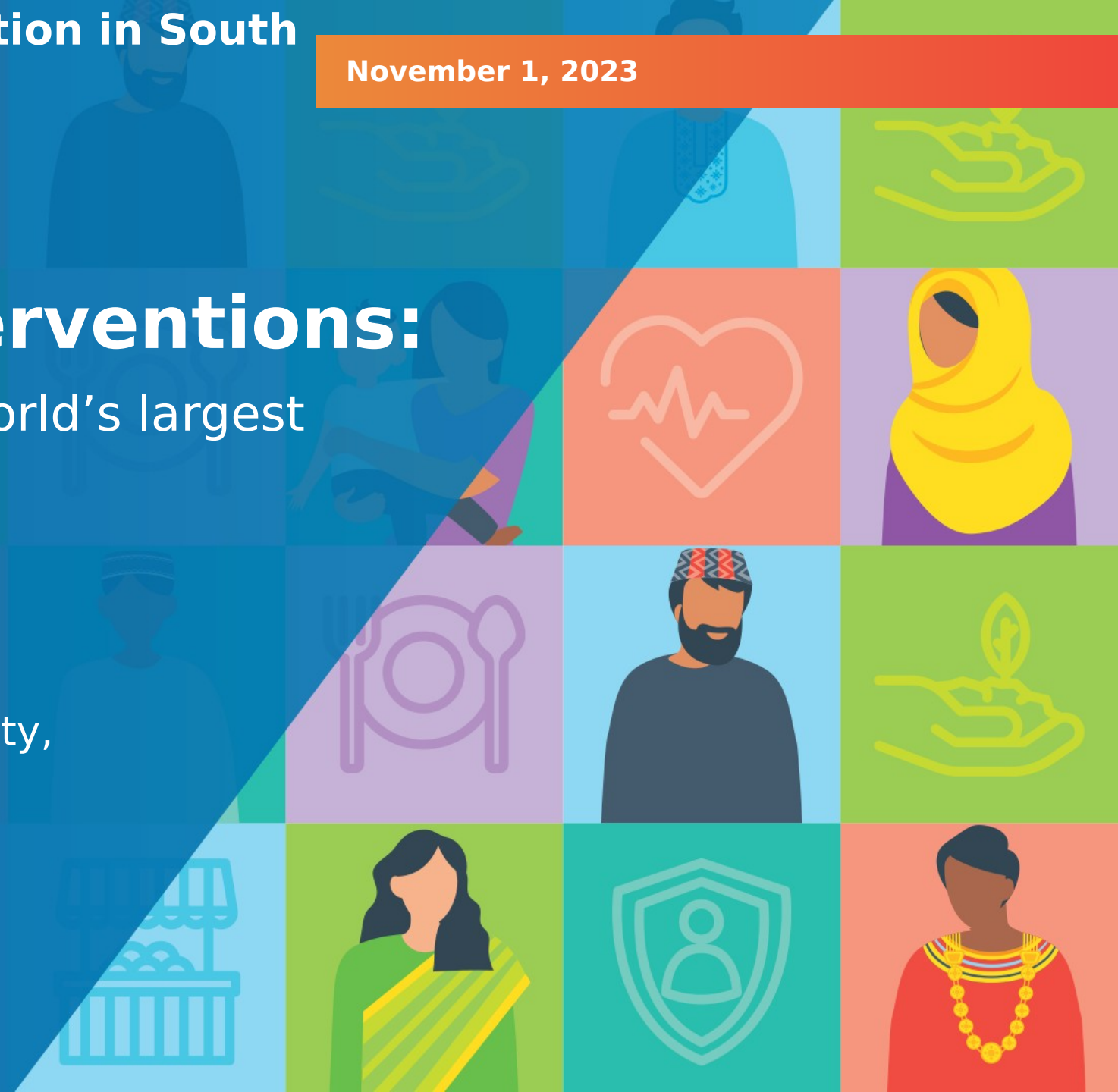# Mobile Health Interventions:

A Policymaker's note on the World's largest Nutrition Surveillance in India

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Mobile Health Interventions: A Policymaker's note on the World's largest Nutrition Surveillance in India

Overview

<u>1. The program</u>
ICDS-CAS (Common Application Software)
mHealth + Nutrition — Knowledge + Behaviour

<u>2. The context</u>
11 states
46 CAS + 78 Non-CAS = 124 Districts
519 ICDS projects–745 AWCs–1100 pregnant + 3300 lactating =3300 women

<u>3. Interventions</u>
Knowledge: info./msg/counsel, MCP, ANC, Health check, Home visits, VHSND, Comm. Events.
Behaviour: info./msg./counsel., MCP, ANC, Health check, Health edu.,Home visits, Growth monitor., Immunization, VHSND, Comm. Events, Tell nutria. Status.

