

**WEEKLY IRON AND
FOLIC ACID SUPPLEMENTATION
AS AN ANAEMIA-PREVENTION STRATEGY
IN WOMEN AND ADOLESCENT GIRLS**

LESSONS LEARNT FROM IMPLEMENTATION OF
PROGRAMMES AMONG NON-PREGNANT WOMEN
OF REPRODUCTIVE AGE

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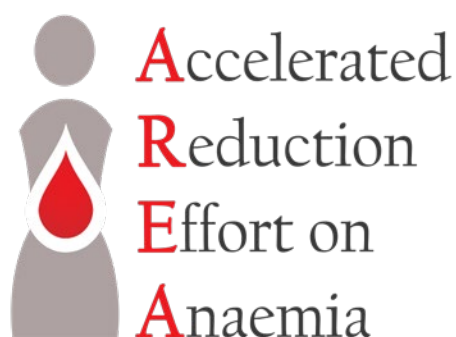
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Abbreviations

AREA	Accelerated Reduction Effort on Anaemia
CDC	United States Centers for Disease Control and Prevention
CoP	Community of Practice
GAIN	Global Alliance for Improved Nutrition
GIFTS	Girls Iron Folate Tablet Supplementation
HRP	Humanitarian Response Plans
IFA	Iron and Folic Acid
NiE	Nutrition in Emergencies
SABLA	Rajiv Gandhi Scheme for the Empowerment of Adolescent Girls
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WIFS	Weekly Iron and Folic Acid Supplementation
YLD	Years lived with disability

Preface

This brief aims to reinforce the common understanding among multiple stakeholders of the significance of investing in the weekly iron and folic acid supplementation (WIFS) programme for non-pregnant women of reproductive age, including adolescent girls and adult women. For the purpose of this brief, further mention of women of reproductive age refers to adolescent girls, young women and adult women with ages ranging from 15 to 49 years of age, unless stated otherwise.

The barriers to be addressed for effective implementation of WIFS programmes are illustrated by drawing lessons from programmatic examples. The WHO recommendations to scale up programmes nationally are also presented. The brief is intended for stakeholders involved in prevention and control of anaemia, including national-level governments, communities, civil society, United Nations regional and country offices and the private sector, to seize the opportunity to increase investment and effectively implement WIFS as a preventative strategy to achieve the global nutrition target of reducing anaemia by 50% in women of reproductive age by 2025, endorsed by Member States.



Key messages

- It is essential to reinforce the common understanding of the significance of investing in the WIFS programme for non-pregnant women of reproductive age, including adolescent girls and young women aged 15–19 years, and adult women aged 20–49 years among multiple stakeholders.
- The number of non-pregnant women of reproductive age worldwide suffering from anaemia increased from 464 million in 2000 to 578 million in 2016. The condition persists as a moderate to severe public health problem in 141 countries. The regions of Africa and South-East Asia are reported to have the highest prevalence, at over 35%, and require increased efforts to address this problem.
- The costs of not investing in prevention would result in 265 million more cases of anaemia in women worldwide in 2025 than in 2015 and nearly 800 000 more child deaths and 7000–14 000 more maternal deaths.
- Although countries with higher levels of anaemia prevalence (20% or higher) are more likely to have a favourable policy environment (including policy goals and coordination mechanisms) to support anaemia-reduction programmes, no country is on course to reduce anaemia among women of reproductive age to achieve the global target by the year 2025.
- WIFS is estimated to lead to an average 27% reduction of anaemia among non-pregnant women, and is one of the core set of primary interventions for preventing anaemia that have a strong evidence base for effectiveness, with the potential to be scaled up to reach all women.
- WIFS programmes need to be built into the health, nutrition and development policy frameworks; and the political, structural, social, and programmatic constraints in translating the policy guidance into action need to be identified and resolved.
- Successful implementation of a WIFS programme requires a multitude of actions and a concerted effort of multiple sectors, in addition to the health sector, to address the social, economic and cultural factors that contribute to the cause, prevention and control of anaemia.



