

# REACH OF MEDIA AND INTERPERSONAL COMMUNICATION IN RURAL UTTAR PRADESH

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## BACKGROUND

Mass media, due to its wide reach, cost-effectiveness and appeal, has been used globally to disseminate information and promote healthy behaviors. The substantive growth in new information and communication technologies (ICTs), such as mobile phones and community radio, has provided new opportunities to promote behavior change. However, often populations with higher health burdens have poor access to communication technologies and information related to health care services.

Studies demonstrate that behavior change communication (BCC) is effective when the media and the message are context based, tailored to the needs of the audience, designed to be interactive and motivates the audience to take action.<sup>1,2</sup>

For a successful communication strategy it is important that messages are aligned, integrated and reinforcing.<sup>3</sup> If the reach of mass media is not up to the desired level, mid media and interpersonal communication (IPC) can complement mass media efforts in disseminating messages on family health. Mid media and IPC may be particularly effective in case of poor and disadvantaged groups living in small and remote villages, as they have limited exposure to mass media.

One of the main challenges for BCC is to identify ways to reach the intended audience with appropriate media. Mapping the reach of various media and assessing viewership, listenership and readership habits are important to enable appropriate media planning, allocation of funds and optimization of resources to reach the intended audiences.

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## OBJECTIVES

In 2009, the Population Council and R K Swamy BBDO, a leading advertising agency and a partner in the Population Council-led consortium carried out an analysis to assess the reach of the media and IPC, with the following objectives:

- (a) to determine the reach of mass media and mid media among the target audience, and IPC between frontline health workers and family members, particularly women, husbands and mothers-in-law,
- (b) to identify an appropriate media mix that could reach various segments of the population,
- (c) to identify programmatic and BCC initiatives through which messages on family health could be disseminated to a larger segment of the population, particularly difficult to reach groups.

The project was funded by the Bill and Melinda Gates Foundation.

## METHODOLOGY

Diverse sources of information and datasets for UP were used, including Indian Readership Survey (IRS)<sup>4</sup> Round 2 data (2008), Television Audience Measurement (TAM) data,<sup>5</sup> NFHS-2 (1998-99) and NFHS-3 (2005-06) datasets and data collected in a formative study conducted by the Population Council in rural UP.<sup>6</sup>

R K Swamy BBDO, analyzed the IRS and TAM data to explore the reach of various mass media and viewership patterns. The Population Council, using NFHS data and data collected in the formative study, analyzed the reach of other sources of information, including mobile phones, mid media and IPC, in addition to mass media (newspapers, radio and TV).

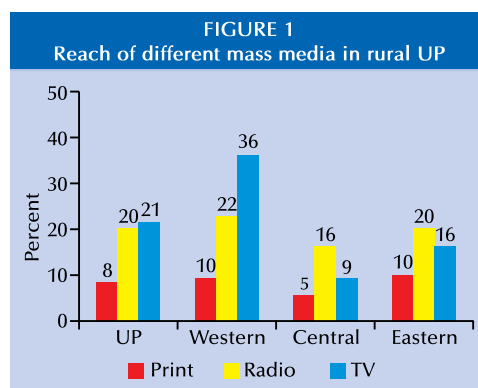
The formative study was conducted in two phases. First, a survey was

conducted covering 4,754 households, 4,472 currently married women aged 15-34 who had delivered a child in the three years preceding the survey, 2,274 husbands, 2,372 mothers-in-law, 1,050 frontline health workers and private providers, and 144 government health facilities (PHCs and CHCs) from 225 villages in 12 districts spread across all regions of UP. In the second phase, 308 in-depth interviews were conducted with all the above-mentioned stakeholders. The qualitative study was conducted in 24 villages: eight villages each from three districts, one district from each of the three regions of UP. Details of the study design and data collection methods have been discussed in the introduction to this journal.

