

EFFECTIVENESS OF FUND ALLOCATION AND SPENDING FOR THE NATIONAL RURAL HEALTH MISSION IN UTTARAKHAND, INDIA

State and District Report

January 2014

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Effectiveness of Fund Allocation and Spending for the National Rural Health Mission in Uttarakhand, India

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ABBREVIATIONS

AHS	Annual Health Survey
ASHA	Accredited Social Health Activist
BCC	behavior change communication
CBR	crude birth rate
DHAP	District Health Action Plan
FP	family planning
FY	fiscal year
HFD	High Focus Districts
HPP	Health Policy Project
IEC	information, education, and communication
IMR	infant mortality rate
IUD	intrauterine device
MCPR	modern contraceptive prevalence rate
MH	maternal health
MMR	maternal mortality rate
NHSRC	National Health System Resource Center
NIHFW	National Institute of Health and Family Welfare
NRHM	National Rural Health Mission
NVBDP	National Vector-based Disease Program
PCA	per capita allocation
PIP	Program Implementation Plan
RI	routine immunization
ROP	Records of Proceedings (for each state)
U5MR	under-five mortality rate
UKHFWS	Uttarakhand Health and Family Welfare Society
USAID	U.S. Agency for International Development
WRA	woman of reproductive age

INTRODUCTION

In 2005, India launched the National Rural Health Mission (NRHM) to expand access to primary healthcare among rural and poor populations, groups that had been historically underserved by the health system yet shoulder a large proportion of the burden of disease. The NRHM places special emphasis on 18 High Focus States that have been identified as having particularly poor health indicators and health infrastructure.

Since the introduction of the NRHM, the central funds released by the Indian government for the scheme have been significant. In 2011, the NRHM accounted for 54 percent of the central government's total health budget (MOHFW, 2011a). From 2005 to 2011, the central government released ₹52,832 crore¹ (US\$9.8 billion at current rates) for the NRHM, of which ₹38,420 crore (US\$7.1 billion) was spent.

To achieve the desired health outcomes, NRHM funds have to be targeted, allocated, and used effectively (see Box 1). Therefore, funding decisions should account for the challenges faced by different populations and regions, and this is especially true for the High Focus States. As an example, this principle is reflected in the Uttarakhand Health and Population Policy 2013, issued by the High Focus State of Uttarakhand:

Resource allocation decisions will consider and account for regional disparities (e.g., plains/hills), the level of poverty and where the poor live (e.g., rural areas, urban slums), the common and emerging health issues in the state, and underserved groups. (DMHFW, 2013)

However, despite the magnitude of the resources allocated to the NRHM and its importance to India's development strategy, very few analyses have examined the efficiency of the NRHM funding scheme and its alignment to health needs. Therefore, to understand the effectiveness of NRHM financing, it is necessary to look at states across districts and at the lower levels of the system.

In response to this research need, the Policy Unit of the National Institute of Health and Family Welfare (NIHFW), the National Health System Resource Center (NHSRC), and the USAID-supported Health Policy Project (HPP) have partnered to examine the allocation and utilisation of NRHM funds in the state of Uttarakhand, which has shown substantial progress under the NRHM. Lessons learned from this state can serve as guides for other states seeking to make similar strides in improving health outcomes.

Of the nine High Focus States that participated in the first Annual Health Survey (AHS), Uttarakhand had the lowest infant mortality rate (IMR), under-five mortality rate (U5MR), and maternal mortality rate (MMR) (VSD, 2012). The state has made significant progress on these indicators over successive rounds of the AHS, including an impressive drop in MMR from 188 deaths per 100,000 live births in 2010–11 to 162 in 2011–12 (VSD, 2012). Although maternal mortality is likely to continue declining, further progress will be required to reach state targets. Therefore, Uttarakhand has set ambitious goals for improvements in maternal and child health status (DMHFW, 2013). The state is

Box 1. Effectiveness of Health Financing

Financing for primary healthcare is effective when it procures the maximum amount of health services per rupee spent, after accounting for program overhead costs. This is termed **cost efficiency**.

Health financing should also have **allocative efficiency**, where available resources are allocated in accordance with and in proportion to need. A reasonable rule is that areas with poorer health indicators should receive a larger allocation of funds. Therefore, a system in which areas with poorer health indicators get a larger share of funds will have more allocative efficiency.