BACKGROUND

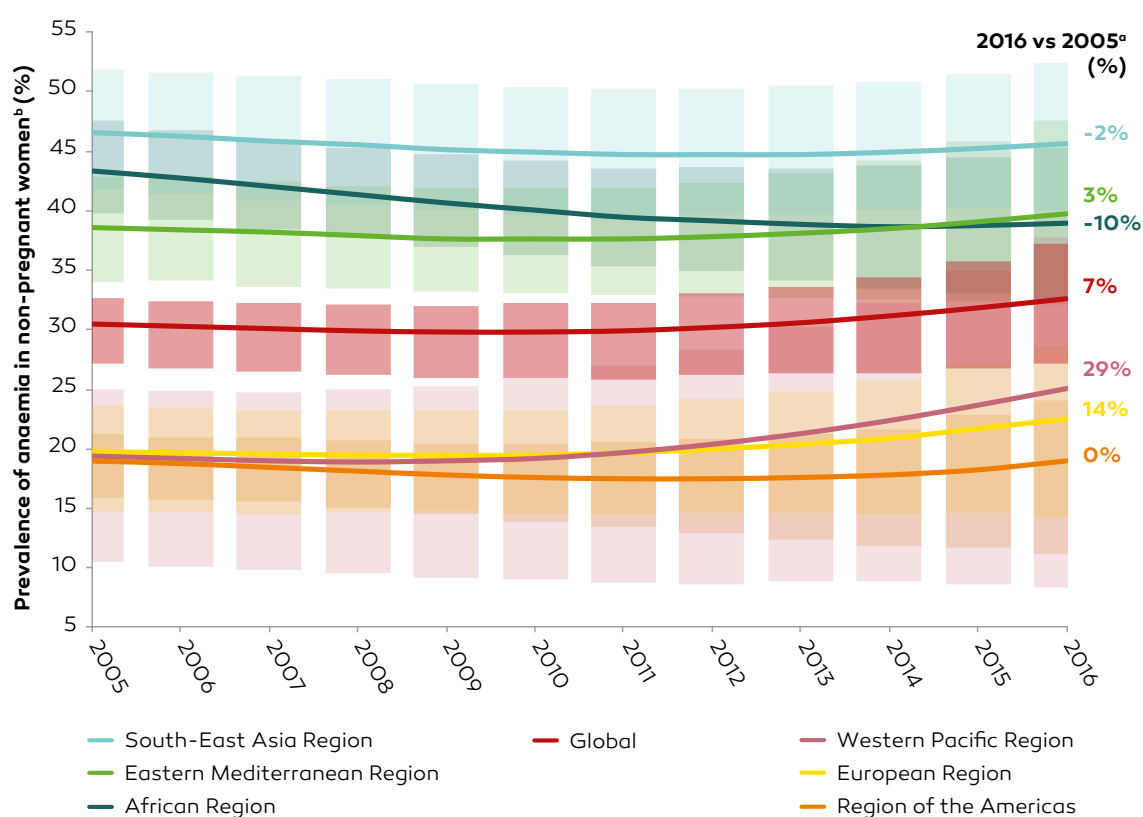


The prevalence of anaemia in women of reproductive age

Anaemia affects one third of women of reproductive age (15–49 years) worldwide (33%) (1). It is a condition characterized mainly by low blood haemoglobin concentration, which decreases the capacity of the blood to carry oxygen to tissues and results in symptoms such as fatigue and reduced capacity for physical work (2). Anaemia in pregnancy has been associated with negative outcomes, including maternal mortality, low birth weight and premature birth (3–5).

The prevalence of anaemia among non-pregnant women of reproductive age has been consistent in the last two decades with about one-third of the women being affected (yearly estimates ranging from 29.4% to 33.3%). As the global population continues to increase, the number of women with anaemia increases every day (see Fig. 1).

Fig. 1. The prevalence of anaemia among all women of reproductive age (15–49 years), worldwide and by WHO region, 2005–2016



^a Difference in anaemia prevalence between 2016 and 2005.

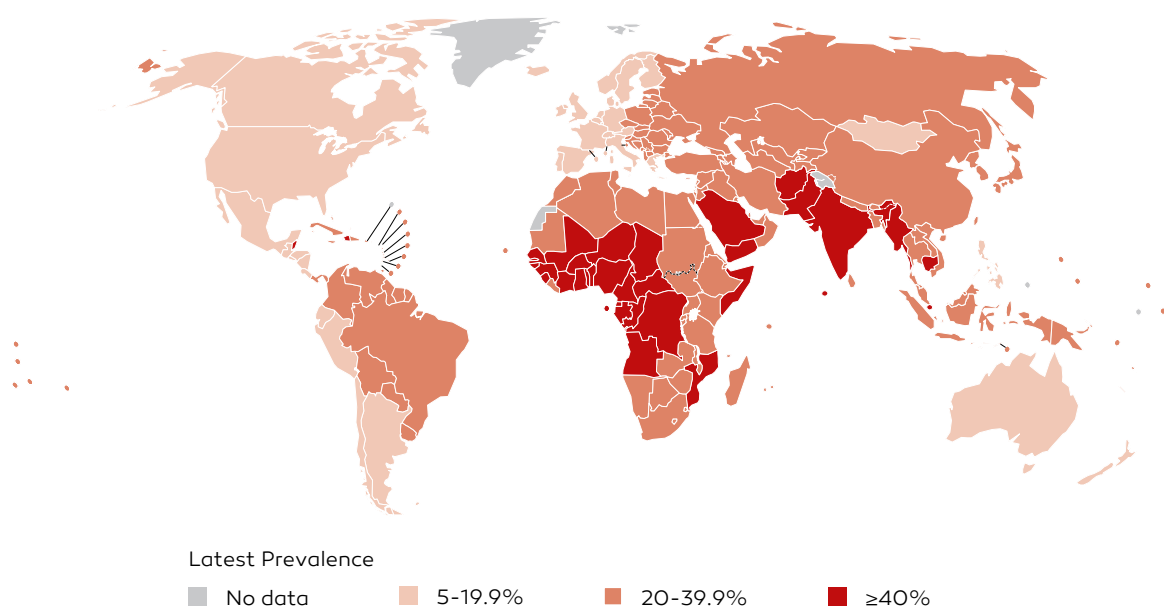
^b The shaded area of the column in the graph indicates the 95% confidence interval.

Source: WHO. Global Health Observatory (GHO) data repository (6).

The number of non-pregnant women of reproductive age worldwide suffering from anaemia increased from 464 million in 2000 to 578 million in 2016 (6). The condition persists as a moderate to severe public health problem in 141 countries (7).¹ WHO regions of Africa, South-East Asia and the Eastern Mediterranean are reported to have the highest prevalence, at over 35%, and require increased efforts to address this problem (6) (see Fig. 2).

¹ Anaemia is categorized as moderate public health problem when the prevalence is 20–39.9% (n = 109 countries); and as a severe public health problem when the prevalence is 40% or higher (n = 32 countries) (8).

Fig. 2. The prevalence of anaemia among non-pregnant women of reproductive age worldwide (%), classified by country, 2016



Source: Map reproduced from the WHO 2025 Global targets tracking tool (8).

