



Behavioural Directions for Improving Iron & Folic Acid Tablet Uptake and Consumption in Uttar Pradesh

Sharing the White Paper Highlights with BMGF

21 September, 2022.



Project Overview: White Paper

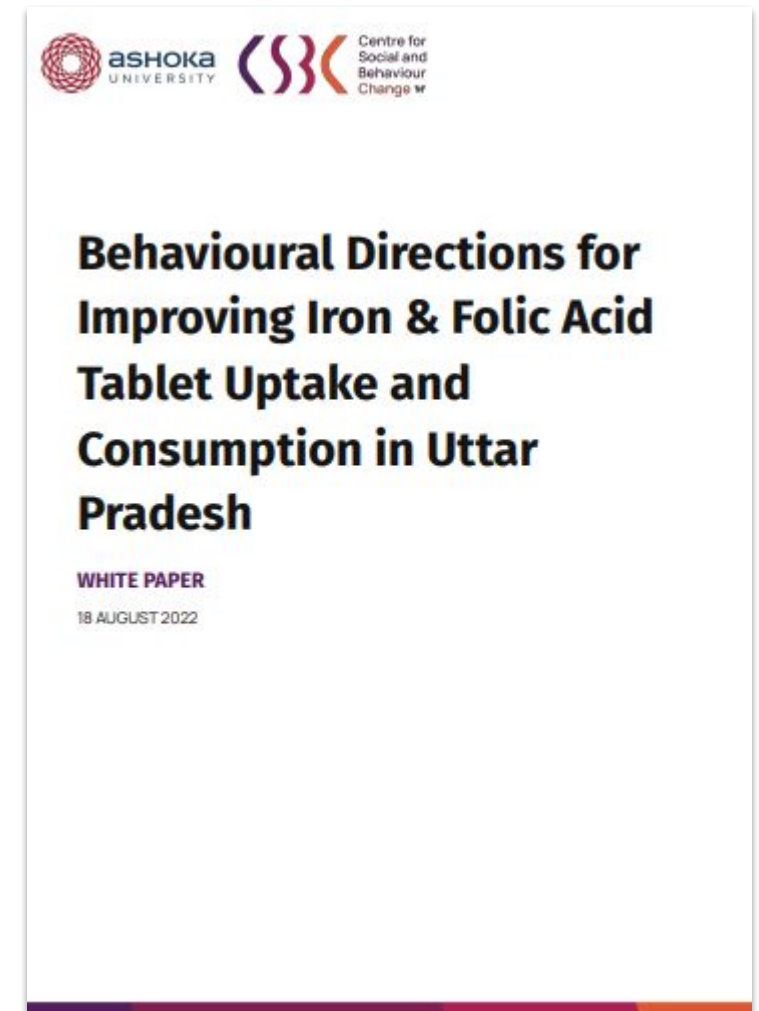
Behavioural Directions for Improving IFA Tablet Uptake and Consumption in UP

This white paper is part of the larger RfP project to design, evaluate and plan for scale-up: to promote IFA adherence in UP. It gives a briefing on:

- a. Behavioural barriers and motivators, from literature;
- b. Learning from tested interventions;
- c. Possible directions for design and research.

The audience for this White Paper is RfP applicants, who may have expertise in one segment and not another: our work is a behavioral primer as well as a white paper.

The Yale Center for Consumer Insights (YCCI) completed a evidence review of 24 relevant peer-reviewed papers (slide deck), and CSBC worked to draw out relevant insights from the evidence (white paper)



Presentation Outline

1. Problem statement and target groups
2. Behavioural barriers
3. Interventions from literature
4. Directions for further research
 - a. High-rigour research for adaptation to UP
 - b. Promising areas where evidence yet to be established
 - c. Areas of limited evidence

Problem Statement

>50% women anaemic; increase in reported prevalence across all age groups

- The most common cause of anaemia is **iron deficiency**, mainly dietary deficiency. **IFA supplements** a safe, low-cost approach.
- **50% of all UP women** affected by **mild or moderate anaemia** (PIB, 2021).
- Increase in reported national anaemia prevalence NFHS-4 to NFHS-5.