¹ One crore is equal to 10 million. It is a way of expressing large numbers in the South Asian numbering system.

committed to reducing the MMR from the current level of 162 maternal deaths per 100,000 live births to 80 by 2017. Similarly, it aims to reduce IMR to 17 infant deaths per 1,000 live births from its current level of 41 (see Table 1). Achieving the targets will require greater effectiveness in the implementation of reproductive, maternal, and child health programs. A major contributor to this goal would be greater cost and allocative efficiency in NRHM financing.

Table 1. Uttarakhand: Selected health indicators and targets

Indicator	Baseline 2011	Current 2012	Goal 2017
IMR*	43	41	17
MMR*	188	162	80
Safe delivery (%)	57	no data	75

* IMR: infant deaths per 1,000 live births. MMR: maternal deaths per 100,000 live births.

Sources: VSD, 2011; VSD, 2012; DMHFW, 2013

Objective

This study examines the allocation and expenditure of NRHM funds across districts in Uttarakhand in relation to their effectiveness and seeks to describe holistically how NRHM funding flows from the state to the facility level. The study includes two phases:

- **Phase 1 (June–September 2013)** involves identifying trends in the allocation and expenditure of NRHM funds across districts and investigating the effectiveness of this kind of funding.
- **Phase 2 (October–December 2013)** involves visiting health facilities to investigate use of NRHM funds and interviewing key respondents across the district, block, and facility levels. This study phase aims to explore the key drivers of the spending trends observed in Phase 1 and to dig deeper into the implementation barriers that could inhibit progress toward achieving Uttarakhand’s health goals.

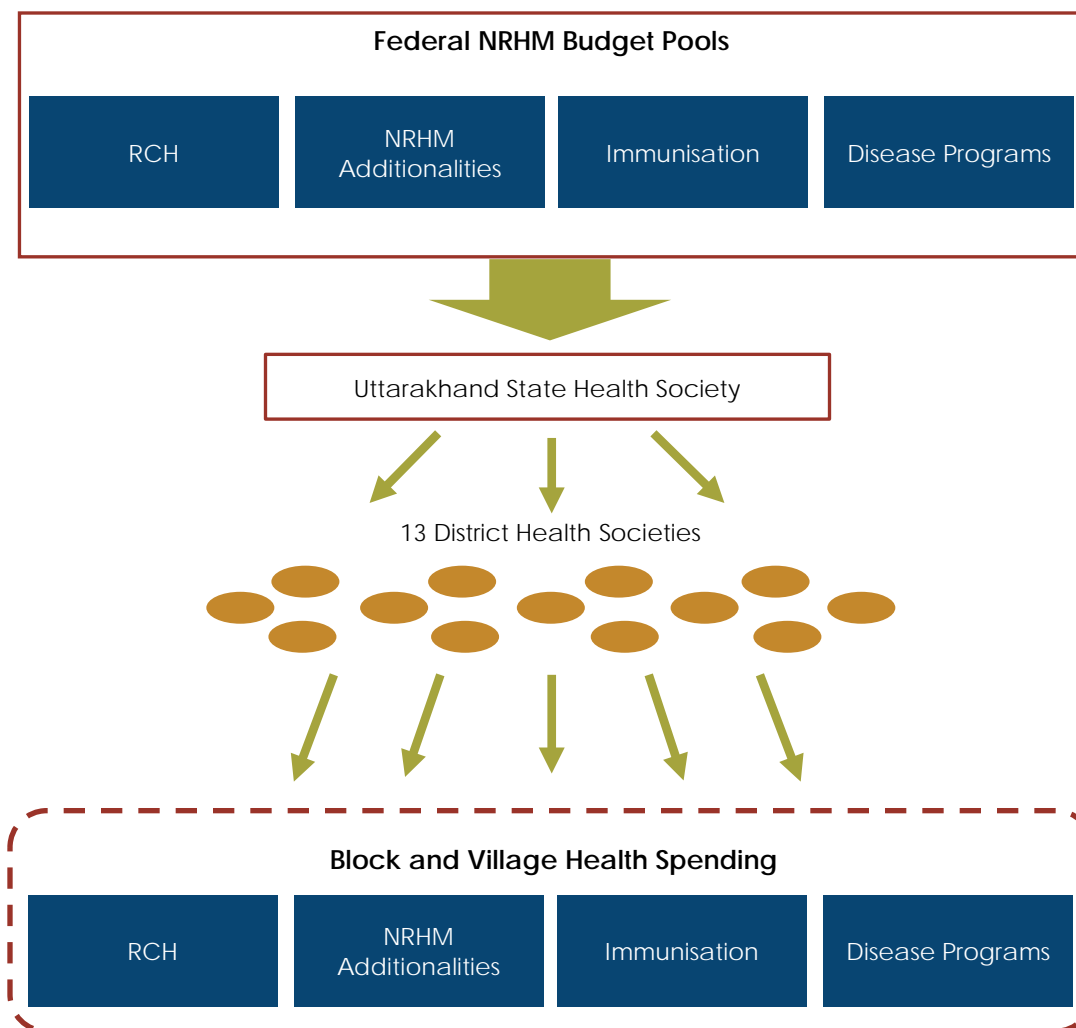
This report presents the results of Phase 1 only.