Causes and costs of anaemia

Anaemia was estimated to account for more than 68 million years lived with disability (YLD)¹ worldwide in 2010, more than the estimate for major depression, chronic respiratory diseases and injuries combined (9). The most common cause of this disease burden in women of reproductive age is iron deficiency due to menstrual losses and diets that often lack sufficient iron in a bioavailable form to ensure proper absorption (10). Iron deficiency is the main cause of disability among adolescent girls aged 10–19 years (11). In 2016, iron deficiency anaemia was one of the main conditions contributing to higher rates of YLD in all women compared to men (12). Most cases of anaemia among women are amenable to iron supplementation (13). The costs of not investing in prevention would result in 265 million more cases of anaemia in women worldwide in 2025 than in 2015 and nearly 800 000 more child deaths and 7000–14 000 more maternal deaths (14).

Targets for prevention of anaemia in women of reproductive age

Anaemia among women of reproductive age can be easily prevented through relatively low-cost interventions that provide positive returns on investment and reduce its significant mortality costs. Iron and folic acid (IFA) supplements taken once a week can reduce the risk of anaemia among non-pregnant women of reproductive age (15). However, it is advisable to conduct a study on the etiology of anaemia in any given location, to confirm whether iron deficiency is a major contributor to anaemia, and to ensure that the targets and expectations for reduction of anaemia are relevant and accurate. The supplementation programme should also be preceded by an evaluation of the existing measures to control iron and folate insufficiency, such as programmes for hookworm control, fortification of staple foods and promotion of an adequate diet. In populations with a high

¹Years lived with disability (YLD) are described as years lived in less than ideal health owing to a certain health condition. YLD is measured by taking the prevalence of the condition multiplied by the disability weight for that condition.

incidence of infection and/or inflammation, it is important to bear in mind that progress towards anaemia reduction through WIFS will be constrained unless any underlying health issues are addressed simultaneously.

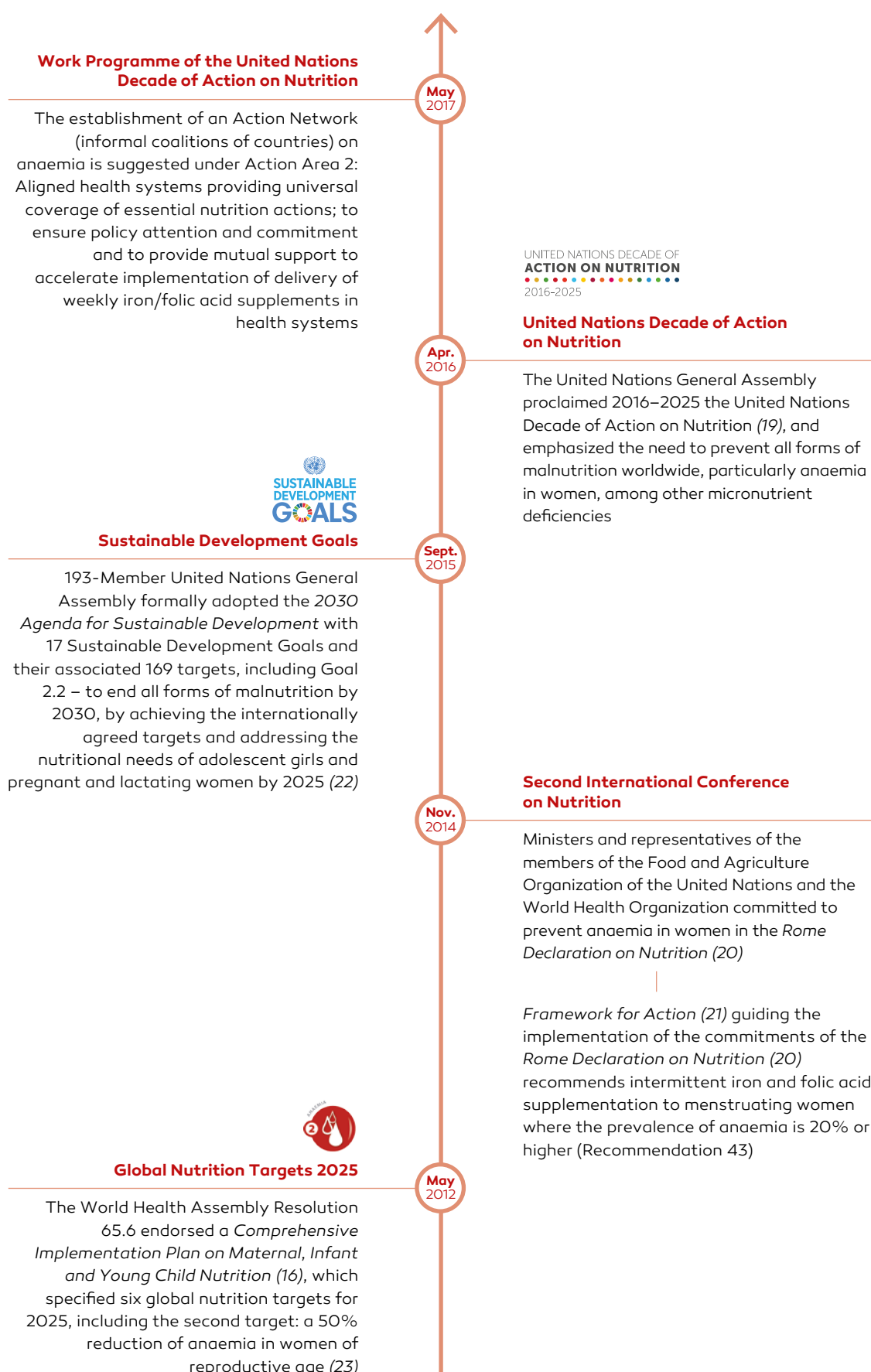
In 2012 the Sixty-fifth World Health Assembly set a series of ambitious global nutrition targets; among these was a target to reduce the prevalence of anaemia among women of reproductive age by 50% by 2025 (16). Despite an increased call to action (see Fig. 3), very little progress has been achieved, with no country on track to meet the target (4).

