to 1.4*	*Moderate*
Lithuania	*118*	*107 to 125*	*26*	*8 to 58*	*0.3*	*0.0 to 1.5*	*Moderate*
Luxembourg	*122*	*113 to 128*	*13*	*5 to 37*	*0.2*	*0.0 to 1.0*	*Mild*
Madagascar	109	107 to 112	50	41 to 57	0.4	0.2 to 0.8	Severe
Malawi	103	100 to 105	66	59 to 71	3.8	2.2 to 5.9	Severe
Malaysia	*115*	*108 to 122*	*32*	*14 to 53*	*0.1*	*0.0 to 0.7*	*Moderate*
Maldives	115	107 to 122	30	13 to 56	0.4	0.0 to 1.8	Moderate
Mali	95	91 to 99	80	73 to 85	9.5	5.6 to 12.6	Severe
Malta	*122*	*113 to 126*	*14*	*5 to 35*	*0.1*	*0.0 to 0.6*	*Mild*
Marshall Islands (the)	115	107 to 123	33	11 to 58	0.2	0.0 to 0.9	Moderate
Mauritania	*100*	*90 to 110*	*71*	*47 to 86*	*5.5*	*0.7 to 13.6*	*Severe*
Mauritius	*110*	*99 to 119*	*44*	*21 to 72*	*2.3*	*0.1 to 8.5*	*Severe*
Mexico	118	113 to 123	26	16 to 39	0.2	0.0 to 0.6	Moderate
Micronesia (Federated States of)	114	106 to 122	34	14 to 60	0.2	0.0 to 1.4	Moderate
Mongolia	119	110 to 129	26	9 to 52	0.3	0.0 to 1.4	Moderate
Montenegro	*117*	*106 to 124*	*27*	*8 to 60*	*0.2*	*0.0 to 1.1*	*Moderate*
Morocco	115	105 to 124	35	12 to 66	0.4	0.0 to 2.1	Moderate
Mozambique	102	100 to 105	66	58 to 72	3.7	2.1 to 5.5	Severe
Myanmar	*112*	*104 to 120*	*40*	*19 to 67*	*0.7*	*0.0 to 3.9*	*Severe*
Namibia	*109*	*102 to 119*	*49*	*23 to 72*	*1.1*	*0.1 to 4.5*	*Severe*
Nepal	109	103 to 114	51	34 to 68	0.9	0.2 to 3.1	Severe
Netherlands (the)	*122*	*112 to 128*	*14*	*5 to 40*	*0.2*	*0.0 to 1.1*	*Mild*
New Zealand	*121*	*113 to 126*	*15*	*5 to 37*	*0.1*	*0.0 to 0.7*	*Mild*
Nicaragua	120	110 to 126	19	6 to 49	0.4	0.0 to 1.9	Mild
Niger (the)	99	96 to 101	76	72 to 80	4.5	2.6 to 7.4	Severe
Nigeria	100	97 to 104	71	64 to 77	4.8	2.4 to 7.6	Severe
Norway	*122*	*113 to 127*	*14*	*5 to 38*	*0.2*	*0.0 to 1.7*	*Mild*
Oman	113	105 to 121	41	18 to 63	0.3	0.0 to 1.5	Severe
Pakistan	104	100 to 108	61	51 to 69	4.2	1.3 to 6.8	Severe

Table A3.1. Country estimates for children aged 6–59 months, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of children with blood haemoglobin concentration <110 g/L		Percentage of children with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Panama	115	108 to 122	32	13 to 55	0.3	0.0 to 1.4	Moderate
Papua New Guinea	*111*	*103 to 120*	*44*	*19 to 71*	*0.6*	*0.0 to 3.1*	*Severe*
Paraguay	*117*	*106 to 125*	*27*	*8 to 60*	*0.5*	*0.0 to 3.1*	*Moderate*
Peru	115	113 to 116	33	28 to 39	0.4	0.2 to 0.6	Moderate
Philippines (the)	114	108 to 120	35	19 to 54	0.2	0.0 to 0.8	Moderate
Poland	*118*	*107 to 125*	*26*	*8 to 58*	*0.2*	*0.0 to 1.4*	*Moderate*
Portugal	*122*	*113 to 128*	*14*	*5 to 41*	*0.2*	*0.0 to 1.2*	*Mild*
Qatar	117	109 to 124	26	8 to 52	0.2	0.0 to 0.9	Moderate
Republic of Korea (the)	121	114 to 126	15	5 to 33	0.1	0.0 to 0.5	Mild
Republic of Moldova (the)	116	109 to 123	29	10 to 52	0.1	0.0 to 0.5	Moderate
Romania	*117*	*107 to 124*	*27*	*8 to 59*	*0.2*	*0.0 to 1.2*	*Moderate*
Russian Federation (the)	*118*	*108 to 125*	*26*	*8 to 56*	*0.3*	*0.0 to 1.5*	*Moderate*
Rwanda	113	110 to 116	38	30 to 46	0.4	0.2 to 1.1	Moderate
Saint Lucia	*112*	*103 to 122*	*41*	*17 to 70*	*0.9*	*0.1 to 4.1*	*Severe*
Saint Vincent and the Grenadines	*113*	*104 to 121*	*38*	*16 to 65*	*0.7*	*0.1 to 3.4*	*Moderate*
Samoa	115	107 to 123	32	11 to 59	0.3	0.0 to 1.6	Moderate
Sao Tome and Principe	106	103 to 110	59	46 to 69	0.8	0.2 to 2.9	Severe
Saudi Arabia	*113*	*103 to 123*	*39*	*13 to 69*	*0.5*	*0.0 to 2.4*	*Moderate*
Senegal	97	94 to 99	79	75 to 82	6.5	4.2 to 9.2	Severe
Serbia	118	108 to 124	26	8 to 54	0.2	0.0 to 1.1	Moderate
Seychelles	*113*	*103 to 120*	*37*	*17 to 64*	*1.2*	*0.1 to 6.2*	*Moderate*
Sierra Leone	100	97 to 104	74	66 to 79	3.8	1.6 to 7.3	Severe
Singapore	*119*	*113 to 125*	*19*	*5 to 39*	*0.0*	*0.0 to 0.3*	*Mild*
Slovakia	*117*	*106 to 125*	*27*	*8 to 60*	*0.3*	*0.0 to 1.5*	*Moderate*
Slovenia	*117*	*107 to 125*	*27*	*8 to 59*	*0.3*	*0.0 to 1.5*	*Moderate*
Solomon Islands	*112*	*103 to 122*	*40*	*15 to 69*	*0.4*	*0.0 to 2.6*	*Severe*
Somalia	106	102 to 111	57	43 to 68	2.8	1.1 to 5.4	Severe
South Africa	112	104 to 120	41	19 to 64	0.7	0.1 to 2.9	Severe
Spain	*122*	*113 to 127*	*14*	*5 to 36*	*0.2*	*0.0 to 1.1*	*Mild*
Sri Lanka	113	107 to 120	36	19 to 56	0.2	0.0 to 1.1	Moderate
Sudan (former)[b]	105	94 to 114	59	33 to 79	3.6	0.2 to 11.1	Severe
Suriname	*113*	*104 to 121*	*39*	*16 to 67*	*0.4*	*0.0 to 2.1*	*Moderate*

Table A3.1. Country estimates for children aged 6–59 months, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of children with blood haemoglobin concentration <110 g/L		Percentage of children with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Swaziland	111	104 to 118	44	24 to 65	1.0	0.2 to 3.2	Severe
Sweden	*122*	*113 to 128*	*13*	*5 to 36*	*0.2*	*0.0 to 1.7*	*Mild*
Switzerland	*122*	*112 to 127*	*14*	*5 to 39*	*0.2*	*0.0 to 1.3*	*Mild*
Syrian Arab Republic (the)	*114*	*104 to 123*	*37*	*12 to 68*	*0.5*	*0.0 to 2.6*	*Moderate*
Tajikistan	117	112 to 122	27	16 to 41	0.5	0.1 to 1.5	Moderate
Thailand	116	107 to 123	29	11 to 55	0.5	0.0 to 2.7	Moderate
The former Yugoslav Republic of Macedonia	119	116 to 123	22	15 to 31	0.1	0.0 to 0.4	Moderate
Timor-Leste	111	107 to 115	45	33 to 58	0.2	0.1 to 0.6	Severe
Togo	*101*	*92 to 108*	*71*	*50 to 84*	*4.6*	*0.7 to 11.9*	*Severe*
Tonga	*113*	*105 to 122*	*36*	*14 to 64*	*0.4*	*0.0 to 2.8*	*Moderate*
Trinidad and Tobago	*113*	*103 to 122*	*39*	*14 to 69*	*1.0*	*0.1 to 4.8*	*Moderate*
Tunisia	117	106 to 125	29	9 to 61	0.3	0.0 to 1.5	Moderate
Turkey	*117*	*105 to 125*	*30*	*9 to 64*	*0.4*	*0.0 to 1.8*	*Moderate*
Turkmenistan	116	106 to 124	32	11 to 60	0.4	0.0 to 1.7	Moderate
Uganda	106	103 to 109	56	48 to 65	3.0	1.6 to 4.9	Severe
Ukraine	*117*	*107 to 125*	*27*	*8 to 56*	*0.2*	*0.0 to 1.3*	*Moderate*
United Arab Emirates (the)	*116*	*106 to 124*	*29*	*9 to 60*	*0.2*	*0.0 to 0.8*	*Moderate*
United Kingdom of Great Britain and Northern Ireland (the)	122	114 to 126	13	5 to 33	0.1	0.0 to 0.9	Mild
United Republic of Tanzania (the)	105	103 to 108	61	52 to 68	1.5	0.7 to 2.8	Severe
United States of America (the)	124	122 to 125	6	5 to 12	0.0	0.0 to 0.1	Mild
Uruguay	*118*	*108 to 125*	*24*	*6 to 55*	*0.3*	*0.0 to 2.4*	*Moderate*
Uzbekistan	113	104 to 124	43	15 to 70	0.6	0.1 to 2.3	Severe
Vanuatu	113	107 to 119	38	22 to 57	0.2	0.0 to 0.7	Moderate
Venezuela (Bolivarian Republic of)	*115*	*106 to 123*	*32*	*12 to 59*	*0.3*	*0.0 to 1.4*	*Moderate*
Viet Nam	115	108 to 122	31	13 to 54	0.4	0.0 to 1.8	Moderate
Yemen	*106*	*100 to 116*	*59*	*29 to 75*	*0.9*	*0.1 to 4.7*	*Severe*
Zambia	105	102 to 109	58	49 to 66	2.9	1.1 to 4.9	Severe
Zimbabwe	106	103 to 109	59	49 to 67	1.3	0.5 to 2.6	Severe

CI: credibility interval.
Countries in italics do not have national or subnational data on the prevalence of anaemia.
[a] Based on proportion with blood haemoglobin concentration <110 g/L.
[b] Estimates are for former Sudan, consistent with the situation from 1 January to 6 July 2011.