INDIA'S NATIONAL RURAL HEALTH MISSION

A key feature of the NRHM is that, although it is primarily centrally financed, districts, health facilities, and communities have a say in how funds are spent. Districts are expected to influence the planning process for the NRHM via the annual District Health Action Plans (DHAPs). Another aspect of decentralisation is that primary health facilities are allocated certain funds that are not committed to any particular health area. Facilities have the autonomy to make decisions about how to spend these “untied funds.”

NRHM funds are transferred using two routes: the “Society route,” which distributes funds through the state health societies and subsequently to district health societies for program implementation and certain other costs (see Figure 1), and the “Treasury route,” which primarily supports the salaries of extension staff (community health workers and other non-facility-based staff) as well as state- and district-level expenses.

Figure 1. Fund flow arrangements from NRHM funding pools via the society route



Source: Adapted from MOHFW, 2009

Overall, utilisation (spending as a percentage of total funds available) from the two largest funding pools maintained by NRHM—Mission Flexible and Reproductive and Child Health (RCH) Flexible—has improved over time. Nationally, the utilisation rates in 2009–10 were 61 percent for RCH Flexible and 70 percent for Mission Flexible, up from 48 percent and 22 percent, respectively, in 2006–07. Data for 2010–11 suggest that utilisation rates have exceeded 100 percent of new funds (MOHFW, 2011b). This suggests an increased absorptive capacity of the state health systems. Other funding pools include pools for infrastructure, immunization, and the national disease control programs.

Recent studies have examined utilisation at the district level in states other than Uttarakhand (CBGA, 2011; Kapur and Chowdhury, 2012; Gayithri, 2012; Grant Thornton, 2010) but few studies have examined the entire decision-making process or collected data at multiple levels on health financing effectiveness. The NRHM is by design a devolved system, mandating that at least 70 percent of funds be spent at the block level (district subdivision) and below. The funding available to blocks and health facilities is determined at higher levels. Therefore, to understand the effectiveness of NRHM financing, it is necessary to look at the state, across districts, and at the lower levels of the system.

METHODOLOGY

Phase 1 Research Questions: Based on analysis of Phase 1 data, this report provides an overview of NRHM funds channeled through the Uttarakhand State Health Society, addressing the following research questions:

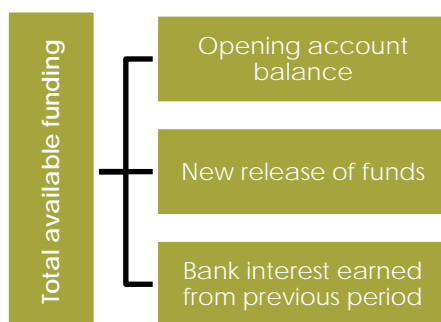
1. Are NRHM funds being allocated to Uttarakhand districts according to their need?
2. Are districts able to fully spend the funds that are allocated to them?
3. Are expenditures of NRHM funds in districts with higher burdens of disease in accordance with their needs?