Recently, WHO, in collaboration with UNICEF analysed the proposal of Member States to align the nutrition targets in the comprehensive implementation plan on maternal, infant and young child nutrition with the targets in the 2030 Agenda for Sustainable Development (17). This analysis indicated that should the anaemia target be extended to 2030, a 50% reduction of the proportion of women of reproductive age with anaemia would continue to be the adequate expectation as a decrease in prevalence has not yet been observed. This clearly differs from other global nutrition targets, where the 2030 goal has been made more ambitious, e.g. for the exclusive breastfeeding target, 70% of infants should be exclusively breastfed for the first six months of life by 2030 (50% by 2025), considering the achievements of the best performing countries (18).

In April 2016, the United Nations General Assembly proclaimed 2016 to 2025 the United Nations Decade of Action on Nutrition (19), endorsing the *Rome Declaration on Nutrition* (20), as well as the *Framework for Action* (21), which recommends WIFS as an action to address anaemia in women of reproductive age.¹ WIFS is estimated to lead to a 27% reduction of anaemia on average (15), and is one of the core set of primary interventions for preventing anaemia that have a strong evidence base for effectiveness, with the potential to be scaled up to reach all women (10). Efforts need to be strengthened to reach the 1.5 billion non-pregnant women of reproductive age in low- and middle-income countries, through increased availability of and access to health services.

¹Recommendation 43 of the *Framework for Action* (21).

Fig. 3. Call to action to address anaemia in women of reproductive age





WHAT IS THE CURRENT RECOMMENDATION?

The World Health Organization (WHO) recommends intermittent (once a week) IFA supplementation (see Table 1) as a public health intervention in menstruating women¹ living in settings where the prevalence of anaemia is 20% or higher (24), to improve their haemoglobin concentrations and iron status and reduce their risk of anaemia. For menstruating women and adolescent girls living in settings where anaemia is highly prevalent (40% or higher), daily iron supplementation is recommended (25) for the prevention of anaemia and iron deficiency.

Table 1. Scheme suggested by the World Health Organization for intermittent iron and folic acid supplementation in menstruating women (24)

Supplement composition	Iron: 60 mg of elemental iron* Folic acid: 2800 µg (2.8 mg)
Frequency	One supplement per week
Duration and time interval between periods of supplementation	3 months of supplementation followed by 3 months of no supplementation after which the provision of supplements should restart If feasible, intermittent supplements could be given throughout the school or calendar year
Target group	All menstruating adolescent girls and adult women
Settings	Populations where the prevalence of anaemia among non-pregnant women of reproductive age is 20% or higher

* 60 mg of elemental iron equals 300 mg of ferrous sulfate heptahydrate, 180 mg of ferrous fumarate or 500 mg of ferrous gluconate.

WIFS is recommended as a strategy to improve haemoglobin concentrations and iron status, and reduce the risk of anaemia among menstruating women. If a woman is diagnosed with anaemia in a clinical setting, the guidance is treatment with daily iron (120 mg of elemental iron) and folic acid (400 µg or 0.4 mg) supplementation until the haemoglobin concentration has been corrected (26). Once treated, the regimen may be switched to an intermittent frequency to prevent recurrence of anaemia (24).

The recommendation for the folic acid dosage is based on the rationale of providing seven times the recommended supplemental dose to prevent neural tube defects (400 µg or 0.4 mg daily). This dose can further improve red cell folate concentrations to levels associated with a reduced risk of neural tube defects (27).

WIFS can be implemented in malaria-endemic areas but should be conducted only in conjunction with measures to prevent, diagnose and treat malaria (24). In countries facing emergencies (including disasters, disease outbreaks and conflicts), intermittent IFA supplementation when already provided is recommended to be continued to ensure that the micronutrient needs of people affected by a disaster are adequately met and not worsened (28).

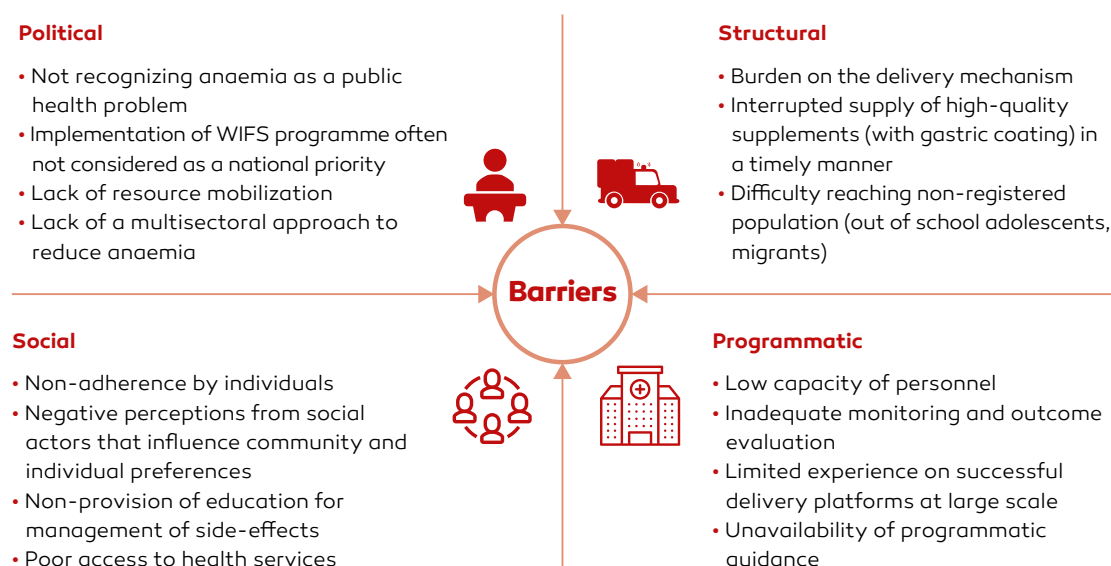
Translating policies into practice

Countries with 20% or higher levels of anaemia prevalence are more likely to have a favourable policy environment including policy goals and coordination mechanisms to support anaemia-reduction programmes. This notably indicates the national commitment to respond to the problem and currently contributes to some progress. However, only 45% of the countries with a reported policy goal on anaemia implement WIFS programmes for women (29), making it necessary to call for increased efforts to translate the strong policies into capacities and actions. To successfully

¹The WHO guideline refers to the population group of menstruating women who are non-pregnant and within the reproductive age group of 15-49 years.

adopt the global guidelines for effective implementation, (i) a WIFS scheme needs to be built into the health, nutrition and development policy framework; and (ii) constraints in translating the policy guidance into action need to be identified and resolved (see Fig. 4).