<u>4. Outcome</u>
Knowledge + Behavior of Pregnant Women
Behaviour of lactating women

Identification strategy

1. Specification
   (C1) CAS =1, Non-CAS = 0

   (C2) Intervention received = 1, Intervention not received = 0
   Control variables + Fixed effects + cluster-robust standard errors

2. Two-way Fixed Effects
   Knowledge outcomes = C1 +C2 + C1xC2 + controls + FE+ residuals

   Behaviour outcomes = C1 +C2 + C1xC2 + controls + FE+ residuals

3. Estimating Equation

$$y_{ircawd} = \alpha_0 + \alpha_1 C_d + \alpha_2 T_i + \beta C_d T_i + A_r + B_c + E_w + \gamma X_i + \varepsilon_{ircawd}$$

Results

1. Behavior of pregnant women

CAS+Info/msg/counsel + 33** pp on reco. 100 IFA

2. Behavior of lactating women

CAS+VHND +9* pp on reco. 100 IFA

Results 1: Pregnant women's behavior
+ 33pp due to info/msg/counsel. in CAS districts

Table 2: Effects of information/messages/councelling on nutrition received on Pregnant Women's

Dependent variables	Knowledge of			Behaviour on		
	recommended IFA for 100 days	recommended 4 ANC visits	recommended Breastfeeding within 1hr of delivery	timely 1st ANC visit	atleast 4 ANC visits during pregnancy	at least 100 IFA taken
	(1)	(2)	(3)	(4)	(5)	(6)
ICDS-CAS implemented	-0.175	-0.030	0.119	-0.176***	-0.160*	-0.145
	(0.196)	(0.109)	(0.239)	(0.047)	(0.089)	(0.094)
Information/messages/councelling received	-0.308**	0.054	-0.103	0.051	-0.080	-0.218
	(0.151)	(0.116)	(0.131)	(0.114)	(0.122)	(0.138)
ICDS-CAS implemented X Information/messages/councelling received	0.247	-0.087	0.016	-0.105	0.104	0.334**
	(0.195)	(0.163)	(0.160)	(0.135)	(0.171)	(0.163)
Observations	814	970	759	973	973	1,032
R-squared	0.653	0.651	0.648	0.569	0.572	0.546
mean (dependent variable)	0.518	0.495	0.775	0.941	0.387	0.320

Notes : Standard errors clustered at the Anganwadi Centre levels in parenthesis. An observation is currently pregnant woman. Additional control variables included but the estimates are not presented: respondent's current age, age at marriage, highest educational attainments, below poverty line status, number of living children, number of children younger than 24 months. Fixed effects for religion(s), social categories (SC/ST/OBC/General),and ICDS project(s) are applied. Data source: World Bank's Telephonic Survey on Poshan Knowledge and Behavior. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Results 2: Lactating mothers' behavior
+ 9pp due to attendance at VHND in CAS districts

Table 3b: Effects of Attendance at Village Health and Nutrition Day/Village Health Sanitation and Nutrition Day on Lactating Women's

Dependent variables	Behaviour on					
	timeliness of 1st ANC visit (within 16wks)	recommended at least 4 ANC visits	recommended at least 100 IFA	ever Breastfed	immediate/within Breastfeeding	exclussive 1hr Breastfeeding (until 6mo)
	(1)	(2)	(3)	(4)	(5)	(6)
ICDS-CAS implemented	0.095	0.327*	0.108	-0.011	-0.029	-0.302***
	(0.087)	(0.190)	(0.084)	(0.014)	(0.035)	(0.095)
Attendance as VHND/VHSND	-0.015	-0.037	-0.024	0.004	0.038	-0.016
	(0.040)	(0.054)	(0.052)	(0.010)	(0.046)	(0.059)
ICDS-CAS implemented X Attendance at VHND/VHSND	0.042	0.070	0.099*	0.001	0.029	0.070
	(0.044)	(0.061)	(0.060)	(0.011)	(0.054)	(0.067)
Observations	2,998	2,995	3,012	3,120	3,064	3,064
R-squared	0.334	0.454	0.394	0.142	0.251	0.194
mean (dependent variable)	0.898	0.620	0.552	0.980	0.698	0.443

Notes : Standard errors clustered at the Anganwadi Centre levels in parenthesis. An observation is lactating woman with children below 6 months/Women with children below 2 years. Additional control variables included but the estimates are not presented: respondent's current age, age at marriage, highest educational attainments, below poverty line status, number of living children, number of children younger than 24 months. Fixed effects for religion(s), social categories (SC/ST/OBC/General), and ICDS project(s) are applied. Data source: World Bank's Telephonic Survey on Poshan Knowledge and Behavior. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Identifying assumption
The sampling strategy