Sub-Population

Percentage point increase in prevalence from NFHS-4 (15-16) to NFHS-5 (2019-21)

Pregnant women	1.8 pp
Women of reproductive age (15-49 yrs)	3.9 pp
Adolescent women (15-19 yrs)	5 pp
Boys and girls under 5 yrs	8.5 pp

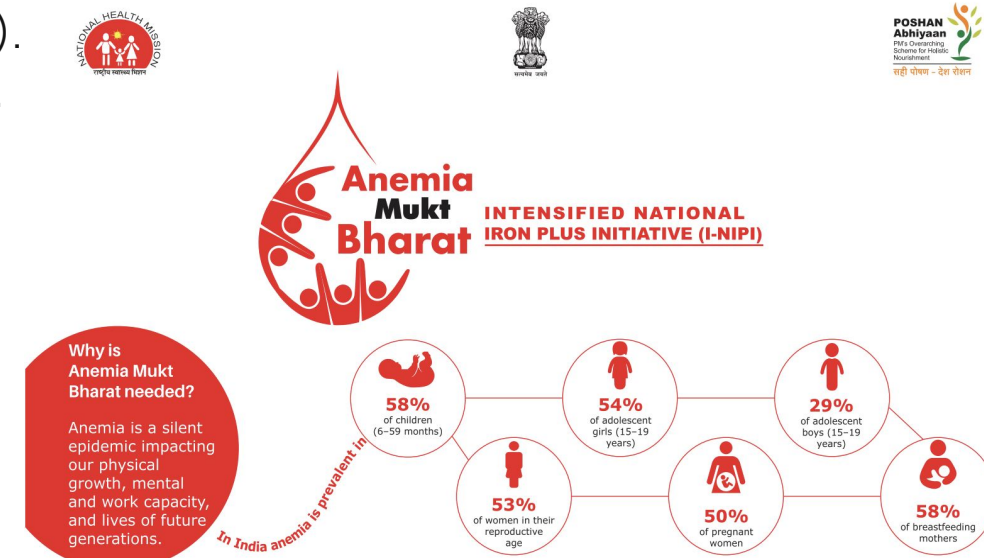


Image: Anemia Mukht Bharat poster.
Credit: <https://anemiamukhtbharat.info>

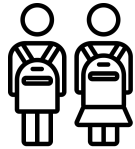
- Anemia Mukht Bharat: give IFA to children, adolescents, women of reproductive age and pregnant/, lactating women **irrespective of anemia**. However, various behavioural barriers to uptake and compliance.

The Target Groups

Supply-side measures in place/underway, allowing for focus on behavioural interventions

Cohort

Distribution System



In-School Children and Adolescents

- Supplies are handed over to the Education for All Project Board at the **block level** that manages the actual distribution to schools
- A **nodal teacher** in each school is made responsible for administering **weekly** IFA to school-going adolescents



Out-Of-School Children and Adolescents

- IFA pills through the **AWCs** with some assistance from the **ASHAs**.



Pregnant And Lactating Women

- Through **routine ANC services** provided by the **ANMs** at designated Village Health and Nutrition Days (**VHNDs**)
- Other **FLWs (ASHAs and AWWs)** are responsible for follow-up and ensuring distribution to those women who are unable to attend the VHNDs



Image: A Village Health and Nutrition Day (VHND) in Uttar Pradesh.
Credit: www.intrahealth.org

User journey for pregnant women

PHASE	1 AWARE OF THE PROBLEM AND SOLUTION	2 CONSIDER AND COMPARE OPTIONS	3 SOLUTION PROVIDED WITHOUT COST	4 TRY OUT THE SOLUTION	5 REMINDER FOR ADHERENCE	6 ADHERENCE TO THE 180 DAY COURSE
System Touch Point	ANMs and ASHAs inform women at VHNDs and on home visits	Routine ANC services provided by the ANMs at VHNDs to promote IFA tablets	For moderate cases: provided IFA tablets to consume twice a day for 180 days. Severe cases of anaemia are referred to PHC/CHC/ First Referral Unit (FRU)/ District Hospital	Women start taking the tablets.	ANM and ASHA at VHNDs and home visits, and Anganwadi Worker at AWC.	A low proportion of women adhere to the entire course.
UP Data	45.9% (NFHS-5)	-	89.90% (HMIS 20-21)	-	22.3% NFHS-5)	9.7% (NFHS-5)
Notes On The Data	Pregnant women age 15-49 years who are anaemic	-	Percentage of pregnant women given IFA tablets	-	Mothers who consumed IFA for 100 days and more.	Mothers who consumed IFA for 180 days and more.