Fig. 4. Barriers influencing the implementation of weekly iron and folic acid supplementation programmes



Political barriers: recognize the imperative to accord high political commitment and adequate investment

Anaemia is often disregarded as a major public health concern in comparison to other diseases that manifest severe clinical symptoms. However, this significant health condition continues to have devastating consequences for human health, as well as for social and economic development. Reducing anaemia in women may also contribute to reducing gender wage gaps and help some women escape poverty (30). It is important to undertake a multisectoral approach to prevent anaemia and integrate nutrition with other sectoral initiatives, such as health, social, agricultural and educational programmes.

Free supplement-distribution programmes in the public sector do have substantial associated costs, but for WIFS these may be lower than commonly perceived. Large-scale WIFS programmes for adolescent girls in India and Egypt have shown that the costs incurred can be as low as US\$ 0.15–0.36 per recipient (31). The cost per woman is significantly reduced when programmes are taken to scale to cover a larger number of beneficiaries, and are built on existing health or outreach programmes (32). The effective uptake of WIFS by 70% of women in Yen Bai province, Viet Nam was achieved with an annual cost of US\$ 0.76 per woman. The costing structure reported included promotion of supplements (1% of the non-supplement costs), health staff training (6%), regular monitoring (36%), village health worker time (39%) and permanent, salaried staff (18%) (33).

At the same time, these costs should be judged on balance of the estimated economic losses due to iron deficiency anaemia, which are alarmingly high when compared to the investment in the WIFS approach. While the median per capita annual physical productivity loss attributable to anaemia can be around US\$ 0.83–4.81 (34), the cost of the IFA supplement per non-pregnant woman per year is US\$ 0.12 (33). The cost of delivering a WIFS programme, taking into account transportation and delivery platform, has been estimated at US\$ 0.46–0.63 if delivered through a school-based programme, and US\$ 0.21–0.78, if delivered through community health workers (30).

To achieve the global target of reducing anaemia among women of reproductive age, an additional US\$ 12.9 billion in domestic government budget allocations and official development assistance resources over the next 10 years is required worldwide. IFA supplementation for women of reproductive age alone require more than half of the estimated resources to be allocated (approximately US\$ 6.7 billion) (30). This will require strong political will to scale up micronutrient interventions for non-pregnant women, through effective delivery platforms (10).

Structural barriers: establish appropriate delivery channels and mechanisms for supply management

WIFS programmes have been increasingly implemented through delivery platforms based in health centres, community services and/or schools. Although using existing distribution channels for IFA supplementation is strongly recommended in most settings, the increased workload for health workers, teachers or supplement providers in institutions can be a challenge. One of the key constraints reported during an evaluation of WIFS programmes implemented in five public schools in Puducherry, India¹ was the extra burden the programme added to the teachers' workload (35). In the case of traditional health-sector facilities or community services, frontline workers are often overworked, which may limit their capacity and motivation to implement the package of health interventions in its entirety, especially with regard to identifying and reaching out-of-school adolescent girls and women. Incentivizing health workers has been proposed as a means of improving health outcomes and there have been varying degrees of success reported in several settings. Financial incentives can be a strong source of motivation among community health workers for improved service delivery (36). However, it has been reported that incentives alone do not always drive motivation and work performance among health workers. Individual- and community-level factors, such as a sense of responsibility and feelings of self-efficacy were reported as the main motivators among accredited social health activists in India (despite not being provided incentives for distributing IFA supplements) (37). For this reason, health workers often need to be empowered and credited as agents of social change who contribute to the common good, and should be rewarded with community appreciation and social recognition.



¹This Indian union territory, historically known as Pondicherry, changed its official name to Puducherry on 20 September 2006.

Governments may face the challenge of ensuring a regular and good-quality supply of IFA supplements to effectively sustain the impact of the programme, as the intermittent supplement composition is currently not part of the WHO Model List of Essential Medicines (38). WHO continues to encourage more research on the recommended dose of IFA formulation to gather robust data and evidence to re-apply for inclusion in the List of Essential Medicines. As these supplements have a long shelf-life (2 years or more), procurement may be done on an annual basis. This would ensure an uninterrupted supply on a long-term basis and at a lower cost. The annual supply requirement for WIFS programmes can be estimated by multiplying 26 tablets/person/year¹ by the estimated number of recipients, with an additional 20% for buffer stock (31). This supply forecast is best suited for health-centre settings and can be adapted for schools, taking into account seasonal absenteeism, inaccurate attendance lists, supplements for boys, and space for storage of supplements.

As the WHO suggested formulation for intermittent IFA supplements (60 mg of elemental iron and 2.8 mg of folic acid) does not appear to be readily available in the market (39), establishing a partnership with the private sector, where appropriate while avoiding conflict of interest, can help to secure an adequate and consistent supply, based on the suggested formulation. The industry can be further engaged for the logistical management and quality testing of IFA supplements. It is important to establish an appropriate procurement procedure to identify best-quality IFA supplements that are safe, reasonably priced and attractive. Subsequently, terms of contract and partnership can be negotiated with the pharmaceutical industry, to ensure an adequate and consistent supply of IFA supplements. Once the supplements are produced, it is essential to ensure accessibility through local private and government outlets, to facilitate availability (40).