Table A3.2. Country estimates for non-pregnant women aged 15–49 years

Country	Mean blood haemoglobin concentration (g/L)		Percentage of non-pregnant women with blood haemoglobin concentration <120 g/L		Percentage of non-pregnant women with blood haemoglobin concentration <80 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Afghanistan	125	117 to 133	31	14 to 54	1.8	0.3 to 4.8	Moderate
Albania	128	124 to 131	22	12 to 36	0.6	0.2 to 1.3	Moderate
Algeria	*125*	*116 to 133*	*33*	*13 to 56*	*1.3*	*0.2 to 4.4*	*Moderate*
Andorra	*130*	*122 to 135*	*17*	*8 to 39*	*0.5*	*0.0 to 1.7*	*Mild*
Angola	121	116 to 128	44	26 to 58	1.1	0.3 to 2.6	Severe
Antigua and Barbuda	*128*	*119 to 136*	*25*	*10 to 50*	*1.0*	*0.1 to 3.5*	*Moderate*
Argentina	131	124 to 138	15	6 to 34	0.5	0.0 to 2.2	Mild
Armenia	127	120 to 133	26	12 to 48	0.7	0.1 to 2.2	Moderate
Australia	*129*	*121 to 135*	*17*	*8 to 42*	*0.5*	*0.0 to 1.9*	*Mild*
Austria	*129*	*121 to 135*	*18*	*9 to 42*	*0.6*	*0.1 to 2.5*	*Mild*
Azerbaijan	124	118 to 130	33	17 to 51	1.2	0.3 to 3.0	Moderate
Bahamas (the)	*129*	*119 to 137*	*23*	*9 to 50*	*0.7*	*0.1 to 2.5*	*Moderate*
Bahrain	123	116 to 131	38	16 to 59	0.9	0.1 to 2.9	Moderate
Bangladesh	122	119 to 124	43	35 to 50	0.7	0.3 to 1.3	Severe
Barbados	*129*	*120 to 137*	*23*	*9 to 49*	*0.9*	*0.1 to 3.2*	*Moderate*
Belarus	*128*	*120 to 134*	*22*	*9 to 49*	*0.5*	*0.0 to 2.1*	Moderate
Belgium	*129*	*121 to 135*	*18*	*8 to 45*	*0.5*	*0.0 to 2.1*	*Mild*
Belize	*130*	*120 to 138*	*21*	*8 to 46*	*0.8*	*0.1 to 2.9*	*Moderate*
Benin	120	116 to 126	48	32 to 59	1.4	0.8 to 2.2	Severe
Bhutan	121	112 to 129	44	21 to 63	2.2	0.4 to 8.1	Severe
Bolivia (Plurinational State of)	126	120 to 131	32	18 to 47	1.1	0.4 to 2.1	Moderate
Bosnia and Herzegovina	*127*	*119 to 134*	*24*	*10 to 49*	*0.8*	*0.1 to 3.1*	*Moderate*
Botswana	127	118 to 135	28	12 to 51	1.5	0.2 to 4.3	Moderate
Brazil	*130*	*120 to 139*	*19*	*6 to 47*	*0.8*	*0.1 to 3.1*	*Mild*
Brunei Darussalam	128	121 to 132	20	10 to 43	0.7	0.1 to 2.5	Moderate
Bulgaria	*127*	*120 to 133*	*24*	*10 to 48*	*0.6*	*0.1 to 2.5*	*Moderate*
Burkina Faso	119	116 to 123	48	38 to 58	2.4	1.5 to 3.6	Severe
Burundi	131	127 to 135	20	13 to 30	0.7	0.3 to 1.5	Moderate
Cabo Verde	*124*	*115 to 132*	*38*	*15 to 58*	*1.1*	*0.2 to 3.7*	*Moderate*
Cambodia	121	119 to 125	43	33 to 51	1.0	0.5 to 1.7	Severe
Cameroon	122	120 to 125	41	33 to 48	1.5	0.9 to 2.3	Severe

Table A3.2. Country estimates for non-pregnant women aged 15–49 years, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of non-pregnant women with blood haemoglobin concentration <120 g/L		Percentage of non-pregnant women with blood haemoglobin concentration <80 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Canada	*130*	*123 to 135*	*16*	*8 to 39*	*0.4*	*0.0 to 1.7*	*Mild*
Central African Republic (the)	120	114 to 128	45	25 to 62	1.9	0.4 to 4.9	Severe
Chad	*120*	*112 to 129*	*46*	*22 to 66*	*2.4*	*0.5 to 6.4*	*Severe*
Chile	133	126 to 140	12	5 to 28	0.3	0.0 to 1.4	Mild
China	129	123 to 135	19	8 to 41	0.3	0.0 to 1.3	Mild
Colombia	130	124 to 136	19	9 to 37	0.5	0.1 to 1.5	Mild
Comoros (the)	*127*	*117 to 136*	*30*	*12 to 54*	*1.4*	*0.2 to 4.1*	*Moderate*
Congo (the)	119	116 to 124	50	34 to 60	1.1	0.7 to 1.7	Severe
Costa Rica	130	122 to 136	19	8 to 42	0.8	0.1 to 3.2	Mild
Côte d'Ivoire	120	116 to 125	48	34 to 59	1.5	0.8 to 2.4	Severe
Croatia	*127*	*120 to 134*	*24*	*10 to 49*	*0.7*	*0.1 to 2.7*	*Moderate*
Cuba	*129*	*120 to 136*	*23*	*9 to 49*	*0.8*	*0.1 to 2.8*	*Moderate*
Cyprus	*126*	*116 to 131*	*28*	*11 to 56*	*0.9*	*0.1 to 2.8*	*Moderate*
Czech Republic (the)	*128*	*120 to 134*	*22*	*9 to 47*	*0.5*	*0.0 to 2.1*	*Moderate*
Democratic People's Republic of Korea (the)	127	121 to 133	25	11 to 46	0.6	0.0 to 2.2	Moderate
Democratic Republic of the Congo (the)	119	113 to 125	49	32 to 64	2.5	1.1 to 4.8	Severe
Denmark	*129*	*121 to 135*	*18*	*8 to 43*	*0.5*	*0.0 to 2.0*	*Mild*
Djibouti	*129*	*119 to 138*	*27*	*9 to 52*	*1.0*	*0.1 to 3.6*	*Moderate*
Dominica	*128*	*118 to 136*	*25*	*10 to 53*	*0.9*	*0.1 to 3.3*	*Moderate*
Dominican Republic (the)	*128*	*118 to 136*	*26*	*10 to 52*	*1.0*	*0.1 to 3.3*	*Moderate*
Ecuador	*128*	*119 to 136*	*24*	*9 to 50*	*0.9*	*0.1 to 3.1*	*Moderate*
Egypt	124	118 to 131	35	16 to 53	0.7	0.2 to 1.9	Moderate
El Salvador	*129*	*120 to 137*	*23*	*9 to 48*	*0.9*	*0.1 to 3.4*	*Moderate*
Equatorial Guinea	121	115 to 127	45	26 to 61	1.9	1.0 to 3.1	Severe
Eritrea	*126*	*116 to 136*	*33*	*12 to 56*	*1.7*	*0.3 to 5.3*	*Moderate*
Estonia	*128*	*120 to 134*	*24*	*10 to 49*	*0.6*	*0.1 to 2.7*	*Moderate*
Ethiopia	132	129 to 135	19	14 to 26	1.1	0.6 to 1.9	Mild
Fiji	125	122 to 129	26	18 to 36	2.7	0.7 to 5.4	Moderate
Finland	*130*	*121 to 136*	*17*	*8 to 42*	*0.5*	*0.0 to 2.1*	*Mild*
France	*129*	*121 to 134*	*19*	*9 to 43*	*0.6*	*0.1 to 2.3*	*Mild*
Gabon	118	113 to 125	50	30 to 65	2.1	0.9 to 3.2	Severe