User journey for in-school children / adolescents

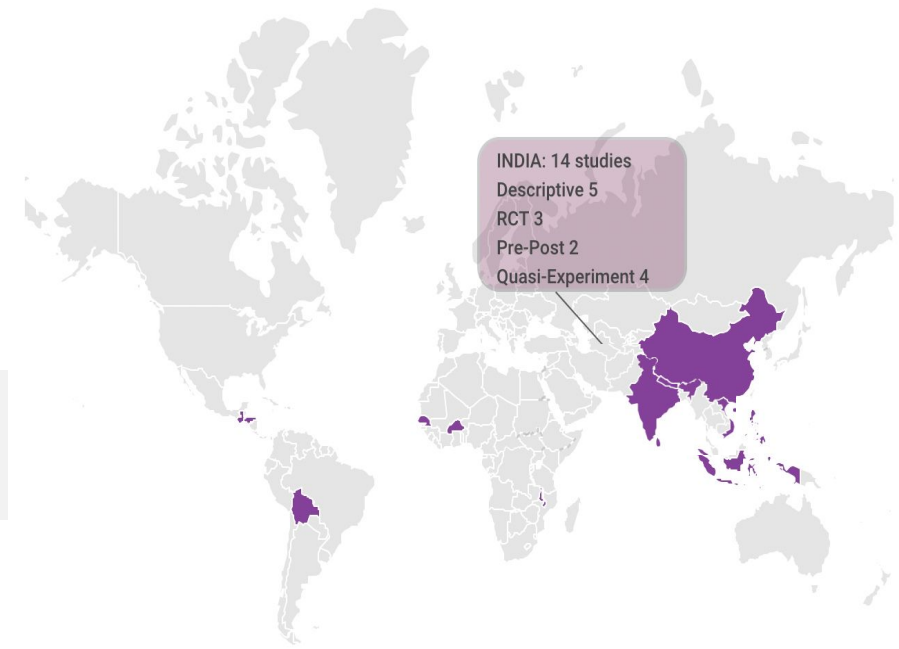
10-19 year old boys and girls

PHASE	1 AWARE OF THE PROBLEM AND SOLUTION	2 CONSIDER AND COMPARE OPTIONS	3 SOLUTION PROVIDED WITHOUT COST	4 REMINDED FOR ADHERENCE	5 ADHERENCE TO THE 180 DAY COURSE
System Touch Point	RSBK team screens in school premises once a year. Line listing of all anaemic cases in the school registers.	Severe anemia: referred to the medical officer at FRU/District Hospital Parents may refuse uptake	1 IFA tablet provided in the school per week to each student	Follow-up by School Principal	Note: Schools don't run all year, so tablet availability will not be regular.
UP Data	66.4% anemic (NFHS-5)	-	20.1% (HMIS 2020-21)	-	-
Notes On The Data	Children aged 6-59 months who are anaemic	-	Percentage of children in class 6-12 provided with IFA tablets in schools. <i>Data incomplete</i>	-	-

Behavioural Literature Review

24 studies, including five RCTs and five quasi-experiments.

Inclusion Criteria	Details
Peer Review	<ol style="list-style-type: none"> 1. Barriers and goals: Qualitative studies 2. Interventions: Experimental or quasi-experimental design, but pre-post strategies and descriptive studies also included.
Significance	Unless noted, included studies that found statistically significant results using standard analytic methods.
Geography	Focused on studies in India but also included research from other countries where results were applicable.



Map: Geographical spread of studies reviewed.

Barrier Beliefs for Initial IFA Uptake

- Treatment is **unnecessary**
 - Knowledge gap, low intrinsic motivation to take IFA: low salience of risks, benefits unclear (Chatterjee, N., & Fernandes, G. 2014) (Galloway, R., 2002) (Sedlander, E., 2020).
- Treatment has **adverse effects**
 - Myths about overproduction of blood and large babies, leading to difficult / dangerous childbirths (Sedlander, E., 2020).
- Pills aren't **trustworthy**
 - Perception that free pills by the government are of lower quality. (Sedlander, E., 2020).
- Programs are **inconvenient**
 - ASHAs and ANCs are not able to identify and register all pregnant women. VHNDs see poor participation (Sedlander, E., 2020) (CSBC, NITI Behavioural Insights Unit, 2021).