Data Sources: Phase 1 analysis was based on district-level NRHM financial records available from the Uttarakhand Health and Family Welfare Society (UKHFWS). NRHM allocations and expenditures, by budget category, were available by district and for the fiscal years (FYs) ending in 2009, 2010, 2011, and 2012. Official printed copies of the financial records at the state level were obtained and verified.

In Phase 1, the focus was on the proportion of NRHM funding that flows from the state to the districts, specifically the funds available to the districts via the RCH (also known as “RCH Flexi”) pool and the NRHM Additionalities (also known as “Mission Flexi”) pool. The RCH pool contains funds to be used directly for maternal and child health interventions, and the NRHM Additionalities pool contains funds for other important activities to strengthen the health system, including health worker training, health facility upgrades and maintenance, planning, and other funds untied to any particular health area. Together, the RCH and NRHM Additionalities funding pools accounted for 70 percent or more of NRHM funds available to Uttarakhand in recent years, based on UKHFWS records. Also, these two funding pools leave the health facilities with the most autonomy in decision making, making them a useful focus for investigating the effectiveness of NRHM funding and expenditures.

In any fiscal year, *total available funding* in a district is defined as the sum of the opening account balance, new releases from the state for these pools, and bank interest earned (see Figure 2).

Figure 2. Total available funding from NRHM for a district at the start of fiscal year



Because funding allocations have usually not been fully used in previous years, the opening annual balances in most districts can be substantial. Unlike other studies of the NRHM (CBGA, 2011; Kapur and Chowdhury, 2012; Gayithri, 2012; Grant Thornton, 2010), this study takes a more comprehensive view of available funding to enable a rigorous analysis of health finance effectiveness at the district level.

In addition to the total available funding, financial records used for this study contain the district expenditures according to key line items within the RCH and NRHM Additionalities pools. To assess whether the financing allocations were appropriate, the study used data on district-level health indicators for Uttarakhand from the Annual Health Survey 2011–12 (VSD, 2012)

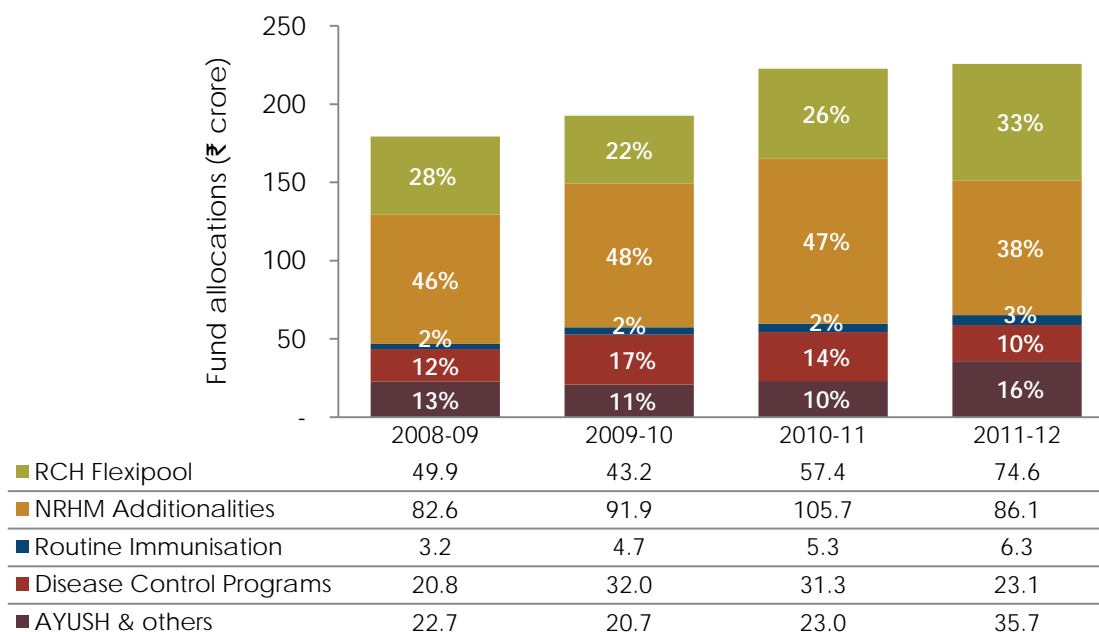
RESULTS

Trends in NRHM Funding to Uttarakhand

District allocations according to funding pool: Across the four years analysed, the RCH Flexipool and the NRHM Additionalities pool accounted for over 70 percent of total NRHM funds available to Uttarakhand per year (Figure 3). After a decrease from 2008–09 to 2009–10, the funds available via the RCH Flexipool increased by at least 30 percent in the two subsequent fiscal years through 2011–12. In contrast, the funds available via the NRHM Additionalities pool, after increasing by 11 percent in 2009–10 and 15 percent in 2010–11 compared to the previous year, decreased by over 18 percent for 2011–12.