Table A3.2. Country estimates for non-pregnant women aged 15–49 years, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of non-pregnant women with blood haemoglobin concentration <120 g/L		Percentage of non-pregnant women with blood haemoglobin concentration <80 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Gambia (the)	121	113 to 130	44	22 to 64	1.8	0.3 to 4.6	Severe
Georgia	127	120 to 132	28	13 to 47	0.8	0.2 to 2.4	Moderate
Germany	*129*	*121 to 135*	*18*	*8 to 42*	*0.6*	*0.0 to 2.5*	*Mild*
Ghana	116	111 to 121	56	42 to 67	3.6	1.1 to 7.8	Severe
Greece	*128*	*120 to 133*	*20*	*9 to 45*	*0.7*	*0.1 to 2.5*	*Moderate*
Grenada	*128*	*118 to 136*	*26*	*10 to 52*	*1.1*	*0.1 to 3.6*	*Moderate*
Guatemala	129	120 to 136	25	11 to 47	1.3	0.2 to 4.5	Moderate
Guinea	120	116 to 125	47	32 to 59	2.1	1.4 to 3.0	Severe
Guinea-Bissau	*121*	*113 to 130*	*44*	*21 to 65*	*2.1*	*0.4 to 6.3*	*Severe*
Guyana	124	120 to 128	34	23 to 46	1.5	0.7 to 2.8	Moderate
Haiti	124	118 to 130	36	23 to 52	2.4	1.6 to 3.5	Moderate
Honduras	132	125 to 138	18	8 to 37	0.7	0.1 to 2.0	Mild
Hungary	*128*	*120 to 134*	*23*	*10 to 48*	*0.6*	*0.1 to 2.6*	*Moderate*
Iceland	*130*	*122 to 136*	*17*	*8 to 40*	*0.4*	*0.0 to 2.0*	*Mild*
India	119	113 to 125	48	29 to 63	2.5	0.8 to 5.4	Severe
Indonesia	128	123 to 131	22	12 to 37	0.6	0.1 to 1.6	Moderate
Iran (Islamic Republic of)	127	120 to 133	28	12 to 49	0.8	0.1 to 2.6	Moderate
Iraq	*126*	*117 to 135*	*31*	*12 to 56*	*1.2*	*0.2 to 4.0*	*Moderate*
Ireland	*130*	*122 to 136*	*17*	*8 to 40*	*0.5*	*0.1 to 2.3*	*Mild*
Israel	*130*	*122 to 134*	*17*	*8 to 41*	*0.4*	*0.0 to 1.7*	*Mild*
Italy	*129*	*121 to 134*	*19*	*9 to 43*	*0.7*	*0.1 to 2.5*	*Mild*
Jamaica	*128*	*119 to 136*	*24*	*9 to 51*	*0.9*	*0.1 to 3.1*	*Moderate*
Japan	127	122 to 131	22	13 to 36	1.1	0.3 to 2.9	Moderate
Jordan	126	123 to 130	29	20 to 37	0.5	0.2 to 0.9	Moderate
Kazakhstan	126	119 to 133	30	13 to 51	0.9	0.1 to 3.1	Moderate
Kenya	132	117 to 142	24	5 to 56	1.6	0.4 to 3.9	Moderate
Kiribati	*129*	*120 to 135*	*20*	*8 to 46*	*0.7*	*0.0 to 2.9*	*Moderate*
Kuwait	129	121 to 136	22	9 to 43	0.6	0.1 to 2.1	Moderate
Kyrgyzstan	125	118 to 132	33	15 to 52	1.2	0.2 to 3.7	Moderate
Lao People's Democratic Republic (the)	125	119 to 130	31	15 to 50	1.3	0.3 to 3.7	Moderate
Latvia	*128*	*120 to 134*	*23*	*9 to 50*	*0.6*	*0.1 to 2.6*	*Moderate*

Table A3.2. Country estimates for non-pregnant women aged 15–49 years, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of non-pregnant women with blood haemoglobin concentration <120 g/L		Percentage of non-pregnant women with blood haemoglobin concentration <80 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Lebanon	127	119 to 133	28	12 to 49	0.7	0.1 to 2.6	Moderate
Lesotho	128	123 to 133	27	17 to 39	1.5	0.7 to 2.6	Moderate
Liberia	119	113 to 127	49	27 to 64	1.9	0.4 to 4.7	Severe
Libya	*127*	*118 to 135*	*28*	*11 to 53*	*0.9*	*0.1 to 3.4*	*Moderate*
Lithuania	*128*	*120 to 134*	*23*	*9 to 49*	*0.6*	*0.0 to 2.3*	*Moderate*
Luxembourg	*130*	*122 to 135*	*17*	*8 to 40*	*0.5*	*0.0 to 2.0*	*Mild*
Madagascar	126	121 to 131	32	19 to 45	0.9	0.3 to 1.8	Moderate
Malawi	128	124 to 132	28	19 to 37	1.3	0.7 to 2.2	Moderate
Malaysia	*129*	*121 to 134*	*20*	*9 to 45*	*0.5*	*0.0 to 1.8*	*Moderate*
Maldives	124	119 to 128	37	20 to 52	0.6	0.1 to 1.9	Moderate
Mali	117	112 to 122	56	39 to 67	2.9	1.2 to 5.4	Severe
Malta	*130*	*122 to 135*	*17*	*8 to 40*	*0.4*	*0.0 to 1.8*	*Mild*
Marshall Islands (the)	*129*	*121 to 136*	*20*	*8 to 45*	*0.6*	*0.0 to 3.0*	*Moderate*
Mauritania	*123*	*115 to 133*	*38*	*15 to 60*	*1.4*	*0.2 to 4.6*	*Moderate*
Mauritius	130	120 to 139	23	7 to 51	0.6	0.1 to 2.6	Moderate
Mexico	134	129 to 139	14	8 to 24	0.5	0.2 to 1.2	Mild
Micronesia (Federated States of)	129	122 to 135	18	8 to 39	0.7	0.0 to 3.3	Mild
Mongolia	132	122 to 140	20	6 to 44	0.8	0.1 to 2.7	Moderate
Montenegro	*128*	*119 to 134*	*24*	*10 to 49*	*0.7*	*0.1 to 2.5*	*Moderate*
Morocco	125	117 to 133	33	14 to 54	1.5	0.2 to 4.7	Moderate
Mozambique	122	116 to 129	44	27 to 58	2.6	1.4 to 3.7	Severe
Myanmar	125	118 to 132	30	13 to 51	1.0	0.1 to 3.1	Moderate
Namibia	*126*	*115 to 135*	*33*	*12 to 59*	*1.7*	*0.3 to 5.3*	*Moderate*
Nepal	125	122 to 127	36	28 to 44	0.8	0.4 to 1.4	Moderate
Netherlands (the)	*129*	*121 to 135*	*18*	*8 to 42*	*0.5*	*0.1 to 2.2*	*Mild*
New Zealand	131	125 to 137	14	7 to 32	0.4	0.0 to 1.4	Mild
Nicaragua	133	127 to 139	12	6 to 27	0.6	0.1 to 2.1	Mild
Niger (the)	121	116 to 126	45	30 to 58	2.1	1.4 to 3.2	Severe
Nigeria	119	110 to 130	47	21 to 71	2.2	0.5 to 7.2	Severe
Norway	*130*	*122 to 135*	*17*	*8 to 41*	*0.5*	*0.0 to 2.1*	*Mild*
Oman	124	117 to 130	35	17 to 55	1.1	0.2 to 3.4	Moderate

Table A3.2. Country estimates for non-pregnant women aged 15–49 years, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of non-pregnant women with blood haemoglobin concentration <120 g/L		Percentage of non-pregnant women with blood haemoglobin concentration <80 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Pakistan	117	115 to 120	51	43 to 59	3.5	1.5 to 5.0	Severe
Panama	128	120 to 135	25	10 to 47	0.7	0.1 to 2.2	Moderate
Papua New Guinea	*126*	*116 to 133*	*29*	*11 to 54*	*1.8*	*0.2 to 6.2*	*Moderate*
Paraguay	*130*	*121 to 139*	*19*	*6 to 45*	*0.8*	*0.1 to 3.0*	*Mild*
Peru	130	128 to 133	18	15 to 23	0.6	0.4 to 0.8	Mild
Philippines (the)	127	119 to 132	25	12 to 45	1.7	0.2 to 5.5	Moderate
Poland	*128*	*120 to 134*	*23*	*9 to 48*	*0.6*	*0.1 to 2.5*	*Moderate*
Portugal	*129*	*121 to 135*	*19*	*8 to 44*	*0.7*	*0.1 to 2.7*	*Mild*
Qatar	*127*	*118 to 134*	*28*	*11 to 53*	*0.7*	*0.1 to 2.5*	*Moderate*
Republic of Korea (the)	128	125 to 130	19	13 to 28	0.4	0.2 to 0.9	Mild
Republic of Moldova (the)	127	120 to 132	26	12 to 46	0.6	0.1 to 1.8	Moderate
Romania	*127*	*119 to 134*	*24*	*10 to 49*	*0.7*	*0.1 to 2.4*	*Moderate*
Russian Federation (the)	*129*	*120 to 135*	*21*	*9 to 46*	*0.5*	*0.0 to 1.9*	*Moderate*
Rwanda	133	130 to 136	17	12 to 25	0.5	0.2 to 0.9	Mild
Saint Lucia	*127*	*117 to 136*	*26*	*10 to 53*	*1.2*	*0.2 to 4.1*	*Moderate*
Saint Vincent and the Grenadines	*128*	*119 to 136*	*25*	*9 to 51*	*1.0*	*0.1 to 3.3*	*Moderate*
Samoa	130	123 to 136	17	8 to 39	0.6	0.0 to 2.7	Mild
Sao Tome and Principe	122	117 to 127	42	27 to 55	1.2	0.5 to 2.4	Severe
Saudi Arabia	*122*	*112 to 130*	*40*	*17 to 66*	*1.4*	*0.2 to 4.3*	*Severe*
Senegal	116	113 to 118	57	50 to 63	3.5	2.3 to 5.1	Severe
Serbia	127	120 to 134	25	11 to 47	0.8	0.1 to 3.2	Moderate
Seychelles	*130*	*121 to 139*	*21*	*7 to 47*	*0.5*	*0.1 to 2.0*	*Moderate*
Sierra Leone	120	115 to 126	45	30 to 60	1.7	0.8 to 3.2	Severe
Singapore	*128*	*118 to 132*	*22*	*10 to 51*	*0.7*	*0.1 to 2.7*	*Moderate*
Slovakia	*128*	*119 to 134*	*23*	*9 to 50*	*0.6*	*0.1 to 2.5*	*Moderate*
Slovenia	*128*	*119 to 134*	*24*	*10 to 50*	*0.7*	*0.1 to 2.7*	*Moderate*
Solomon Islands	*127*	*118 to 135*	*25*	*10 to 51*	*1.3*	*0.1 to 5.1*	*Moderate*
Somalia	121	116 to 127	42	28 to 55	2.7	1.0 to 5.8	Severe
South Africa	128	120 to 136	27	12 to 48	1.1	0.2 to 3.3	Moderate
Spain	*129*	*121 to 135*	*18*	*8 to 42*	*0.6*	*0.1 to 2.1*	*Mild*
Sri Lanka	127	120 to 132	26	12 to 46	0.7	0.1 to 2.3	Moderate