Image: IFA Dialogue Card, aimed at women of reproductive age;
Source: anemiamuktbharat.info

Barrier Beliefs for Daily IFA Adherence



IFA Take-up and Adherence among Pregnant Women in India

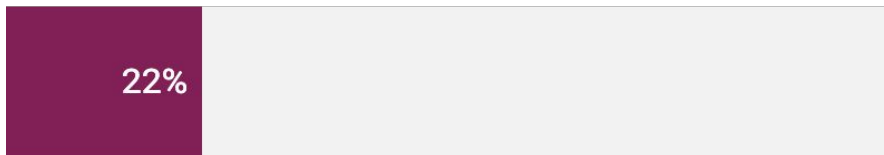
For **84 per cent of their last births**, mothers received IFA supplements.

Recommended IFA course is **180 days or more**.

Initial uptake



Adhered 100 days or more



Source: NFHS-5

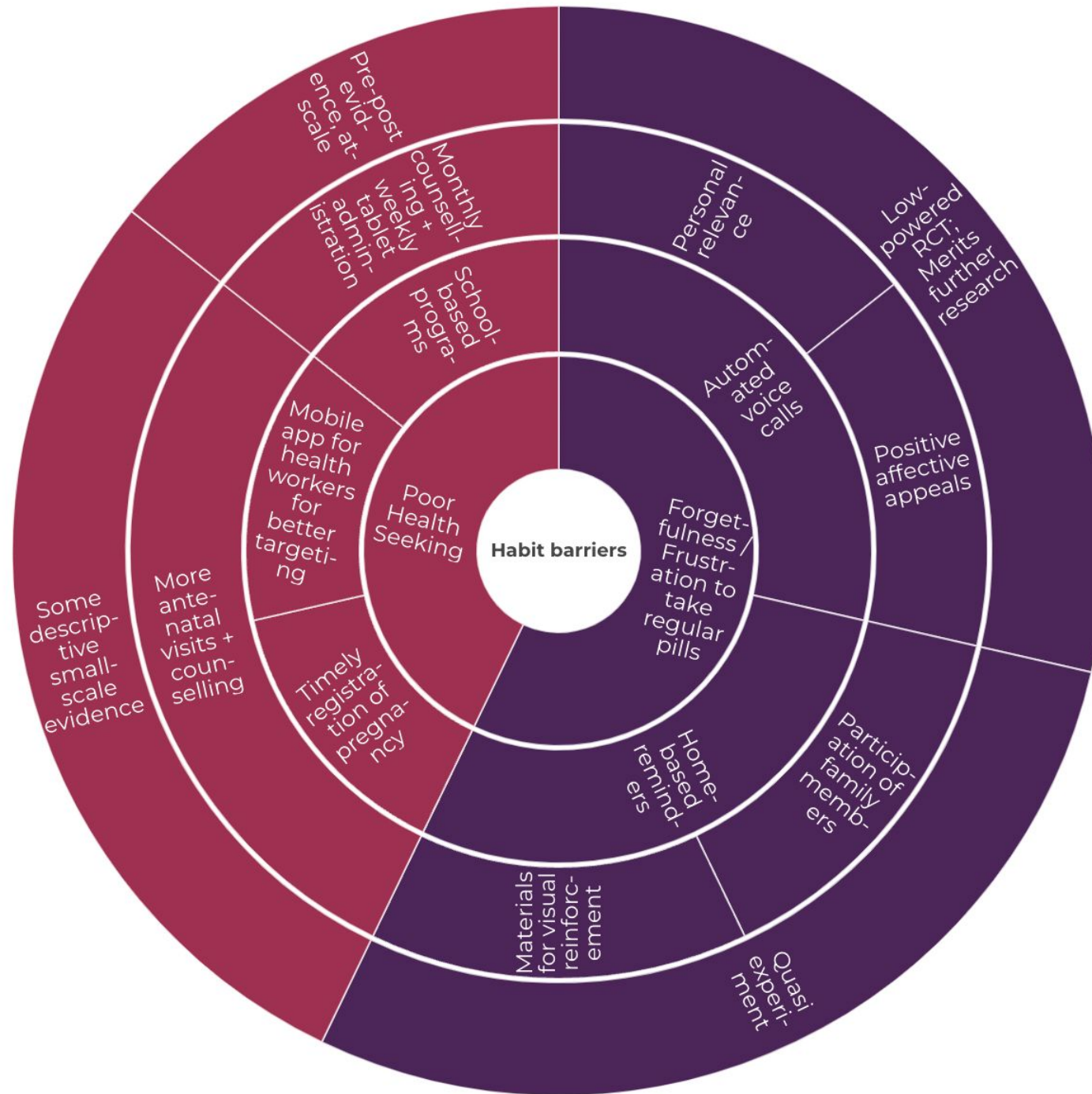
- **No immediate feedback:**
 - Initial negative feedback (side effects, main nausea) with no positive feedback.
 - The 180-day program depends on a woman's willpower and capacity to remember and adhere to a medication in the novel, high-load context (physically and cognitively) of pregnancy.
- Regular supplementation conflicts with the **mental model of medicines are curative**.
- **Women tend to neglect their own health needs.**
 - Need to tap into motivator beliefs about making the baby healthy/smart, being a good parent
 - Involve intrahousehold actors who care about the mother's health.
- School based programs: **risk avoidance of school administrators**