In addition to the RCH and NRHM Additionalities funding pools, there are other pools focusing on specific diseases or program areas. In addition to a fund for promoting routine immunisation of children, there are disease-specific funds devoted to the prevention of polio, tuberculosis, blindness, and deafness, among other conditions. One particularly large funding pool is the AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy), which promotes traditional Indian healing within mainstream medicine. Figure 3 compares the amounts of major budget headings. Combined, pools other than RCH and NRHM Additionalities make up less than one-third of annual NRHM allocations.

Figure 3. Funds available, by major NRHM pools, 2008–09 to 2011–12 (₹ crore)



Source: UKHFWS records

The net effect of these shifts was that the total funds available via the two largest funding pools decreased by ₹2.3 crore or 1.4 percent from 2010–11 to 2011–12. There was still a net increase in total NRHM funds, as shown in Figure 3, primarily due to additional allocations via the AYUSH budget pool.

State matching of government NRHM allocations: As part of the NRHM’s Program Implementation Plan (PIP) Guidelines, each state is required to match 15 percent of the government’s central NRHM allocation that it receives.

Table 2 shows the required Uttarakhand state share in new releases, as reported in the State Records of Proceedings (ROP) (MOHFW, 2008; MOHFW, 2009; MOHFW, 2010; MOHFW, 2011b). The table also shows the actual new releases from the state, based on UKHFWS financial records. Measured against the requirements stated in the ROPs, Uttarakhand fell short on its actual releases compared to the ROP commitment in the fiscal years 2009–10 and 2010–11, but exceeded these in 2011–12. However, when measured against *actual* releases by the central government, the state matched at least 21 percent of released funds in every year except 2009–10.

Table 2. State share in total new resources for NRHM in Uttarakhand (₹ crore)

	2008–09	2009–10	2010–11	2011–12
1. Expected state share, as stated in ROP (₹ crore)*	13.85	18.17	23.02	30.06
2. Actual release made by state (₹ crore)	13.85	13.80	21.85	35.65
3. Percent of ROP obligation (as in 1)	100	76	95	119
4. State release as a percentage of <i>actual</i> new releases by central government	21	13	22	28
5. State release as a percentage of <i>all</i> actual new releases (state + central government)	17	12	18	22

*Based on 15 percent of expected new central government releases.

Sources: UKHFWS records; MOHFW, 2008; MOHFW, 2009; MOHFW, 2010; MOHFW, 2011b

Trends in utilisation: As a percentage of total funds available in NRHM accounts, the UKHFWS spent between 49 percent and 67 percent of funds in the years of analysis (Table 3). As defined, total funds available include both opening balances and new releases from the central government and the state government of Uttarakhand. Spending includes all expenditures at the state and district levels.

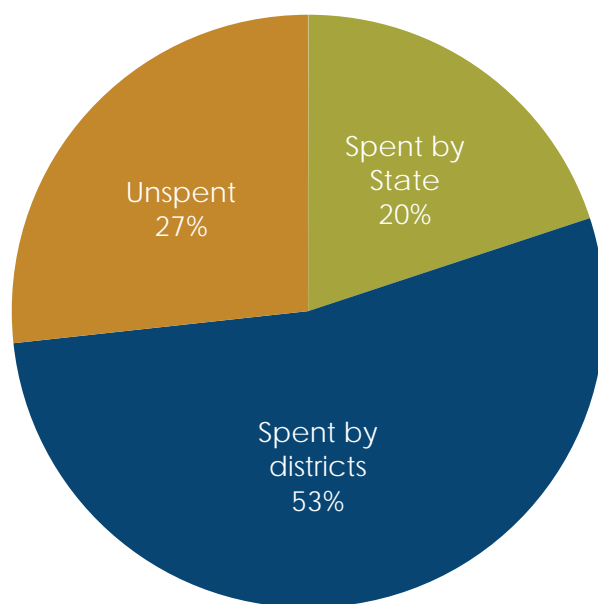
Table 3. Percent utilisation of NRHM funds by UKHFWS, by funding pool