Table A3.2. Country estimates for non-pregnant women aged 15–49 years, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of non-pregnant women with blood haemoglobin concentration <120 g/L		Percentage of non-pregnant women with blood haemoglobin concentration <80 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Sudan (former)[b]	126	118 to 135	31	13 to 53	1.1	0.2 to 3.7	Moderate
Suriname	*128*	*119 to 137*	*25*	*9 to 50*	*1.0*	*0.1 to 3.5*	*Moderate*
Swaziland	128	120 to 135	28	13 to 48	1.0	0.3 to 2.5	Moderate
Sweden	*130*	*122 to 135*	*18*	*8 to 42*	*0.5*	*0.0 to 2.1*	*Mild*
Switzerland	*129*	*121 to 134*	*19*	*9 to 45*	*0.6*	*0.1 to 2.4*	*Mild*
Syrian Arab Republic (the)	*126*	*117 to 134*	*31*	*11 to 56*	*1.1*	*0.1 to 3.8*	*Moderate*
Tajikistan	128	123 to 133	24	15 to 39	0.9	0.3 to 2.0	Moderate
Thailand	127	115 to 132	24	10 to 58	0.9	0.1 to 3.5	Moderate
The former Yugoslav Republic of Macedonia	129	126 to 133	19	13 to 27	0.3	0.1 to 0.9	Mild
Timor-Leste	128	124 to 132	22	14 to 34	0.7	0.3 to 1.6	Moderate
Togo	*118*	*109 to 127*	*52*	*28 to 75*	*2.5*	*0.6 to 6.5*	*Severe*
Tonga	*130*	*121 to 137*	*18*	*7 to 43*	*0.6*	*0.0 to 2.9*	*Mild*
Trinidad and Tobago	*128*	*119 to 136*	*25*	*9 to 51*	*1.2*	*0.1 to 4.3*	*Moderate*
Tunisia	127	118 to 134	28	11 to 52	1.0	0.1 to 3.2	Moderate
Turkey	*127*	*118 to 135*	*29*	*10 to 54*	*1.0*	*0.1 to 3.6*	*Moderate*
Turkmenistan	125	116 to 133	32	13 to 57	1.2	0.2 to 3.8	Moderate
Uganda	129	125 to 132	26	19 to 34	1.1	0.6 to 1.8	Moderate
Ukraine	*128*	*120 to 134*	*23*	*9 to 49*	*0.6*	*0.0 to 2.3*	*Moderate*
United Arab Emirates (the)	*127*	*119 to 135*	*26*	*10 to 51*	*0.6*	*0.1 to 2.3*	*Moderate*
United Kingdom of Great Britain and Northern Ireland (the)	130	126 to 134	14	8 to 28	0.2	0.0 to 0.8	Mild
United Republic of Tanzania (the)	123	120 to 127	38	28 to 47	2.0	1.1 to 3.1	Moderate
United States of America (the)	132	130 to 134	12	9 to 16	0.2	0.1 to 0.5	Mild
Uruguay	*131*	*121 to 139*	*17*	*6 to 43*	*0.6*	*0.0 to 2.3*	*Mild*
Uzbekistan	119	112 to 129	53	20 to 68	1.2	0.2 to 3.3	Severe
Vanuatu	129	123 to 133	21	10 to 40	0.2	0.0 to 1.2	Moderate
Venezuela (Bolivarian Republic of)	*129*	*120 to 137*	*22*	*8 to 47*	*0.7*	*0.1 to 2.7*	*Moderate*
Viet Nam	131	127 to 135	14	9 to 24	0.4	0.1 to 1.3	Mild
Yemen	*123*	*112 to 133*	*38*	*16 to 63*	*2.3*	*0.3 to 7.0*	*Moderate*
Zambia	127	120 to 135	28	12 to 48	1.2	0.2 to 3.4	Moderate
Zimbabwe	128	124 to 132	28	20 to 38	1.6	0.9 to 2.5	Moderate

CI: credibility interval.
Countries in italics do not have national or subnational data on the prevalence of anaemia.
[a] Based on proportion with blood haemoglobin concentration <120 g/L.
[b] Estimates are for former Sudan, consistent with the situation from 1 January to 6 July 2011.

Table A3.3. Country estimates for pregnant women aged 15–49 years

Country	Mean blood haemoglobin concentration (g/L)		Percentage of pregnant women with blood haemoglobin concentration <110 g/L		Percentage of pregnant women with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Afghanistan	*111*	*104 to 119*	*44*	*24 to 66*	*1.2*	*0.3 to 3.2*	*Severe*
Albania	119	115 to 124	22	14 to 32	0.3	0.0 to 0.9	Moderate
Algeria	*116*	*107 to 125*	*31*	*15 to 57*	*0.4*	*0.1 to 1.6*	*Moderate*
Andorra	*118*	*111 to 126*	*24*	*11 to 45*	*0.2*	*0.0 to 0.8*	*Moderate*
Angola	111	105 to 117	47	29 to 63	1.1	0.3 to 2.6	Severe
Antigua and Barbuda	*118*	*108 to 127*	*29*	*11 to 57*	*0.4*	*0.1 to 1.5*	*Moderate*
Argentina	118	108 to 129	28	10 to 55	0.4	0.0 to 1.5	Moderate
Armenia	118	110 to 125	28	14 to 50	0.3	0.0 to 0.9	Moderate
Australia	*118*	*111 to 126*	*25*	*11 to 47*	*0.2*	*0.0 to 0.9*	*Moderate*
Austria	*118*	*111 to 125*	*25*	*13 to 45*	*0.3*	*0.0 to 1.1*	*Moderate*
Azerbaijan	116	110 to 123	31	18 to 48	0.4	0.1 to 1.1	Moderate
Bahamas (the)	*118*	*108 to 127*	*29*	*12 to 55*	*0.3*	*0.0 to 1.1*	*Moderate*
Bahrain	115	107 to 123	34	17 to 59	0.3	0.0 to 1.1	Moderate
Bangladesh	110	107 to 113	48	37 to 58	0.5	0.2 to 1.0	Severe
Barbados	*119*	*109 to 128*	*28*	*11 to 54*	*0.4*	*0.1 to 1.4*	*Moderate*
Belarus	*119*	*110 to 127*	*24*	*10 to 49*	*0.3*	*0.0 to 1.0*	*Moderate*
Belgium	*118*	*112 to 125*	*24*	*12 to 45*	*0.2*	*0.0 to 0.8*	*Moderate*
Belize	*119*	*110 to 128*	*27*	*11 to 51*	*0.3*	*0.0 to 1.2*	*Moderate*
Benin	105	102 to 108	63	53 to 71	1.7	1.0 to 2.9	Severe
Bhutan	110	104 to 118	46	25 to 67	1.2	0.2 to 4.2	Severe
Bolivia (Plurinational State of)	114	109 to 120	38	24 to 54	0.4	0.2 to 0.9	Moderate
Bosnia and Herzegovina	*118*	*109 to 127*	*27*	*11 to 52*	*0.4*	*0.0 to 1.8*	*Moderate*
Botswana	*118*	*108 to 128*	*32*	*13 to 57*	*0.5*	*0.1 to 1.5*	*Moderate*
Brazil	*116*	*106 to 128*	*32*	*11 to 62*	*0.5*	*0.0 to 2.1*	*Moderate*
Brunei Darussalam	117	109 to 124	28	15 to 52	0.3	0.0 to 1.2	Moderate
Bulgaria	*118*	*110 to 126*	*26*	*12 to 50*	*0.3*	*0.0 to 1.3*	*Moderate*
Burkina Faso	107	104 to 110	58	49 to 65	2.2	1.3 to 3.5	Severe
Burundi	118	112 to 122	30	21 to 45	0.7	0.3 to 1.6	Moderate
Cabo Verde	*113*	*105 to 122*	*42*	*21 to 65*	*1.1*	*0.2 to 3.4*	*Severe*
Cambodia	109	106 to 112	51	41 to 61	0.8	0.4 to 1.6	Severe
Cameroon	110	107 to 113	49	41 to 58	1.0	0.5 to 1.8	Severe
Canada	*119*	*112 to 126*	*23*	*11 to 42*	*0.2*	*0.0 to 0.7*	*Moderate*

Table A3.3. Country estimates for pregnant women aged 15–49 years, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of pregnant women with blood haemoglobin concentration <110 g/L		Percentage of pregnant women with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Central African Republic (the)	109	104 to 117	51	31 to 67	1.7	0.4 to 4.2	Severe
Chad	*109*	*103 to 118*	*51*	*29 to 69*	*2.0*	*0.5 to 5.0*	*Severe*
Chile	*120*	*109 to 131*	*25*	*6 to 54*	*0.3*	*0.0 to 1.1*	*Moderate*
China	120	113 to 127	22	10 to 40	0.2	0.0 to 0.9	Moderate
Colombia	118	111 to 124	30	16 to 48	0.3	0.1 to 0.8	Moderate
Comoros (the)	*116*	*107 to 125*	*35*	*18 to 58*	*1.1*	*0.2 to 3.3*	*Moderate*
Congo (the)	107	104 to 110	59	49 to 69	1.0	0.5 to 1.8	Severe
Costa Rica	120	110 to 129	26	10 to 51	0.4	0.0 to 1.4	Moderate
Côte d'Ivoire	107	103 to 113	57	41 to 69	1.3	0.6 to 2.6	Severe
Croatia	*118*	*110 to 126*	*26*	*12 to 50*	*0.4*	*0.0 to 1.4*	*Moderate*
Cuba	*118*	*109 to 127*	*28*	*11 to 52*	*0.3*	*0.1 to 1.2*	*Moderate*
Cyprus	*116*	*107 to 121*	*31*	*18 to 57*	*0.3*	*0.0 to 1.3*	*Moderate*
Czech Republic (the)	*119*	*111 to 126*	*24*	*11 to 46*	*0.3*	*0.0 to 1.2*	*Moderate*
Democratic People's Republic of Korea (the)	118	111 to 124	27	14 to 47	0.4	0.1 to 1.5	Moderate
Democratic Republic of the Congo (the)	110	105 to 116	49	34 to 63	1.9	0.7 to 3.8	Severe
Denmark	*118*	*111 to 125*	*24*	*12 to 45*	*0.2*	*0.0 to 1.0*	*Moderate*
Djibouti	*117*	*108 to 128*	*32*	*14 to 55*	*0.8*	*0.1 to 2.8*	*Moderate*
Dominica	*117*	*107 to 126*	*32*	*12 to 59*	*0.4*	*0.1 to 1.3*	*Moderate*
Dominican Republic (the)	*117*	*108 to 126*	*32*	*14 to 58*	*0.4*	*0.1 to 1.3*	*Moderate*
Ecuador	*118*	*109 to 127*	*29*	*12 to 54*	*0.4*	*0.1 to 1.3*	*Moderate*
Egypt	116	110 to 122	30	18 to 48	0.3	0.1 to 0.7	Moderate
El Salvador	*118*	*109 to 128*	*28*	*12 to 52*	*0.4*	*0.1 to 1.4*	*Moderate*
Equatorial Guinea	108	104 to 114	53	38 to 67	1.8	0.8 to 3.3	Severe
Eritrea	*115*	*106 to 124*	*36*	*19 to 59*	*1.4*	*0.2 to 4.0*	*Moderate*
Estonia	*118*	*110 to 126*	*26*	*12 to 49*	*0.3*	*0.0 to 1.5*	*Moderate*
Ethiopia	121	117 to 124	23	18 to 31	1.1	0.5 to 1.9	Moderate
Fiji	115	107 to 123	35	18 to 58	1.6	0.2 to 4.3	Moderate
Finland	*118*	*111 to 126*	*24*	*11 to 46*	*0.2*	*0.0 to 1.0*	*Moderate*
France	*118*	*111 to 124*	*25*	*13 to 47*	*0.2*	*0.0 to 1.1*	*Moderate*
Gabon	106	102 to 113	60	42 to 71	2.1	0.7 to 8.3	Severe
Gambia (the)	108	102 to 117	56	29 to 72	1.6	0.5 to 3.9	Severe