Up Next: Barriers, Interventions and Evidence at a Glance

Initial Uptake and Daily Adherence

- 1 Barrier
- 2 Type of Intervention
- 3 Specific intervention elements
- 4 Evidence

Barriers to IFA Adherence



Motivators to IFA Uptake and Adherence

TREATMENT TARGET GROUP	MOTIVATOR BELIEFS (GOALS)	KEY INTERVENTION ACTORS	INTERVENTION ELEMENTS
ADOLESCENT GIRLS	Taking IFA makes me healthy/ smart	Adolescent girls and families	Improved awareness and self-efficacy through life skills training (on nutrition, adolescent health, gender, and family)
		School teachers and peers	Motivate teachers to supervise school-based treatment and to educate and raise norms. Using in-school peers as ambassadors to girls out of school
PREGNANT WOMEN	IFA will make our baby smart and healthy and make our baby grow	Mother, spouse and family	Reinforce positive beliefs by making treatment easier/more convenient and developing mechanisms to help develop the habit of adherence
	IFA Improves a mother's well-being		
	Consuming IFA makes a mother a good parent		Using school children to disseminate information back to their families
NON-PREGNANT WOMEN	IFA improves women's well-being	Women, peers, and family members	Focusing on injunctive norms (expectations that other women are, in fact, taking supplements) and potentially adding descriptive norms (women should take supplements). Using school children to disseminate information back to their families

Types of intervention elements

Broadly six types of intervention elements seen in the literature

- 1 Addressing **descriptive and collective norms** about uptake and consumption.
- 2 Innovating **within education programmes to include novel influencers** such as children / peer role models or positive deviants.
- 3 **Registering pregnancies early/earlier** to give information about IFA and give free tablets earlier in pregnancy.
- 4 Making habit formation easier through **increased monitoring or social consumption** (in schools) and coupling monitoring with education programmes.
- 5 Reinforcing positive motivator beliefs through **personalised and positive reminders** that help develop the habit of adherence.
- 6 Including husbands, mothers-in-law and other **intrahousehold influencers and gatekeepers** in the above interventions.

Up Next: Further Directions for Research

IFA Uptake

- 1 High-rigour evidence for adaptation
- 2 Open research questions
- 3 Areas of limited evidence

IFA Adherence

- 1 High-rigour evidence for adaptation
- 2 Open research questions
- 3 Areas of limited evidence

Further Directions for Research: IFA Uptake

Adaptation of high-rigour evidence to UP context

- To establish treatment as a **social norm**, research might seek to identify **ways to make treatment more visible**.
 - For e.g., testing messaging **around increased adherence rates** may help drive individuals to seek treatment.
 - This is a further line of inquiry building on the Odisha social norms study by Rimal et al. (2021), which tested three social norms approaches to communicating haemoglobin test results.
- Current research in India has linked **social norms to intention to take IFA** (or self-reported IFA uptake), but additional research might seek to **measure actual uptake** (and haemoglobin levels) in UP (Sedlander et al., 2021)
 - Address the potential intention-action gap.