In an emergency setting, there are no specific recommendations for intermittent IFA supplementation. Actors are encouraged to include the intermittent (once a week) IFA supplementation as part of the Nutrition in Emergencies (NiE) interventions and while preparing the Humanitarian Response Plans (HRPs) to develop a procurement catalogue and facilitate the immediate response including logistics of supplement provision (28).

Social barriers: improve demand and compliance

WIFS programme implementers have experienced poor compliance among recipients of IFA supplements, for various reasons, including lack of awareness of the benefits of WIFS to reduce anaemia, mistaken belief, and difficulty in accessing the supplements (41). The primary reason for poor compliance is often reported as forgetfulness. Adopting the fixed “WIFS day” approach is recommended, to promote consumption of the supplements and disseminate information. The identification of a locally specific day of the week for delivery of supplements should be done in consultation with the stakeholders involved. Although adverse effects such as nausea, abdominal pain and constipation have been reported, it is essential to build positive messaging about the WIFS programme by communicating the health benefits of supplementation (42). Negative perceptions of parents and elders in the household can be addressed through appropriate counselling, by conducting group education sessions and organizing social-mobilization activities including mass-media campaigns designed to change social norms related to perceptions of anaemia and raise awareness of the programme. Sensitization of political and community leaders can be essential to generate increasing demand from the health authorities and charity networks. In 2016, the Global Alliance for Improved Nutrition (GAIN) pilot-tested social media interventions in Indonesia to successfully reach and engage with more than 80 000 adolescent girls on nutrition content (43). The use of social media is considered an effective platform to provide nutrition education and has potential for further trial to motivate adolescents in increasing their knowledge, awareness, attitude and general behaviour for preventing anaemia and improving their overall nutritional status (44).

¹The WHO guideline recommends 3 months of supplementation, followed by 3 months without supplementation, and then repeated, which equals 26 weeks of supplementation per year (24).

To address the socioeconomic barriers and to create an enabling environment for women of reproductive age, to improve compliance and continued participation, programmes have often adopted a two-pronged strategy: (i) including free distribution of supplements to a defined low-socioeconomic population (below poverty line); and (ii) social marketing of the supplements at a reasonable cost to those women of reproductive age who can afford them (31). Social mobilization is an integral part of the social marketing strategy, and can be achieved with a strong public–private partnership to ensure consistent educational messages and facilitate promotion of WIFS to women of reproductive age (42).

Programmatic barriers: ensure effective programme management, monitoring and evaluation

Based on the selected delivery system, the frontline personnel need to be well equipped to transfer the right information to the IFA recipients. For effective delivery of programmes, the training content must include components on skill-building for management of supply logistics; use of information, education and communication materials; counselling; conducting group education sessions; organization of social-mobilization activities; and monitoring. The health workers, teachers, peers and community leaders involved need to be well informed on the health benefits of the programme, to create an enabling environment for the women of reproductive age and improve compliance and continued participation.

As procurements and medical supplies are often handled by pharmaceutical departments in health ministries that have systems in place, working with these groups would facilitate and expedite the implementation of WIFS. Understanding the challenges in coverage of WIFS programmes caused by the programme design, delivery model, supply and demand barriers and quality of implementation is essential for further improvement and evaluation of the potential impact in reducing anaemia prevalence.

The baseline data on the prevalence of anaemia among women of reproductive age was collected in 2012, and included surveys conducted between 1990 and 2012 (7); since then, only 30 countries have at least one survey point to report as part of their national data systems (45). No country is on course to reduce anaemia among women of reproductive age and the current progress towards achieving the global target to reduce the prevalence of anaemia among women of reproductive age by 50% is measured using modelled estimates. This clearly demonstrates the lack of data to make robust assessments of progress towards the global target. A huge nutrition data gap exists for the adolescent age range (46) making it imperative to accelerate age- and sex-disaggregated anaemia prevalence data collection.

Without regular monitoring and evaluation of WIFS programmes by adequately measuring coverage, compliance and impact, course correction is not possible. Accurate prevalence data are frequently not available and programmers are often restricted to using modelled estimates of data for the prevalence of anaemia. This can be rectified by designing the performance indicators for the WIFS programmes during the preliminary stages of planning and ensuring integration with existing information systems (see Table 2).

Table 2. Definitions and examples of performance indicators for weekly iron and folic acid supplementation programmes

Type of indicator	Definition	Examples of indicators in a WIFS programme
Input	Measures the quantity, quality and timeliness of resources available to and invested in the programme, including personnel, equipment, funding, infrastructure and indirect and direct support from partners	→ Government commitment to implement WIFS nationally through community health centres and schools, as a measure for anaemia prevention among non-pregnant women of reproductive age → Policy written and adopted → Budget allocated for scaled-up implementation → Supplies procured; training manuals and any promotional materials developed
Activity (process)	Measures the progress of activities in a programme and the way these are carried out, including actions, events, policies, products and supplies, delivery systems, quality control and planning behaviour change	→ Social mobilization and behaviour-change communication strategy for implementation of WIFS programmes developed and launched → IFA supply streamlined → Number of health workers and teachers trained to deliver and counsel beneficiaries on IFA supplementation → Proportion of schools covered under WIFS programme → Proportion of health sites providing WIFS services and counselling → Proportion of districts with adequate budget for implementation of WIFS programme
Output	Measures the quantity, quality and timeliness of the products – goods or services, knowledge and skills – that are the result of a programme	→ Percentage of target group (disaggregated by sex, institutional enrolment and age) receiving the recommended number of IFA tablets → Information, education, and communication materials, and training support materials made available to supplement providers and used to communicate to non-pregnant women of reproductive age → Percentage of pharmacies or small shops that market and sell IFA supplements for pregnant and non-pregnant women
Outcome	Measures the expected benefits or changes (in behaviours, micronutrient intake) among programme participants, either during or after the programme	→ Percentage of target group that consumes the IFA supplement weekly → Compliance rate of individuals to consume the IFA supplement (80% or more)
Impact	Measures the effect on nutritional/ health status or functions	→ Shift in population's haemoglobin curve/ prevalence of anaemia

Source: Adapted from WHO. Nutritional anaemias: tools for effective prevention and control (3).