Table A3.3. Country estimates for pregnant women aged 15–49 years, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of pregnant women with blood haemoglobin concentration <110 g/L		Percentage of pregnant women with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Georgia	119	112 to 125	25	13 to 43	0.3	0.1 to 0.9	Moderate
Germany	*118*	*111 to 125*	*24*	*12 to 45*	*0.2*	*0.0 to 1.0*	*Moderate*
Ghana	105	102 to 109	62	51 to 70	2.8	0.9 to 5.8	Severe
Greece	*117*	*109 to 124*	*27*	*15 to 51*	*0.3*	*0.0 to 1.2*	*Moderate*
Grenada	*117*	*108 to 126*	*31*	*13 to 56*	*0.5*	*0.1 to 1.6*	*Moderate*
Guatemala	117	109 to 126	30	15 to 54	0.6	0.1 to 1.9	Moderate
Guinea	106	103 to 109	61	52 to 68	2.0	1.1 to 3.2	Severe
Guinea-Bissau	*110*	*103 to 118*	*49*	*27 to 68*	*1.9*	*0.4 to 5.0*	*Severe*
Guyana	117	112 to 121	30	21 to 42	0.6	0.2 to 1.3	Moderate
Haiti	111	107 to 116	48	35 to 59	1.2	0.6 to 2.2	Severe
Honduras	121	114 to 127	22	10 to 38	0.2	0.0 to 0.7	Moderate
Hungary	*118*	*110 to 127*	*25*	*11 to 49*	*0.3*	*0.0 to 1.4*	*Moderate*
Iceland	*119*	*111 to 126*	*23*	*11 to 46*	*0.2*	*0.0 to 0.9*	*Moderate*
India	108	104 to 113	54	37 to 67	1.3	0.5 to 2.8	Severe
Indonesia	117	109 to 123	30	17 to 51	0.5	0.1 to 1.5	Moderate
Iran (Islamic Republic of)	118	111 to 125	26	13 to 46	0.2	0.0 to 0.8	Moderate
Iraq	*117*	*108 to 126*	*31*	*14 to 56*	*0.4*	*0.1 to 1.3*	*Moderate*
Ireland	*118*	*111 to 126*	*24*	*12 to 46*	*0.2*	*0.0 to 1.0*	*Moderate*
Israel	*119*	*111 to 126*	*24*	*11 to 47*	*0.2*	*0.0 to 0.8*	*Moderate*
Italy	*118*	*110 to 124*	*26*	*14 to 48*	*0.3*	*0.0 to 1.0*	*Moderate*
Jamaica	*118*	*108 to 127*	*30*	*12 to 55*	*0.4*	*0.1 to 1.3*	*Moderate*
Japan	116	109 to 121	31	19 to 52	0.5	0.1 to 1.6	Moderate
Jordan	118	115 to 121	27	19 to 37	0.2	0.1 to 0.4	Moderate
Kazakhstan	118	111 to 125	27	14 to 48	0.3	0.0 to 1.1	Moderate
Kenya	117	107 to 131	36	11 to 62	1.2	0.3 to 3.0	Moderate
Kiribati	*118*	*107 to 128*	*29*	*10 to 57*	*0.5*	*0.0 to 1.8*	*Moderate*
Kuwait	*120*	*111 to 128*	*25*	*10 to 48*	*0.2*	*0.0 to 0.7*	*Moderate*
Kyrgyzstan	117	110 to 124	30	16 to 50	0.4	0.1 to 1.3	Moderate
Lao People's Democratic Republic (the)	114	107 to 120	36	21 to 57	1.0	0.2 to 2.7	Moderate
Latvia	*118*	*110 to 127*	*25*	*11 to 49*	*0.3*	*0.0 to 1.3*	*Moderate*
Lebanon	118	110 to 125	27	13 to 49	0.2	0.0 to 0.9	Moderate

Table A3.3. Country estimates for pregnant women aged 15–49 years, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of pregnant women with blood haemoglobin concentration <110 g/L		Percentage of pregnant women with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Lesotho	117	113 to 122	31	21 to 43	0.5	0.2 to 1.0	Moderate
Liberia	108	103 to 116	53	33 to 69	1.7	0.4 to 4.1	Severe
Libya	*118*	*109 to 127*	*28*	*12 to 54*	*0.3*	*0.0 to 1.1*	*Moderate*
Lithuania	*119*	*110 to 127*	*25*	*11 to 49*	*0.3*	*0.0 to 1.3*	*Moderate*
Luxembourg	*118*	*111 to 125*	*24*	*12 to 45*	*0.2*	*0.0 to 1.0*	*Moderate*
Madagascar	116	111 to 121	33	24 to 45	0.9	0.3 to 1.8	Moderate
Malawi	115	111 to 119	37	28 to 47	0.9	0.4 to 1.6	Moderate
Malaysia	*118*	*109 to 127*	*27*	*10 to 52*	*0.4*	*0.0 to 1.3*	*Moderate*
Maldives	113	105 to 119	39	21 to 63	0.6	0.1 to 1.8	Moderate
Mali	105	102 to 110	61	48 to 70	2.5	1.0 to 4.7	Severe
Malta	*118*	*112 to 125*	*24*	*12 to 43*	*0.2*	*0.0 to 0.7*	*Moderate*
Marshall Islands (the)	*118*	*108 to 128*	*28*	*9 to 57*	*0.4*	*0.0 to 1.7*	*Moderate*
Mauritania	*112*	*104 to 122*	*44*	*22 to 66*	*1.3*	*0.3 to 3.8*	*Severe*
Mauritius	117	109 to 127	30	14 to 53	0.6	0.1 to 2.1	Moderate
Mexico	121	117 to 126	21	13 to 31	0.2	0.1 to 0.5	Moderate
Micronesia (Federated States of)	119	108 to 130	27	8 to 56	0.5	0.0 to 2.1	Moderate
Mongolia	120	110 to 130	25	9 to 50	0.3	0.0 to 1.1	Moderate
Montenegro	*118*	*110 to 126*	*26*	*11 to 51*	*0.3*	*0.0 to 1.4*	*Moderate*
Morocco	116	109 to 124	32	17 to 53	0.5	0.1 to 1.7	Moderate
Mozambique	110	106 to 114	48	37 to 59	1.9	0.9 to 3.1	Severe
Myanmar	*115*	*108 to 122*	*33*	*18 to 56*	*0.7*	*0.1 to 2.3*	*Moderate*
Namibia	*116*	*106 to 126*	*34*	*14 to 61*	*0.6*	*0.1 to 1.9*	*Moderate*
Nepal	111	108 to 115	44	33 to 56	0.6	0.3 to 1.3	Severe
Netherlands (the)	*118*	*111 to 125*	*25*	*12 to 46*	*0.2*	*0.0 to 1.0*	*Moderate*
New Zealand	119	112 to 126	23	11 to 44	0.2	0.0 to 0.6	Moderate
Nicaragua	124	113 to 133	20	6 to 44	0.3	0.0 to 1.0	Moderate
Niger (the)	107	104 to 110	57	48 to 66	2.0	1.2 to 3.5	Severe
Nigeria	107	102 to 116	58	36 to 71	1.6	0.4 to 5.4	Severe
Norway	*119*	*111 to 126*	*24*	*11 to 47*	*0.2*	*0.0 to 0.9*	*Moderate*
Oman	115	108 to 122	34	18 to 57	0.4	0.1 to 1.3	Moderate
Pakistan	109	106 to 112	50	41 to 58	2.1	0.9 to 3.3	Severe