Further Directions for Research: IFA Uptake

Open causal research questions

- **Husbands being present** at **prenatal medical visits** may improve norms around IFA uptake and adherence (Chourasia, A., 2013).
- **Community** education interventions using a **positive deviance approach** and incorporating best practices from **peer role models** in the community (Ndiaye, M., 2009).
- **Social norms** for IFA supplementation among **non-pregnant, reproductive-age women** remain to be studied causally. There is correlational evidence that beliefs that other community members think young women should take IFA even when not pregnant is associated with intentions to take IFA (Sedlander et al. 2021).
- Combining **monthly life-skills training** with **weekly school-based** IFA supplementation programmes was found to be critical in reducing the prevalence of anaemia in adolescent girls (Vir et al. 2008).
- Using **school children** as **agents of social norms change** and education may influence parents and family (Wang 2009).

Further Directions for Research: IFA Uptake

Fundamental evaluation research needed for limited existing evidence

Trustworthiness of Pills

Is it a barrier in the UP context?



Limited evidence.

Messenger Effects

Do they work?



Identifying trusted individuals (healthcare professionals, certain celebrities, political officials) who might endorse IFA treatment may help overcome barriers beliefs about the treatment.

Teachers

What barriers in administering school-based programs?



What kinds of training and other interventions can address the perceptions of anaemia risk and IFA benefit among teachers and improve program fidelity.

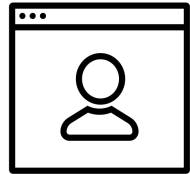
Further Directions for Research: IFA Adherence

Adaptation of high-rigour evidence to UP context

Reminders to overcome forgetfulness are an active area of research.
High-rigour studies on their effectiveness exist.



Personalisation



Technology could simplify reminders through calls/texts/emails; further research: how to employ personalisation to make it more effective and mitigate the risk of desensitisation.

Existing research indicates several effective behavioural principles in reminder design:

- personal relevance
- positive affective appeals
- addressing salient beliefs

But evidence is limited on the relative effects of various design elements.

Key Intra HH Actors



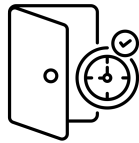
One way of making reminders more effective could be by combining it with the participation of key actors other than the target beneficiary.

Most reminder tools focus on pregnant women, but can those aimed at **community health workers, husbands, mothers-in-law** and other family members drive adherence?

Further Directions for Research: IFA Adherence

Open causal research questions

Early Registration



- Research on antenatal visits: early registration is linked with better uptake and adherence
- But it has not yet been shown that this happens **because of the counselling**, rather than being a screening mechanism to find the *“compliant types”*.

Additional Elements To Home-Based Materials



Home-based materials, involving the active **participation of family members**, and encouraging messages and pictures for **visual reinforcement of motivators**, may be effective strategies for pregnant women (Shivalli et al., 2018).

Further Directions for Research: IFA Adherence

Fundamental evaluation research needed for limited existing evidence

- Limited studies on the barriers faced by **other program actors**.
 - For example, intervention research on how to improve program fidelity when **teachers** run weekly supplementation programmes in schools has yet to be done in India.



Image credit: UNICEF

Resources


- IFA [White Paper](#)
- A [deck](#) by YCCI presenting the 24 studies in an easy-to-digest format
- A [list](#) with links to the 24 publications



Motivating Iron Supplement Take Up in Uttar Pradesh:
A BeSci Literature Review to Inform Behavior Change Innovation and Testing



Yale SCHOOL OF MANAGEMENT
Center for Customer Insights



**Behavioural Directions for
Improving Iron & Folic Acid
Tablet Uptake and
Consumption in Uttar
Pradesh**

WHITE PAPER
18 AUGUST 2022

Thank you

Selva Swetha A.R
Senior Research Specialist
selva.swetha@ashoka.edu.in

Acknowledgements

The CSBC IFA White Paper is based on the evidence review by the Yale Center for Customer Insights.

Special contributions: Daniel Blanchard, Ryan Whalen, Sharanya, Shashvat Singh.

Bill & Melinda Gates Foundation for financial support.

[Website](#)

[Linkedin](#)

[Twitter](#)