	2008–09	2009–10	2010–11	2011–12
Total	57	49	67	60
Total, excluding AYUSH and others	61	55	75	71
RCH Flexipool	82	67	75	75
NRHM Additionalities	44	51	83	71
Immunisation	95	63	64	71
Disease control programs				
Pulse (polio)	74	46	44	60
RNTCP (TB)	90	87	81	73
NPCB (blindness)	52	37	33	38
NVBDP (malaria)	25	5	22	31
NLEP (leprosy)	88	53	73	78
IDSP (surveillance)	50	78	55	81
NPPCD (deafness)	45	49	20	46
AYUSH and others	30	0	0	0

In the most recent fiscal year for which data are available, UKHFWS spent 75 percent and 71 percent of available funds, respectively, from the RCH and NRHM Additionalities funding pools. For RCH, this represented stagnation in utilisation; while for the NRHM Additionalities, it represented a decline after two years of improvement. Utilisation rates for other programs vary considerably (Table 3). For example, the National Vector-based Disease Program (NVBDP) did not spend more than 31 percent of available funds in any given year. Despite having a balance of ₹28.4 crore in 2011–12, up from ₹19.2 crore the previous year, the AYUSH program spent no funds at all in recent years. At the end of fiscal year 2011–12, ₹27.6 crore were left unspent in the AYUSH account in Uttarakhand, the largest unspent balance among all accounts.

Of the total funds available to Uttarakhand from the NRHM for the two largest accounts/pools, 20 percent was spent at the state level in fiscal year 2011–12 (Figure 4), while 53 percent of NRHM funds were ultimately spent at the district level or below. Of the remaining 27 percent that remained unspent, roughly two-thirds (63 percent) was allocated to districts and was not utilised. However, it is possible that some of the state-level spending was used in the districts for implementation and could therefore be considered district-level spending. Given a lack of data on the location of state-level expenditure, a further analysis of this issue was not possible at this stage.

Figure 4. End-of-year status of NRHM spending in Uttarakhand, 2011–12



Note: Data for RCH Flexi and NRHM Additionalities (Mission Flexi) pools only.

Source: UKHFWS records

Family planning spending: Under the RCH Flexipool, there is a budget heading for family planning (FP) labeled Family Planning—Male Female Sterilisation. Under this budget heading, in 2008–09, line items existed for male and female sterilisation as well as for non-scalpel vasectomy camps. Some funds were available for the transportation of FP clients. In the 2010–11 and 2011–12 fiscal years, additional line items were added for training on laparoscopic sterilisation, and for information, education, and communication (IEC) activities for Population Week, an annual, fair-like event to promote the uptake of contraception and reproductive health services. Table 4 shows funds spent under the FP budget heading in recent years.

Table 4. Spending under the Family Planning budget heading of RCH Flexipool (₹ crore)

	2008–09	2009–10	2010–11	2011–12
Family Planning budget head	5.22	3.65	3.57	3.64
All FP-related line items*	5.23	3.83	4.49	3.66

* Includes line items under IEC/BCC and Training budget headings that are earmarked for FP-related activities.