Table A3.3. Country estimates for pregnant women aged 15–49 years, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of pregnant women with blood haemoglobin concentration <110 g/L		Percentage of pregnant women with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Panama	118	110 to 126	28	13 to 49	0.3	0.1 to 1.0	Moderate
Papua New Guinea	*114*	*105 to 124*	*37*	*16 to 63*	*1.1*	*0.1 to 3.7*	*Moderate*
Paraguay	*117*	*106 to 128*	*31*	*12 to 61*	*0.5*	*0.0 to 2.1*	*Moderate*
Peru	120	118 to 123	23	18 to 29	0.2	0.1 to 0.4	Moderate
Philippines (the)	116	109 to 123	32	18 to 51	1.2	0.2 to 4.0	Moderate
Poland	*118*	*110 to 127*	*25*	*11 to 49*	*0.3*	*0.0 to 1.3*	*Moderate*
Portugal	*118*	*110 to 125*	*26*	*13 to 47*	*0.3*	*0.0 to 1.2*	*Moderate*
Qatar	*118*	*109 to 126*	*28*	*12 to 53*	*0.2*	*0.0 to 0.8*	*Moderate*
Republic of Korea (the)	117	114 to 120	25	19 to 34	0.1	0.0 to 0.5	Moderate
Republic of Moldova (the)	117	111 to 124	28	16 to 45	0.3	0.0 to 1.0	Moderate
Romania	*118*	*110 to 126*	*26*	*11 to 50*	*0.4*	*0.0 to 1.4*	*Moderate*
Russian Federation (the)	*119*	*111 to 128*	*23*	*8 to 46*	*0.2*	*0.0 to 1.1*	*Moderate*
Rwanda	122	119 to 125	19	14 to 26	0.4	0.2 to 0.9	Mild
Saint Lucia	*117*	*108 to 126*	*32*	*14 to 57*	*0.5*	*0.1 to 1.8*	*Moderate*
Saint Vincent and the Grenadines	*117*	*108 to 127*	*30*	*13 to 55*	*0.4*	*0.1 to 1.4*	*Moderate*
Samoa	119	109 to 129	26	8 to 53	0.4	0.0 to 1.8	Moderate
Sao Tome and Principe	111	106 to 116	47	34 to 61	1.0	0.4 to 2.1	Severe
Saudi Arabia	*113*	*105 to 122*	*40*	*19 to 66*	*0.4*	*0.1 to 1.6*	*Severe*
Senegal	104	103 to 107	63	56 to 69	2.7	1.6 to 3.9	Severe
Serbia	118	110 to 125	27	13 to 50	0.4	0.0 to 1.7	Moderate
Seychelles	*120*	*110 to 130*	*26*	*9 to 50*	*0.4*	*0.1 to 1.6*	*Moderate*
Sierra Leone	112	106 to 118	45	31 to 61	1.4	0.5 to 2.8	Severe
Singapore	*117*	*108 to 124*	*28*	*14 to 54*	*0.3*	*0.0 to 1.1*	*Moderate*
Slovakia	*118*	*110 to 127*	*25*	*10 to 49*	*0.3*	*0.0 to 1.4*	*Moderate*
Slovenia	*118*	*110 to 126*	*25*	*11 to 48*	*0.3*	*0.0 to 1.4*	*Moderate*
Solomon Islands	*116*	*106 to 126*	*33*	*13 to 60*	*0.8*	*0.1 to 3.2*	*Moderate*
Somalia	111	106 to 116	45	32 to 60	2.0	0.7 to 4.4	Severe
South Africa	118	109 to 127	30	13 to 54	0.3	0.1 to 1.1	Moderate
Spain	*118*	*111 to 125*	*25*	*12 to 47*	*0.2*	*0.0 to 0.9*	*Moderate*
Sri Lanka	118	112 to 124	25	15 to 42	0.4	0.0 to 1.5	Moderate
Sudan (former)[b]	116	108 to 124	34	18 to 56	1.0	0.2 to 2.8	Moderate

Table A3.3. Country estimates for pregnant women aged 15–49 years, continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of pregnant women with blood haemoglobin concentration <110 g/L		Percentage of pregnant women with blood haemoglobin concentration <70 g/L		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Suriname	*117*	*108 to 127*	*31*	*13 to 56*	*0.4*	*0.1 to 1.5*	*Moderate*
Swaziland	118	111 to 126	31	17 to 50	0.4	0.1 to 1.0	Moderate
Sweden	*118*	*111 to 125*	*24*	*13 to 44*	*0.2*	*0.0 to 1.0*	*Moderate*
Switzerland	*118*	*110 to 124*	*26*	*13 to 48*	*0.3*	*0.0 to 1.1*	*Moderate*
Syrian Arab Republic	*117*	*108 to 126*	*30*	*13 to 56*	*0.4*	*0.1 to 1.3*	*Moderate*
Tajikistan	*118*	*110 to 124*	*28*	*15 to 49*	*0.3*	*0.1 to 1.0*	*Moderate*
Thailand	117	104 to 126	30	12 to 66	0.6	0.1 to 2.0	Moderate
The former Yugoslav Republic of Macedonia	*118*	*111 to 124*	*26*	*14 to 47*	*0.2*	*0.0 to 0.7*	*Moderate*
Timor-Leste	119	115 to 123	24	16 to 35	0.6	0.2 to 1.4	Moderate
Togo	*107*	*102 to 114*	*58*	*37 to 72*	*1.9*	*0.5 to 4.7*	*Severe*
Tonga	*120*	*108 to 130*	*26*	*7 to 57*	*0.4*	*0.0 to 1.7*	*Moderate*
Trinidad and Tobago	*118*	*108 to 127*	*30*	*12 to 56*	*0.5*	*0.1 to 1.8*	*Moderate*
Tunisia	118	109 to 126	29	12 to 54	0.3	0.1 to 1.2	Moderate
Turkey	*118*	*109 to 127*	*28*	*12 to 53*	*0.3*	*0.0 to 1.2*	*Moderate*
Turkmenistan	117	108 to 125	29	13 to 54	0.4	0.1 to 1.2	Moderate
Uganda	116	112 to 120	34	27 to 45	1.1	0.5 to 2.0	Moderate
Ukraine	*119*	*111 to 127*	*24*	*10 to 47*	*0.3*	*0.0 to 1.1*	*Moderate*
United Arab Emirates (the)	*119*	*110 to 127*	*26*	*11 to 51*	*0.2*	*0.0 to 0.8*	*Moderate*
United Kingdom of Great Britain and Northern Ireland (the)	118	113 to 123	23	15 to 38	0.1	0.0 to 0.4	Moderate
United Republic of Tanzania (the)	109	106 to 113	51	40 to 59	1.8	1.0 to 2.9	Severe
United States of America (the)	121	119 to 125	17	11 to 21	0.0	0.0 to 0.2	Mild
Uruguay	*118*	*107 to 129*	*29*	*9 to 58*	*0.4*	*0.0 to 1.7*	*Moderate*
Uzbekistan	114	106 to 121	35	19 to 61	0.4	0.1 to 1.1	Moderate
Vanuatu	118	111 to 125	27	13 to 47	0.2	0.0 to 1.0	Moderate
Venezuela (Bolivarian Republic of)	*119*	*109 to 128*	*27*	*11 to 52*	*0.3*	*0.0 to 1.1*	*Moderate*
Viet Nam	120	114 to 126	23	12 to 39	0.4	0.1 to 1.4	Moderate
Yemen	*115*	*106 to 124*	*36*	*17 to 62*	*0.8*	*0.1 to 2.7*	*Moderate*
Zambia	116	108 to 124	36	19 to 56	1.0	0.2 to 2.8	Moderate
Zimbabwe	116	112 to 120	34	25 to 46	0.5	0.2 to 1.0	Moderate

CI: credibility interval.
Countries in italics do not have national or subnational data on the prevalence of anaemia.
[a] Based on proportion with blood haemoglobin concentration <110 g/L.
[b] Estimates are for former Sudan, consistent with the situation from 1 January to 6 July 2011.

Table A3.4 Country estimates for all women of reproductive age (15–49 years)

Country	Mean blood haemoglobin concentration (g/L)		Percentage of women with anaemia (blood haemoglobin concentration <120 g/L for non-pregnant women and <110 g/L for pregnant women)		Percentage of women with severe anaemia (blood haemoglobin concentration <80 g/L for non-pregnant women and <70 g/L for pregnant women)		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Afghanistan	124	116 to 131	33	16 to 54	1.7	0.3 to 4.6	Moderate
Albania	128	123 to 131	22	12 to 36	0.5	0.2 to 1.3	Moderate
Algeria	*125*	*116 to 132*	*33*	*14 to 55*	*1.3*	*0.2 to 4.3*	*Moderate*
Andorra	*129*	*122 to 135*	*17*	*8 to 39*	*0.5*	*0.0 to 1.7*	*Mild*
Angola	120	115 to 126	45	28 to 58	1.1	0.3 to 2.6	Severe
Antigua and Barbuda	*128*	*119 to 135*	*25*	*10 to 50*	*1.0*	*0.1 to 3.4*	*Moderate*
Argentina	130	123 to 138	16	7 to 34	0.5	0.0 to 2.1	Mild
Armenia	127	120 to 133	26	12 to 47	0.7	0.1 to 2.2	Moderate
Australia	*129*	*121 to 135*	*17*	*8 to 41*	*0.5*	*0.0 to 1.8*	*Mild*
Austria	*129*	*121 to 134*	*19*	*9 to 42*	*0.6*	*0.1 to 2.4*	*Mild*
Azerbaijan	124	118 to 129	33	17 to 50	1.1	0.3 to 2.9	Moderate
Bahamas (the)	*129*	*119 to 136*	*23*	*9 to 50*	*0.7*	*0.1 to 2.4*	*Moderate*
Bahrain	123	115 to 131	38	16 to 58	0.9	0.1 to 2.8	Moderate
Bangladesh	121	119 to 124	43	35 to 50	0.7	0.3 to 1.3	Severe
Barbados	*129*	*119 to 137*	*23*	*9 to 48*	*0.9*	*0.1 to 3.1*	*Moderate*
Belarus	*128*	*119 to 134*	*22*	*9 to 48*	*0.5*	*0.0 to 2.0*	*Moderate*
Belgium	*129*	*120 to 134*	*18*	*8 to 45*	*0.5*	*0.0 to 2.1*	*Mild*
Belize	*129*	*120 to 137*	*22*	*8 to 46*	*0.8*	*0.1 to 2.8*	*Moderate*
Benin	118	115 to 124	50	35 to 60	1.4	0.9 to 2.2	Severe
Bhutan	120	112 to 128	44	22 to 63	2.2	0.4 to 7.9	Severe
Bolivia (Plurinational State of)	125	119 to 130	32	19 to 47	1.0	0.4 to 2.0	Moderate
Bosnia and Herzegovina	*127*	*119 to 134*	*24*	*10 to 49*	*0.8*	*0.1 to 3.0*	*Moderate*
Botswana	127	118 to 135	29	12 to 50	1.4	0.2 to 4.1	Moderate
Brazil	*129*	*120 to 138*	*20*	*7 to 47*	*0.8*	*0.1 to 3.0*	*Moderate*
Brunei Darussalam	128	120 to 132	20	10 to 42	0.7	0.1 to 2.4	Moderate
Bulgaria	*127*	*120 to 133*	*24*	*10 to 47*	*0.6*	*0.1 to 2.4*	*Moderate*
Burkina Faso	118	114 to 121	50	40 to 58	2.4	1.5 to 3.5	Severe
Burundi	130	126 to 134	21	14 to 31	0.7	0.3 to 1.5	Moderate
Cabo Verde	*123*	*115 to 132*	*38*	*16 to 58*	*1.1*	*0.2 to 3.7*	*Moderate*
Cambodia	121	118 to 124	44	34 to 51	1.0	0.5 to 1.7	Severe
Cameroon	121	118 to 124	42	34 to 49	1.4	0.9 to 2.2	Severe