## KEY FINDINGS

### *Reach of mass media*

An analysis of IRS Round 2 data reveals that mass media has limited reach, covering only about 20 percent of the rural population of UP (Figure 1). Regional variations are evident in the reach of mass media. Populations in the Western region were better exposed to all three types of mass media as compared to the other two regions. Further, in the Western region, the reach of TV was relatively higher (36 percent) as compared to radio (22 percent) and print media (10 percent), whereas in the Central and Eastern regions, the



Source: IRS, 2008.

reach of radio was relatively higher (16-20 percent) as compared to TV or print media.

Further, the trend analysis from the IRS data shows that the reach of all three types of mass media has remained almost unchanged over the three years from 2006-08. NFHS data and data from the Population Council formative study on women's exposure to different types of mass media in rural UP show that the reach of the radio has gone down slightly from 23 percent in 2005-06 to 19 percent in 2009. In contrast, the reach of TV has increased from 18 percent in 1998-99 to 32 percent in 2009.

**Mass media reach by audience segmentation**

Table 1 shows that irrespective of gender, the reach of mass media is low among non-literate groups (around 20 percent), and it will be a challenge to reach the large segment of the population that is not exposed to any type of mass media. However, with the increase in the level of education among both men and women, the reach of mass media also increases; those who have more than nine years of schooling have reasonably good exposure to various mass media as compared to those with less or no education.

**TABLE 1**  
Reach of mass media by education among women and men in rural UP (percent)

	Non-literate	Educated up to Class 9	Educated above Class 9
<b>WOMEN</b>			
Print	--	2.9	21.1
TV	12.2	28.3	48.5
Radio	9.2	21.2	31.3
TV + Radio	18.6	39.8	60.1
Print +TV+Radio	18.6	40.2	62.9
<b>MEN</b>			
Print	--	11.1	36.6
TV	10.3	23.0	36.7
Radio	9.5	25.8	40.8
TV + Radio	17.8	40.5	58.4
Print +TV+Radio	17.8	44.9	67.2

Source: IRS, 2008.

A combination of TV and radio emerges as the most effective approach to reach both men and women, as compared to a combination of all three media. Exposure to TV is slightly higher among women than men, irrespective of education. The print media has a higher reach (37 percent) among educated men as compared to educated women (21 percent).

The Population Council formative study shows that women with no education, belonging to Scheduled Castes/Tribes, from households with a low standard of living and residing in small villages (<=1,000 population) had the least exposure to any mass media (9 percent) as compared to those with secondary or higher education, belonging to general castes, from households with a high standard of living and residing in large villages (>=3,000 population) (87 percent). This highlights the difficulties in reaching disadvantaged groups, who constitute a substantial proportion of the rural population, with messages and information on health.

The logistic regression analysis shows that standard of living index (SLI), which is a proxy variable for the economic status of households, is a dominant predictor for women's exposure to any mass media (see Table 2 on next page). The odds ratio of model 1 shows that women from households with a high standard of living index (SLI) were almost eight times more likely (OR=7.94, p<0.01) to be exposed to any mass media than those from households with a low SLI. In the second model, when SLI was dropped, along with education, other variables like village population, index of connectivity to the outside world and supply of electricity to the village showed significant impact on mass media exposure.