BEATING THE ODDS:
COUNTRY-LEVEL
EXPERIENCE IN
IMPLEMENTATION

Despite some documented best practices of implementing WIFS on a large scale, challenges remain in developing and delivering implementation strategies that can sustain universal long-term WIFS programmes in resource-poor settings. Programme implementers often lack the necessary guidance to adapt WIFS programmes to their own context. More work is needed from global actors and regional partners to help translate the recommended guidelines into actionable results in the field of implementation of WIFS programmes. Identification and documentation of success stories and challenges provide the opportunity to learn from the practical experience of other countries on how to implement a strategic and results-oriented WIFS programme.

Ghana: making anaemia prevention a political priority

The First Lady of Ghana, Her Excellency Rebecca Akufo Addo, recently launched the Girls Iron Folate Tablet Supplementation (GIFTS) programme, convinced that it is critical to invest in the health of girls and reduce the alarmingly high rate of anaemia among adolescent girls in the country (47).

Half of the two million girls in Ghana aged between 15 and 19 years suffer from anaemia. The programme is the first of its kind in the African continent and provides free IFA supplementation to adolescent girls in junior and senior high schools and technical, vocational education training institutions, and adolescent girls aged 10–19 years who are not in these institutions or are out of school.

The programme has already brought on board political leaders, queen mothers,¹ other traditional leaders and development partners. More than 4500 teachers and 3000 health workers have been trained to implement the programme by providing IFA supplements to eligible adolescent girls, and nutrition and health education on integrated anaemia control. While teachers will encourage girls in schools to take one supplement every Wednesday at noon after a meal, community health workers deliver a monthly supply of the IFA tablets to eligible girls in the communities who are out of school, with the first tablet taken at the health facility.

The GIFTS programme is a collaborative effort of ministries of health and education, in partnership with the United Nations Children's Fund (UNICEF), WHO, the United States Agency for International Development (USAID), the United States Centers for Disease Control and Prevention (CDC), and other development partners. The first phase of the programme is being piloted in four of the ten regions, with a potential for scale-up. In the four regions, the programme aims to reach 360 000 girls in junior and senior high schools and technical, vocational educational training institutions and 600 000 girls who are not in these institutions or are out of school. The first phase is expected to end in 2019, aiming for a 20% reduction in anaemia in the four regions and improved knowledge of adolescent girls on anaemia, nutrition and other preventative practices.

¹Queen mothers play a central role in traditional governance in communities and keep an eye on the social conditions of the community. They wield social power and influence and their role in seeking the welfare of everyone in the community, especially women and children, is widely recognized and respected.



India: scaling up weekly iron and folic acid supplementation with intersectoral convergence

The Government of India launched a nationwide WIFS programme in 2012, with an operational framework for universal WIFS supplementation for adolescent girls and boys in school and adolescent girls not attending school. The scaled-up WIFS programme was made possible by building on a decade-long intersectoral programme experience among government departments and partners for the control of anaemia in adolescent girls (48, 49).

In 2000, the anaemia-control programme for adolescents was piloted across 20 districts in five Indian states, with technical support from UNICEF. The programme brought together key state departments for joint programme planning and a convergent approach for implementation – Health and Family Welfare for the provision of supplies of IFA supplements and deworming tablets; Education for implementation of the programme among school-going girls; and Women and Child Development for implementation of the programme among out-of-school girls, through a community-based girl-to-girl approach for supervised IFA supplementation at the *anganwadi* centres.¹

The results of the evaluation of the pilot demonstrated a significant decrease in the prevalence of moderate-to-severe anaemia (haemoglobin concentration below 99 g/L), with an average 8.4 percentage point reduction (43.1% decrease) after 1 year of programme implementation in five states. The encouraging results provided state governments with a solid evidence base for scaling up their anaemia-control programmes.

¹An *anganwadi* centre (literal meaning: in the courtyard) is a basic health-care centre and is part of the Government of India's flagship Integrated Child Development Services programme. These centres provide supplementary nutrition, non-formal pre-school education, nutrition and health education, immunization, health check-up and referral services, of which the latter three are provided as part of public health systems.

In 2011, the anaemia-control programme was mainstreamed by the Government of India flagship programme, the Rajiv Gandhi Scheme for the Empowerment of Adolescent Girls (SABLA), which aimed to empower nearly 20 million out-of-school adolescent girls (11–18 years) by improving their life skills and nutrition and health status with an integrated package of services including WIFS, biannual deworming prophylaxis, nutrition education, a hot cooked meal or a take-home ration, and education and counselling on reproductive and sexual health. By the end of 2011, the anaemia-control programme was being rolled out statewide in 13 states, with state government funds – Assam, Bihar, Chhattisgarh, Jharkhand, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal – using schools, *anganwadi* centres and SABLA as the delivery platforms. The number of girls reached by the programme almost doubled from 14.5 million to 27.6 million (1.9-fold increase), mostly as a result of mainstreaming anaemia control into SABLA.

The national WIFS programme is currently projected to cover 108 million adolescents by 2021 and provides encouraging evidence that scaled-up coverage is possible with an intersectoral approach and national ownership to mobilize resources for similar national programmes.