Table A3.4 Country estimates for all women of reproductive age (15–49 years), continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of women with anaemia (blood haemoglobin concentration <120 g/L for non-pregnant women and <110 g/L for pregnant women)		Percentage of women with severe anaemia (blood haemoglobin concentration <80 g/L for non-pregnant women and <70 g/L for pregnant women)		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Canada	*130*	*122 to 135*	*17*	*8 to 38*	*0.4*	*0.0 to 1.6*	*Mild*
Central African Republic (the)	119	113 to 127	46	26 to 62	1.9	0.4 to 4.9	Severe
Chad	*119*	*111 to 127*	*47*	*25 to 65*	*2.3*	*0.5 to 6.2*	*Severe*
Chile	132	126 to 139	12	5 to 28	0.3	0.0 to 1.4	Mild
China	129	122 to 135	20	8 to 41	0.3	0.0 to 1.3	Moderate
Colombia	130	123 to 136	19	10 to 37	0.5	0.1 to 1.5	Mild
Comoros (the)	*126*	*116 to 134*	*31*	*13 to 54*	*1.4*	*0.2 to 4.0*	*Moderate*
Congo	118	115 to 123	51	36 to 60	1.1	0.7 to 1.7	Severe
Costa Rica	130	122 to 136	19	8 to 42	0.8	0.1 to 3.1	Mild
Côte d'Ivoire	119	115 to 123	49	36 to 59	1.5	0.8 to 2.4	Severe
Croatia	127	120 to 133	25	10 to 48	0.7	0.1 to 2.6	Moderate
Cuba	128	119 to 136	23	9 to 49	0.8	0.1 to 2.7	Moderate
Cyprus	125	116 to 131	28	11 to 55	0.8	0.1 to 2.7	Moderate
Czech Republic (the)	*128*	*120 to 134*	*23*	*9 to 46*	*0.5*	*0.0 to 2.1*	*Moderate*
Democratic People's Republic of Korea (the)	127	121 to 133	25	11 to 46	0.5	0.0 to 2.1	Moderate
Democratic Republic of the Congo (the)	118	112 to 124	49	34 to 64	2.4	1.1 to 4.6	Severe
Denmark	*129*	*121 to 135*	*18*	*8 to 42*	*0.5*	*0.0 to 2.0*	*Mild*
Djibouti	*128*	*118 to 137*	*27*	*9 to 51*	*1.0*	*0.1 to 3.5*	*Moderate*
Dominica	*128*	*118 to 136*	*25*	*10 to 53*	*0.9*	*0.1 to 3.2*	*Moderate*
Dominican Republic (the)	*127*	*118 to 135*	*26*	*10 to 52*	*1.0*	*0.1 to 3.2*	*Moderate*
Ecuador	*128*	*119 to 136*	*24*	*10 to 49*	*0.9*	*0.1 to 3.0*	*Moderate*
Egypt	124	118 to 130	35	16 to 52	0.7	0.2 to 1.8	Moderate
El Salvador	129	119 to 136	23	9 to 48	0.9	0.1 to 3.3	*Moderate*
Equatorial Guinea	119	115 to 126	45	28 to 60	1.9	1.0 to 3.1	Severe
Eritrea	*125*	*116 to 134*	*33*	*13 to 55*	*1.7*	*0. to 5.14*	*Moderate*
Estonia	*127*	*120 to 134*	*24*	*10 to 48*	*0.6*	*0.1 to 2.7*	*Moderate*
Ethiopia	131	128 to 134	19	14 to 26	1.1	0.6 to 1.8	Mild
Fiji	125	121 to 128	27	18 to 36	2.6	0.7 to 5.3	Moderate
Finland	*129*	*121 to 135*	*18*	*8 to 42*	*0.5*	*0.0 to 2.1*	*Mild*
France	*129*	*121 to 134*	*19*	*9 to 43*	*0.6*	*0.1 to 2.3*	*Mild*

Table A3.4 Country estimates for all women of reproductive age (15–49 years), continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of women with anaemia (blood haemoglobin concentration <120 g/L for non-pregnant women and <110 g/L for pregnant women)		Percentage of women with severe anaemia (blood haemoglobin concentration <80 g/L for non-pregnant women and <70 g/L for pregnant women)		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Gabon	117	112 to 124	51	32 to 65	2.1	1.2 to 3.2	Severe
Gambia (the)	120	112 to 128	45	24 to 65	1.8	0.4 to 4.5	Severe
Georgia	126	120 to 132	28	13 to 46	0.8	0.2 to 2.3	Moderate
Germany	*129*	*121 to 135*	*18*	*9 to 41*	*0.6*	*0.0 to 2.5*	*Mild*
Ghana	115	110 to 120	56	43 to 67	3.5	1.1 to 7.6	Severe
Greece	128	120 to 133	20	10 to 45	0.7	0.1 to 2.4	Moderate
Grenada	*127*	*118 to 135*	*26*	*10 to 51*	*1.1*	*0.1 to 3.5*	*Moderate*
Guatemala	128	119 to 135	26	11 to 46	1.3	0.2 to 4.3	Moderate
Guinea	118	114 to 123	48	35 to 60	2.1	1.4 to 3.0	Severe
Guinea-Bissau	*120*	*112 to 128*	*45*	*23 to 65*	*2.1*	*0.4 to 6.1*	*Severe*
Guyana	124	120 to 128	34	23 to 45	1.5	0.7 to 2.7	Moderate
Haiti	123	117 to 129	37	24 to 52	2.4	1.6 to 3.4	Moderate
Honduras	131	124 to 137	18	8 to 36	0.6	0.1 to 1.9	Mild
Hungary	*127*	*120 to 133*	*24*	*10 to 48*	*0.6*	*0.1 to 2.6*	*Moderate*
Iceland	*129*	*122 to 135*	*17*	*8 to 40*	*0.4*	*0.0 to 3.0*	*Mild*
India	118	113 to 125	48	30 to 64	2.4	0.8 to 5.3	Severe
Indonesia	127	123 to 130	23	13 to 37	0.6	0.2 to 1.5	Moderate
Iran (Islamic Republic of)	126	119 to 133	28	13 to 48	0.8	0.1 to 2.6	Moderate
Iraq	*125*	*116 to 134*	*31*	*12 to 54*	*1.1*	*0.2 to 3.8*	*Moderate*
Ireland	*129*	*122 to 135*	*17*	*8 to 40*	*0.5*	*0.1 to 2.2*	*Mild*
Israel	*129*	*121 to 134*	*17*	*9 to 40*	*0.4*	*0.0 to 1.7*	*Mild*
Italy	*128*	*121 to 134*	*19*	*9 to 43*	*0.6*	*0.1 to 2.5*	*Mild*
Jamaica	*128*	*119 to 136*	*24*	*9 to 51*	*0.9*	*0.1 to 3.0*	*Moderate*
Japan	127	122 to 130	22	13 to 37	1.1	0.3 to 2.8	Moderate
Jordan	126	123 to 129	28	21 to 37	0.5	0.2 to 0.9	Moderate
Kazakhstan	126	119 to 132	30	13 to 50	0.9	0.1 to 3.0	Moderate
Kenya	131	116 to 141	25	6 to 57	1.6	0.4 to 3.7	Moderate
Kiribati	*128*	*120 to 135*	*21*	*9 to 46*	*0.7*	*0.0 to 2.9*	*Moderate*
Kuwait	129	121 to 136	22	9 to 43	0.5	0.1 to 2.0	Moderate
Kyrgyzstan	124	118 to 131	32	15 to 51	1.2	0.2 to 3.6	Moderate

Table A3.4 Country estimates for all women of reproductive age (15–49 years), continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of women with anaemia (blood haemoglobin concentration <120 g/L for non-pregnant women and <110 g/L for pregnant women)		Percentage of women with severe anaemia (blood haemoglobin concentration <80 g/L for non-pregnant women and <70 g/L for pregnant women)		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Lao People's Democratic Republic (the)	124	118 to 130	31	16 to 50	1.3	0.3 to 3.6	Moderate
Latvia	*128*	*119 to 134*	*24*	*10 to 49*	*0.6*	*0.1 to 2.5*	*Moderate*
Lebanon	126	119 to 133	27	12 to 48	0.7	0.1 to 2.6	Moderate
Lesotho	128	123 to 132	27	17 to 39	1.4	0.7 to 2.5	Moderate
Liberia	118	112 to 125	49	29 to 64	1.8	0.4 to 4.6	Severe
Libya	*126*	*117 to 134*	*28*	*11 to 53*	*0.9*	*0.1 to 3.3*	*Moderate*
Lithuania	*128*	*120 to 134*	*23*	*9 to 48*	*0.6*	*0.0 to 2.2*	*Moderate*
Luxembourg	*129*	*122 to 135*	*18*	*8 to 40*	*0.5*	*0.0 to 2.0*	*Mild*
Madagascar	125	120 to 130	32	19 to 45	0.9	0.3 to 1.8	Moderate
Malawi	127	123 to 130	29	21 to 38	1.3	0.7 to 2.1	Moderate
Malaysia	*128*	*121 to 134*	*21*	*9 to 45*	*0.5*	*0.0 to 1.7*	*Moderate*
Maldives	123	119 to 128	37	21 to 51	0.6	0.1 to 1.9	Moderate
Mali	115	111 to 121	56	42 to 67	2.8	1.2 to 5.2	Severe
Malta	*129*	*122 to 134*	*17*	*8 to 40*	*0.4*	*0.0 to 1.8*	*Mild*
Marshall Islands (the)	*129*	*120 to 135*	*20*	*8 to 44*	*0.6*	*0.0 to 2.9*	*Moderate*
Mauritania	*122*	*114 to 132*	*39*	*17 to 60*	*1.4*	*0.2 to 4.4*	*Moderate*
Mauritius	130	119 to 138	23	8 to 50	0.6	0.1 to 2.5	Moderate
Mexico	134	129 to 138	14	8 to 24	0.5	0.2 to 1.2	Mild
Micronesia (Federated States of)	129	122 to 135	18	9 to 38	0.7	0.0 to 3.2	Mild
Mongolia	131	122 to 140	20	7 to 43	0.8	0.1 to 2.7	Moderate
Montenegro	*127*	*119 to 133*	*24*	*10 to 49*	*0.6*	*0.1 to 2.4*	*Moderate*
Morocco	125	117 to 132	33	15 to 54	1.5	0.2 to 4.6	Moderate
Mozambique	120	115 to 127	44	29 to 57	2.5	1.4 to 3.6	Severe
Myanmar	125	118 to 131	30	14 to 51	0.9	0.1 to 3.0	Moderate
Namibia	*125*	*114 to 135*	*33*	*13 to 58*	*1.7*	*0.3 to 5.1*	*Moderate*
Nepal	124	121 to 127	36	28 to 44	0.8	0.4 to 1.4	Moderate
Netherlands (the)	*129*	*121 to 135*	*18*	*8 to 42*	*0.5*	*0.1 to 2.2*	*Mild*
New Zealand	130	124 to 136	15	8 to 32	0.4	0.0 to 1.3	Mild
Nicaragua	132	126 to 138	13	6 to 27	0.6	0.1 to 2.1	Mild
Niger (the)	119	115 to 124	47	34 to 58	2.1	1.4 to 3.2	Severe