**Share of TV channels**

The share of TV channels in UP is mainly divided between Doordarshan/DD1,

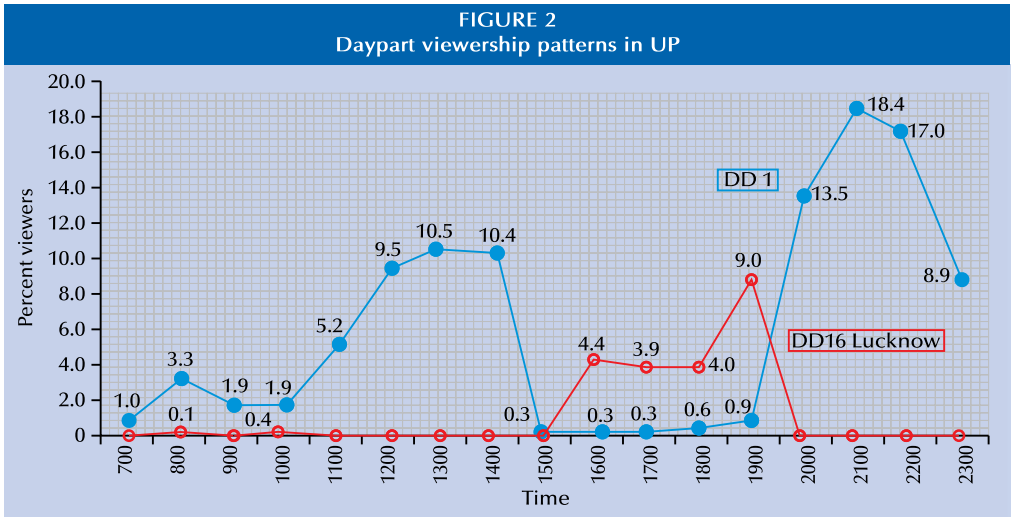
Variable	Category	Odds Ratio	
		Model 1	Model 2
Caste	SC/ST <sup>o</sup>	--	--
	OBC	0.89	1.19*
	General	0.87	1.43**
Education of women	No education <sup>o</sup>	--	--
	Primary	1.93**	2.49**
	Secondary or higher	3.21**	5.39**
Standard of Living Index	Low <sup>o</sup>	--	--
	Medium	2.33**	
	High	7.94**	
Village population	<=1,000 <sup>o</sup>	--	--
	1,001-3,000	1.13	1.25*
	>3,000	1.22	1.46**
Index of connectivity to outside world	Low <sup>o</sup>	--	--
	Moderate	1.05	1.17*
	High	1.22	1.47**
Supply of electricity to village	No <sup>o</sup>	--	--
	Irregular	0.93	1.22
	Regular	1.21	1.77**
<b>Total</b>		<b>4,353</b>	<b>4,353</b>

Note: Dependent variable: Exposure to any mass media (No=0, Yes=1); <sup>o</sup> Reference category; \*p<0.05; \*\*p<0.01. Index of connectivity to outside world includes five variables: distance to nearest (a) town; (b) district headquarters; (c) railway station; (d) bus stop, and (e) all-weather broad road. Supply of electricity to village: irregular = less than 6 hours a day; regular = 6 or more hours a day. Source: Population Council, formative study.

the national broadcaster, and other non-cable and satellite (non-CS) channels. Other non-CS channels refer to no satellite TV connection and access to all DD platform channels, such as DD Direct. DD1 has the highest channel share (51 percent) across the target audiences, followed by other non-CS channels (31 percent). DD16 Lucknow, DD Delhi and DD News have a channel share of 11 percent, 5 percent and 2 percent, respectively. All the major entertainment programs on DD1 and DD16 Lucknow are either daily serials or programs related to film songs or Hindi movies. Till 2006-07, satellite TV viewership was less than 2 percent in all regions of rural UP. Satellite TV viewership has either been stationary (as seen in Eastern and Central UP from 2006-08) or has slowly increased (as in Western UP, from less than 2 percent in 2006 to 5 percent in December 2008).

### Timing of TV viewership

The analysis of daypart viewership patterns (i.e., by time segment in the broadcast day) of DD1 and DD16 Lucknow shows that DD1 is primarily viewed in the afternoon between 1200-1400 hours (around 10 percent) and in the evening between 2000-2200 hours (around 17-18 percent) (Figure 2). DD 16 Lucknow, which



Source: IRS, 2008.

is the local feed aired in place of DD1 from 1600-2000 hours peaking at 1900 hours, also has a reasonable viewership (9 percent).