Viet Nam: planning sustainability from the start

Twelve months of community-wide weekly IFA supplementation and regular deworming for the population of non-pregnant rural Vietnamese women of reproductive age in Yen Bai province demonstrated a 53% decrease in the prevalence of anaemia after 54 months (50, 51).

Following positive results of the pilot project that was started in May 2006, covering approximately 50 000 women aged between 15 and 45 years, the programme was expanded in May 2008 to target all women of reproductive age in the province (approximately 250 000 women).

Although direct management of the programme was taken over by the provincial health authorities, the programme was partly supported by the national health system, and partly by external financial and administrative support. National oversight and support was provided through the National Institute of Malariology, Parasitology and Entomology, including support for training and for development and production of educational material. The provincial health department provided salary support for distribution through the health system. WHO donated albendazole tablets and external donor funding supported the IFA supplements, training and training materials, as well as educational and promotional materials.

After four and half years (54 months), the programme in Yen Bai province was well received by the population, with good adherence, and resulted in an overall decrease in the prevalence of anaemia in the population from 38% to 18%, with a decrease in iron deficiency from 23% to 8%, while the prevalence of iron deficiency anaemia was reduced from 18% to 4%.

Nearly 72 months later, the programme was considered effective and cheap on a per person basis (US\$ 0.76 per non-pregnant woman per year). However, the cost of supplying weekly supplements to the target population (approximately US\$ 200 000 per annum) was reported to be beyond the capacity of the province's health budget. Since the programme was mainly externally funded, it was never fully incorporated as a national or provincially funded programme. While the provincial departments were prepared to cover the human-resource distribution costs, they were not able to support purchase of IFA supplements, development and production of educational materials, or training.

Viet Nam's experience demonstrates the argument that sustainable long-term WIFS programmes require supportive government policy and adequate domestic budget allocation, which needs to be planned for after the initial pilot phase of the programme. Sustainability requires full integration into the national system, such as the health system as in the case of Viet Nam. One of the complementary approaches to be considered for sustaining the programme is to sell the supplements at an affordable price (instead of free provision) while promoting them through social marketing, thus creating and maintaining demand for the product, as successfully used in the WIFS programme of Hai Duong province, Viet Nam, where the supplements were sold to non-pregnant women through the Women's Union network.



LESSONS LEARNT
FROM WEEKLY IRON
AND FOLIC ACID
SUPPLEMENTATION
PROGRAMMES

Successful implementation of a WIFS programme requires a multitude of actions and a concerted effort of multiple sectors, in addition to the health sector, to address the social, economic and cultural factors that contribute to the cause, prevention and control of anaemia. Large-scale WIFS programmes in several countries have adopted the following key actions to ensure increased coverage and effective implementation.

- ✓ **Place anaemia as a public health problem high on the political agenda** by demonstrating the cost of non-action vis-à-vis gains through action and incorporate WIFS as a preventive measure for anaemia for the larger population of women of reproductive age, as part of comprehensive national policies and operational frameworks.
- ✓ **Identify a high-level champion to rally commitment from decision-makers and raise public awareness of the issue**, to secure resources and to gain buy-in from communities for sustaining the programme.
- ✓ **Develop an effective communication strategy based on formative research** on the current knowledge, attitudes and practices related to IFA deficiency, anaemia and its prevention.
- ✓ **Adopt a multisectoral approach and do not rely on a single delivery channel**: explore non-traditional (non-health) delivery systems in education, social protection, water, sanitation and hygiene, community organizations, and micro-credit groups for women, and create linkages with existing programmes.
- ✓ **Elaborate clear roles for all stakeholders** involved, from the inception phase, to sustain interest and long-term involvement.
- ✓ **Establish a user-friendly monitoring system** with a simple recording method for self-supervision or institution-based monitoring to improve individuals' compliance.
- ✓ **Build the financing model of the WIFS programme in the design phase**: Social mobilization can be very effective in introducing WIFS as part of a healthy lifestyle for women of reproductive age and in creating demand for purchase of low-cost WIFS from local government or commercial sources, rather than free supply, for a sustainable model.
- ✓ **Establish public-private partnerships where appropriate** while avoiding conflict of interest to make available a consistent supply based on the suggested IFA formulation and to advocate for the purchase of WIFS through a social marketing approach. Women of reproductive age living in anaemia-prevalent settings may need to consume WIFS throughout their entire reproductive lives, unless the food systems are equipped to deliver healthy and diversified iron-rich foods or IFA-fortified foods are readily made available and accessible to the population¹.
- ✓ **Estimate the demand, secure continuous supply and introduce an external quality-monitoring mechanism** for periodic quality checks by external actors.
- ✓ **Establish a supply chain mechanism by working with procurements and medical supplies departments at health ministries** that have a system in place to ensure prompt and smooth supplies.
- ✓ **Work with the emergency and response teams to include WIFS as part of the emergency-response medical kit.**

¹Recommendation 10 and 42 of the Second International Conference on Nutrition Framework for Action (21).

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This brief aims to reinforce the common understanding among multiple stakeholders of the significance of investing in the weekly iron and folic acid supplementation (WIFS) programme for non-pregnant women of reproductive age, including adolescent girls and adult women with ages ranging from 15 to 49 years of age.

The barriers to be addressed for effective implementation of WIFS programmes are illustrated by drawing lessons from programmatic examples and WHO recommendations to scale up programmes nationally are also presented. The brief is intended for stakeholders involved in prevention and control of anaemia, including national-level governments, communities, civil society, United Nations regional and country offices and the private sector, to seize the opportunity to increase investment and effectively implement WIFS as a preventative strategy to achieve the global nutrition target of reducing anaemia by 50% in women of reproductive age by 2025, endorsed by Member States.

UNITED NATIONS DECADE OF
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