Table A3.4 Country estimates for all women of reproductive age (15–49 years), continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of women with anaemia (blood haemoglobin concentration <120 g/L for non-pregnant women and <110 g/L for pregnant women)		Percentage of women with severe anaemia (blood haemoglobin concentration <80 g/L for non-pregnant women and <70 g/L for pregnant women)		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Nigeria	118	109 to 128	49	24 to 71	2.1	0.5 to 6.9	Severe
Norway	*129*	*121 to 135*	*17*	*8 to 41*	*0.5*	*0.0 to 2.0*	*Mild*
Oman	123	117 to 130	35	17 to 55	1.0	0.2 to 3.3	Moderate
Pakistan	117	114 to 120	51	43 to 58	3.4	1.5 to 4.8	Severe
Panama	128	120 to 135	25	10 to 46	0.6	0.1 to 2.2	Moderate
Papua New Guinea	*125*	*116 to 132*	*30*	*12 to 53*	*1.8*	*0.2 to 5.9*	*Moderate*
Paraguay	*129*	*120 to 138*	*19*	*7 to 45*	*0.8*	*0.1 to 2.9*	*Mild*
Peru	130	128 to 132	18	15 to 23	0.5	0.4 to 0.8	Mild
Philippines (the)	126	119 to 131	25	13 to 44	1.6	0.2 to 5.4	Moderate
Poland	*128*	*120 to 134*	*23*	*9 to 48*	*0.6*	*0.1 to 2.4*	*Moderate*
Portugal	*129*	*121 to 135*	*19*	*8 to 44*	*0.7*	*0.1 to 2.7*	*Mild*
Qatar	*126*	*118 to 133*	*28*	*11 to 52*	*0.7*	*0.1 to 2.4*	*Moderate*
Republic of Korea (the)	128	125 to 130	19	14 to 28	0.4	0.2 to 0.9	Mild
Republic of Moldova (the)	127	120 to 132	26	12 to 46	0.6	0.1 to 1.7	Moderate
Romania	*127*	*119 to 133*	*24*	*10 to 49*	*0.7*	*0.1 to 2.4*	*Moderate*
Russian Federation (the)	*128*	*120 to 135*	*21*	*9 to 46*	*0.5*	*0.0 to 1.9*	*Moderate*
Rwanda	132	129 to 135	17	12 to 24	0.5	0.2 to 0.9	Mild
Saint Lucia	*127*	*117 to 135*	*26*	*11 to 53*	*1.2*	*0.2 to 4.0*	*Moderate*
Saint Vincent and the Grenadines	*128*	*118 to 136*	*25*	*10 to 51*	*1.0*	*0.1 to 3.3*	*Moderate*
Samoa	129	122 to 135	18	8 to 39	0.6	0.0 to 2.6	Mild
Sao Tome and Principe	121	117 to 126	43	28 to 55	1.2	0.5 to 2.4	Severe
Saudi Arabia	*121*	*112 to 130*	*40*	*18 to 65*	*1.4*	*0.2 to 4.1*	*Severe*
Senegal	115	112 to 117	57	51 to 63	3.4	2.3 to 5.0	Severe
Serbia	127	120 to 133	25	11 to 47	0.8	0.1 to 3.1	Moderate
Seychelles	*130*	*121 to 138*	*21*	*7 to 46*	*0.5*	*0.1 to 1.9*	*Moderate*
Sierra Leone	120	114 to 125	45	30 to 59	1.7	0.8 to 3.1	Severe
Singapore	*127*	*118 to 132*	*22*	*10 to 51*	*0.7*	*0.1 to 2.6*	*Moderate*
Slovakia	*128*	*119 to 134*	*23*	*10 to 50*	*0.6*	*0.1 to 2.5*	*Moderate*
Slovenia	*127*	*119 to 134*	*24*	*10 to 50*	*0.6*	*0.1 to 2.6*	*Moderate*
Solomon Islands	*126*	*118 to 134*	*25*	*10 to 50*	*1.2*	*0.1 to 4.9*	*Moderate*

Table A3.4 Country estimates for all women of reproductive age (15–49 years), continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of women with anaemia (blood haemoglobin concentration <120 g/L for non-pregnant women and <110 g/L for pregnant women)		Percentage of women with severe anaemia (blood haemoglobin concentration <80 g/L for non-pregnant women and <70 g/L for pregnant women)		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Somalia	120	115 to 125	43	29 to 55	2.6	1.0 to 5.5	Severe
South Africa	127	120 to 135	28	12 to 47	1.1	0.2 to 3.1	Moderate
Spain	*129*	*121 to 135*	*18*	*8 to 42*	*0.6*	*0.1 to 2.1*	*Mild*
Sri Lanka	126	119 to 131	26	12 to 46	0.7	0.1 to 2.2	Moderate
Sudan (former)[b]	126	117 to 133	31	14 to 52	1.1	0.2 to 3.6	Moderate
Suriname	*128*	*119 to 136*	*25*	*10 to 50*	*1.0*	*0.1 to 3.4*	*Moderate*
Swaziland	127	120 to 134	28	14 to 47	1.0	0.3 to 2.4	Moderate
Sweden	*129*	*121 to 135*	*18*	*8 to 42*	*0.5*	*0.0 to 2.1*	*Mild*
Switzerland	*129*	*120 to 134*	*19*	*9 to 44*	*0.6*	*0.1 to 2.3*	*Mild*
Syrian Arab Republic	*125*	*116 to 133*	*31*	*12 to 55*	*1.0*	*0.1 to 3.7*	*Moderate*
Tajikistan	127	122 to 132	25	15 to 39	0.9	0.3 to 1.9	Moderate
Thailand	127	114 to 132	24	10 to 58	0.9	0.1 to 3.4	Moderate
The former Yugoslav Republic of Macedonia	129	126 to 133	19	13 to 27	0.3	0.1 to 0.8	Mild
Timor-Leste	127	124 to 131	22	14 to 33	0.7	0.3 to 1.5	Moderate
Togo	*117*	*108 to 125*	*53*	*30 to 74*	*2.5*	*0.6 to 6.4*	*Severe*
Tonga	*129*	*120 to 136*	*19*	*7 to 43*	*0.6*	*0.0 to 2.9*	*Mild*
Trinidad and Tobago	*128*	*118 to 136*	*25*	*9 to 51*	*1.2*	*0.1 to 4.2*	*Moderate*
Tunisia	126	118 to 134	28	11 to 52	1.0	0.1 to 3.1	Moderate
Turkey	*126*	*118 to 135*	*29*	*11 to 53*	*0.9*	*0.1 to 3.5*	*Moderate*
Turkmenistan	125	116 to 132	32	13 to 56	1.2	0.2 to 3.7	Moderate
Uganda	127	124 to 130	27	21 to 35	1.1	0.6 to 1.8	Moderate
Ukraine	*128*	*120 to 134*	*23*	*9 to 48*	*0.5*	*0.1 to 2.3*	*Moderate*
United Arab Emirates (the)	*127*	*119 to 134*	*26*	*11 to 51*	*0.6*	*0.1 to 2.2*	*Moderate*
United Kingdom of Great Britain and Northern Ireland (the)	130	126 to 134	15	9 to 28	0.2	0.0 to 0.8	Mild
United Republic of Tanzania (the)	121	118 to 125	40	30 to 48	2.0	1.1 to 3.1	Severe
United States of America (the)	132	130 to 134	12	9 to 16	0.2	0.1 to 0.4	Mild
Uruguay	*130*	*121 to 138*	*17*	*6 to 43*	*0.6*	*0.0 to 2.3*	*Mild*
Uzbekistan	118	112 to 129	52	21 to 67	1.1	0.2 to 3.2	Severe
Vanuatu	128	122 to 132	22	10 to 39	0.2	0.0 to 1.1	Moderate

Table A3.4 Country estimates for all women of reproductive age (15–49 years), continued

Country	Mean blood haemoglobin concentration (g/L)		Percentage of women with anaemia (blood haemoglobin concentration <120 g/L for non-pregnant women and <110 g/L for pregnant women)		Percentage of women with severe anaemia (blood haemoglobin concentration <80 g/L for non-pregnant women and <70 g/L for pregnant women)		Level of public health significance[a]
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	
Venezuela (Bolivarian Republic of)	*129*	*120 to 136*	*22*	*9 to 47*	*0.7*	*0.1 to 2.6*	*Moderate*
Viet Nam	131	127 to 135	14	10 to 25	0.4	0.1 to 1.3	Mild
Yemen	*122*	*112 to 132*	*38*	*16 to 62*	*2.2*	*0.3 to 6.5*	*Moderate*
Zambia	126	119 to 133	29	14 to 48	1.1	0.2 to 3.3	Moderate
Zimbabwe	127	123 to 131	28	21 to 38	1.5	0.9 to 2.4	Moderate

CI: credibility interval.
Countries in italics do not have national or subnational data on the prevalence of anaemia.
[a] Based on proportion of non-pregnant women with blood haemoglobin concentration <120 g/L and pregnant women with blood haemoglobin concentration <110g/L.
[b] Estimates are for former Sudan, consistent with the situation from 1 January to 11 July 2011.

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