**Media planning and cost of reaching viewers**

An analysis of TAM data (based on the electronic metering of households to assess viewership) shows that Doordarshan, with a reach of 84 percent and 72 percent, respectively, among women and men aged 15-44 years, is the most effective cost-per-contact medium. For a 20 second duration slot, the cost-per-reach is ₹6.50 and ₹6.30 respectively, for women and men. The cost-per-contact for the print medium (for 240 sq. cm) is far more effective for men (₹10.90), with a reach of 27 percent, than for women (₹54.00), with a reach of only 6 percent.<sup>7</sup>

**Mid media: Availability and readability of displayed BCC materials at government health facilities**

A communication checklist was developed for the formative study to assess the availability, location and readability of posters, wall paintings and other BCC material at PHCs and CHCs. An analysis of the data shows that apart from a few themes like the Janani Suraksha Yojana (JSY), immunization schedule and pulse polio, female/male sterilization and TB, less than 20 percent of health facilities had readable posters/wall paintings on other important family health issues like postpartum care, birth spacing, contraceptive methods for spacing, exclusive breastfeeding and complimentary feeding (Table 3). Readable display material on anemia, vitamin A deficiency and medical termination of pregnancy was available in less than 10 percent of the facilities. The skewed distribution of themes for display materials perhaps indicates program emphasis. While family planning (sterilization), breastfeeding and several diseases are given priority, many important messages like birth spacing,

**TABLE 3**  
Government health facilities with available and readable BCC material displayed by theme

Theme	Percent of facilities	
	Available	Readable
Services offered by the PHC	20	19
JSY/institutional delivery	70	58
Breastfeeding	41	31
Exclusive breastfeeding	15	14
Complementary feeding	8	8
Sterilization (male and female)	33	25
Spacing methods (IUD/pill/condom)	17-22	11-20
Birth spacing	16	11
Small family size	15	13
Immunization schedule	58	48
Polio vaccination	52	36
Need to keep newborn warm	6	5
Diarrhea/ORS	15	13
TB	61	47
Other diseases (leprosy, malaria, HIV/AIDS)	20-31	19-24
PCPNDT Act	21	19
<b>Total health facilities</b>	<b>144</b>	<b>144</b>

Source: Population Council, formative study.

complementary feeding, newborn thermal care and postpartum care for the mother and newborn are given limited space or priority.

Of the total BCC materials displayed in the facilities, 60 percent were wall paintings, 20 percent were posters and the rest were banners, calendars and materials framed in glass. Interestingly, among the posters available, 43 percent were located in the doctor's or nurse's room. This reflects the low effectiveness of messages because the likelihood of exposure to messages displayed in such places, where patients visit for only a few minutes for an examination or other services, is practically negligible.

**Availability of leaflets and counseling aids at government health facilities and with frontline health workers**

For over two decades system-level interventions have sought to increase

awareness by distributing leaflets to clients and providing health workers with counseling aids. However, the formative study data show that only one-fourth of PHCs and CHCs had leaflets and counseling aids on any health issues. Just 11-21 percent of PHCs had leaflets on specific family health issues (such as danger signs during pregnancy, newborn care, breastfeeding, family planning and immunization); even fewer CHCs (6-15 percent) had such leaflets. Similarly, the availability of counseling aids on specific family health behaviors was low, ranging from 12-23 percent in PHCs and 13-20 percent in CHCs. Only around one-fifth of frontline health workers reported that they had been provided with leaflets for distribution or flip charts to counsel women and their families.