Source: UKHFWS records

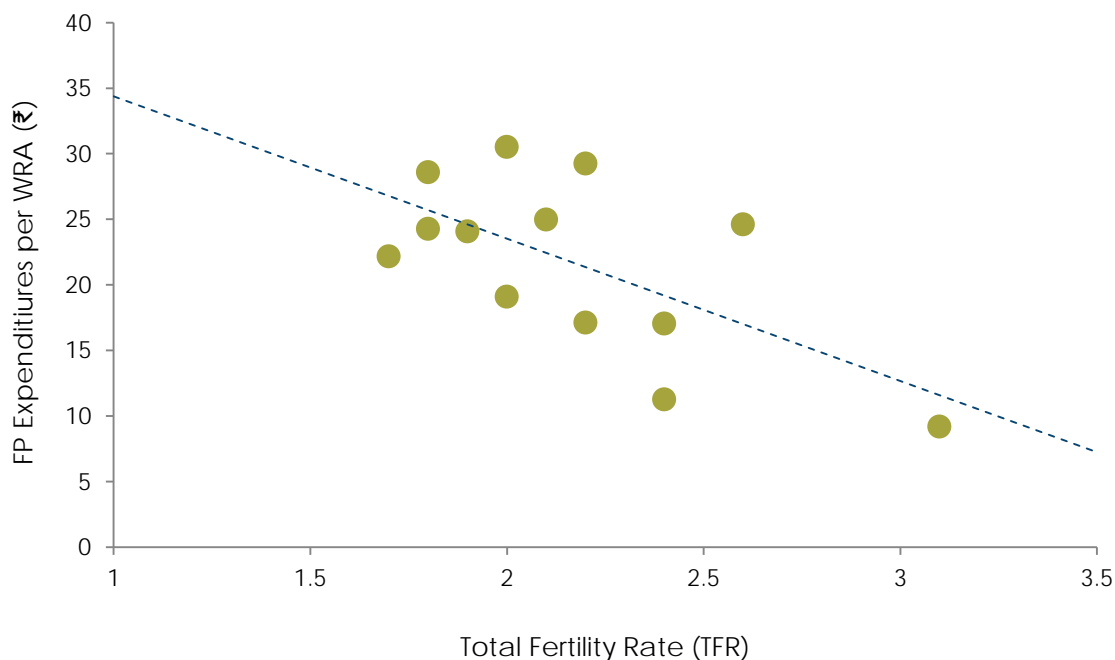
After a decline from 2008–09 to 2009–10, spending under the FP budget heading has remained constant (Table 4), despite considerable increases in the total NRHM funds available. However, this consistency masks considerable rearrangement of the underlying line items. For example, the Population Week line item was introduced under the IEC/BCC budget heading of the RCH Flexipool in 2010–11, but was moved to the FP budget heading in the following year. This increases the spending under the FP budget heading in 2011–12. In contrast, laparoscopic sterilisation training was introduced under the FP budget heading in 2010–11, but was moved to the Training budget heading of RCH Flexipool in 2011–12.

In addition to the FP budget heading, line items exist within other budget headings that appear to be earmarked for FP-related activities. For example, there are small line items for intrauterine device (IUD) insertion, non-scalpel vasectomy, and laparoscopic sterilisation under the Training budget heading. As discussed, in 2010–11, Population Week fell under the IEC/BCC budget heading, and the spending was ₹85 lakh.² This accounted for the large discrepancy in 2010–11 between the spending under the FP budget heading and actual total FP-related spending across line items (Table 4). No specific line items in the accounting data related to FP commodities (e.g., condoms, IUDs) were discernible. These goods may be purchased under other, more general line items in either RCH Flexipool or Mission Flexipool, or are supplied outside of the visible NRHM budget. Therefore, FP-related commodity procurement could not be identified in this analysis.

Districts vary widely in FP spending, from ₹9 per woman of reproductive age (WRA) in Haridwar to ₹31 per WRA in Chamoli. By combining FP expenditure data with district-level population and health data, spending can be correlated to fertility rates and use of contraception. Figure 5 suggests there is a negative correlation between spending on FP per WRA and the total fertility rate (TFR) by district. This implies that districts with higher need do not spend more on FP. Additional analyses were conducted to compare FP expenditures to unmet need and modern contraceptive prevalence rates (MCPR) by district (see Annex B). The former analysis found that FP spending is not correlated with the underlying demand for contraception. Therefore, districts with higher unmet need may be missing the opportunity to have a greater impact with higher spending on FP. The analysis of MCPR has mixed implications. It found that districts with higher MCPR also spend more on FP. Since FP spending includes a substantial amount of funding for commodities (condoms, contraceptive oral pills, and IUDs) and surgical procedures (female sterilization and vasectomies), districts with higher MCPR are likely to see higher total spending. However, FP spending also includes a significant amount for demand creation. Ideally, districts with lower MCPR will spend more on this aspect. This does not seem to be the case. See Annex B for these analyses and for FP spending by district (Figures B.2, B.3, and B.4).