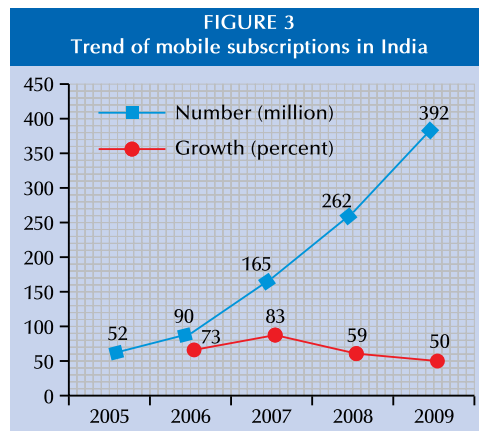
### *Potential of community radio*

Community radio, which is operated and managed by the community, plays an important role in sensitizing and informing the community, and fostering community participation and empowerment. Community radio content reflects local knowledge, raises local issues, uses the local language and serves the interests of the local community. A community radio station can reach a radius of 15-20 km. While earlier only educational institutes could manage community radio stations, the revised Government of India (GOI) policy of 2006 allows NGOs to own and manage community radio stations. It takes up to 15 months to obtain a community radio license, costs ₹100,000-150,000 to set up and ₹100,000 per month to operate. Currently, only 15 NGOs in the country are operating community radio stations; however, no community radio stations are located in UP. Given the poor reach of mass media in rural areas, particularly among non-literate and poor groups, community radio initiatives could be an important alternative media vehicle for communication and its effectiveness in

reaching the unreached should be explored.

### *Reach of mobile phones*

India has the second largest telecom network in the world after China. The number of mobile phone subscribers has increased tremendously over the last four years (Figure 3).<sup>8</sup> According to the Telecom Regulatory Authority of India (TRAI), the rate of growth of mobile subscriptions was 50 percent during 2008-09 and the current growth is 15 million connections per month.



Source: TRAI, 2008-09.

Of the 392 million mobile phone subscribers in India, four service providers—Bharti, BSNL, Reliance and Vodafone—contribute 73 percent of the market share while the other 8 service providers contribute only 27 percent.

### *Access to mobile phones in rural communities*

The Population Council formative study reveals that more than half of the households (55 percent) in rural UP own a mobile phone. More men (50 percent) than women (9 percent) own and use mobile phones. Many women who did not own a mobile phone had access to a mobile phone (41 percent) in the family. Interestingly, because of lack of knowledge of mobile use, some women had to depend on others, most often family members, to

dial a number for them, as reflected in the following quotes:

*“I do not have a mobile but I use my husband’s mobile phone. Whenever I want to talk I ask him to dial the number. I have never read any SMS.”*

*“My husband has a mobile but I do not know the number. I do not know how to dial the number either. I use the phone to speak with my parents; when I want to call my parents my husband dials the number.”*

*“The mobile phone stays with my husband. I cannot make calls or read messages. I have never spoken to any doctor or nurse on the phone.”*

Data on health care providers show that 60 percent of ASHAs and AWWs, and 83 percent of village private practitioners, had a mobile phone. Qualitative data show that frontline health workers use the mobile phone for personal and official work. Often supervisors call them for meetings or for an update of their work. Frontline health workers also call their supervisors and clients. Occasionally the AWW and the ASHA use the mobile phone to inform each other about a delivery case or to enquire about a newly-identified pregnant woman.

**Interpersonal communication: Contact with healthcare providers**

In this article, IPC has been defined as receiving advice from any healthcare provider on a family health issue at least once during pregnancy, delivery or the postnatal period for the last born child. Data from the Population Council formative study show that 92 percent of women had met with a healthcare provider (doctor/nurse/ANM/ASHA/AWW) at least once and received advice.

Contact between women and families and frontline health workers (mainly ASHAs) was high: 83 percent of women, 53 percent of husbands and 59 percent of mothers-in-law reported contact and

receiving advice from at least one frontline health worker. Indeed, 51-58 percent of husbands, mothers-in-law and women reported contact with the ASHA.

Among women who met more than one frontline health worker, 36 percent reported that they had met the ASHA and ANM; contact with the ASHA and AWW, or ANM and AWW, was low (less than 5 percent). Few husbands and mothers-in-law (up to 5 percent) reported contact with frontline health workers other than the ASHA.

To assess the total number of contacts a woman has with a healthcare provider, three points of contact were considered: contact with any healthcare provider during ANC (0-4), contact with the ASHA during pregnancy (0-1), and contact with any healthcare provider during institutional delivery (0-1). Table 4 shows the number of contacts (0-6) women had with any healthcare service provider from pregnancy to delivery. One-fifth of women reported that they had no contact with any healthcare provider, while 47 percent reported up to three contacts and 34 percent reported four to six contacts.

TABLE 4 Number of contacts between women and any healthcare provider	
Number of contacts	Percent
0	21
1	15
2	16
3	16
4	18
5	13
6	3
<b>Total</b>	<b>4,472</b>

Source: Population Council, formative study.

In other words, the analysis shows that 36 percent of women had no or poor contact with a healthcare provider (0-1 times); around 50 percent had average contact (2-4 times) and 16 percent had frequent contact (5-6 times).

## *Quality of contact with healthcare providers*

In the qualitative study, women often reported that when they met the healthcare provider either during ANC, home visits, immunization or during the post partum period, they were given only selected information; often information for which the provider receives incentivized payment, like three ANC check-ups, institutional delivery, immunization or sterilization. Crucial information on issues such as postpartum care, complimentary feeding, skin-to-skin care, lactational amenorrhea method (LAM) or postpartum contraception was not given. The following quotes reflect the relatively poor quality of counseling:

*"I went to the PHC twice to get a TT injection; once in the 4th month and then in the 5th month. Both times, no advice was given. During the first visit I was only told to come again after a month."*

*"I did not go for the third ANC check-up because when I went for the second time I was not told that I was required to come back again. If the health provider had told me, I would have gone to the PHC for the third time. I met the ASHA three times but she only told me she would accompany me to the facility for delivery."*

*"The ASHA told to me to go for TT; but she never told me to go for three ANCs check-ups or get any tests or examinations done. She did not give any advice or tell me about ₹1,400."*

*"The AWW comes only to give polio drops to my children. She does not give any health information."*

*"The ASHA came to my house 8 days after delivery but did not give any information on postpartum family planning. She just came to see my child and asked if I was fine."*

## IMPLICATIONS FOR THE BCC STRATEGY

### *Audience segmentation*

Mass media reaches only 20 percent of the rural population in UP, and the reach by mass media type differs. TV and radio jointly have the potential to reach the literate and educated (Class 9 and above) population segments. As many people listen to the radio on their mobile, and the reach of the mobile phone is high and increasing even in rural areas, messages sent on the radio could reach a large population. The possibility of using text and voice messaging in Hindi could be explored. Similarly, the feasibility of partnering with local civil society bodies to set up community radio stations could also be considered. Among educated men, the reach of print media is almost the same as radio and TV, and thus could be used in conjunction with these two media.

### *Media mix*

Given the findings that the reach of mass media is poor in rural UP and the pace of growth has been slow, IPC could play a crucial role in changing behaviors in these settings. While the reach of mass media is highest among educated men, frontline workers are women's most preferred source of information. Indeed, the ASHA and ANM are the most preferred source of information on several health issues including JSY, place of delivery, postpartum care, newborn care, family planning and immunization.<sup>6</sup> As ASHAs and ANMs contact a large number of rural women, poor and disadvantaged groups can be reached through IPC; these efforts should be supported through mass media, like TV and radio, for effective behavior change.

The analysis also shows that at least one-third of women have no or very little contact with healthcare providers. Most of these women belong to disadvantaged groups and reside in remote villages.

Extra efforts would be required to reach these women through IPC. The quality of counseling is in general poor and needs to be improved. Messages need to be balanced and include comprehensive themes, and reinforced through multiple contacts.

The availability of pictorial wall paintings and posters at facilities could be increased ensuring that they cover all family health themes and are not limited to a few issues. It is also important to assess the best way to design and locate messages to be displayed at health facilities so that they are readable and have high effectiveness. Advocacy to ensure this system level intervention would be required. Very few frontline health workers have been provided leaflets for distribution and flipcharts for counseling. Frontline health workers are familiar with community practices and norms, and providing them with counseling aids would facilitate the IPC process.

The greatest challenge would be to ensure alignment and consistency of messages across all types of media. The BCC framework developed by the Population Council could help in media planning, for example, segmenting audiences, planning audience-specific messages and choosing an appropriate media mix.<sup>9</sup>

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