² One lakh is equal to 100,000. It is a way of expressing large numbers in the South Asian numbering system.

Figure 5. Family planning expenditures per woman of reproductive age (WRA) versus total fertility, 2010–11



NOTE: Each dot represents a district. Family planning expenditures include spending under the Family Planning budget heading, as well as line items under IEC/BCC and Training budget headings that are earmarked for FP-related activities.

Sources: UKHFWS records; VSD, 2011; Census of India, 2011

Effectiveness of NRHM Funds

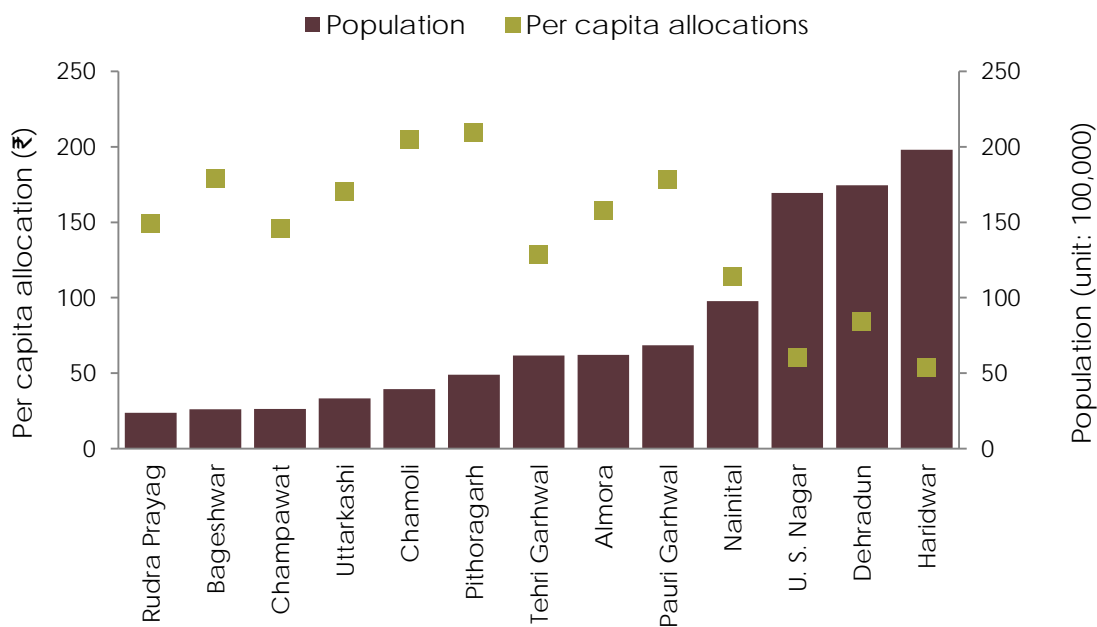
1. Are NRHM funds being allocated to districts according to their health needs?

The findings show that per capita allocations to the districts vary widely and are not directly correlated to health indicators. Despite having much poorer health outcomes, some districts receive as little as one-fourth the funding of other districts on a per capita basis.

The RCH Flexipool and Mission Flexipool make up the vast majority of NRHM funds allocated to districts. For these pools, average per capita funding allocated across all districts was ₹109 per person in the 2011–12 fiscal year, with wide variation among districts (e.g., ₹54 in Haridwar compared to ₹209 in Pithoragarh). As per overall NRHM principles, the *total* allocations to districts for these two pools were strongly correlated with the total size of the populations in the district.

However, focusing on the total allocation can be deceptive. Even though large districts like Udham Singh Nagar, Dehradun, and Haridwar receive the most funds overall, they receive the least on a *per capita* basis (Figure 6). For every rupee allocated to a resident of Haridwar District, there are three to four rupees for the residents of districts with smaller populations, such as Chamoli.

Figure 6. Population and per capita NRHM allocations (RCH and Mission Flexi pools), by district (2011-12)



Bars show population in lakhs (100,000). Square markers show the per capita NRHM allocation.

Source: UKHFWS records; Census of India, 2011

This disparity in per capita funding could be driven by decisionmakers trying to adjust for differences in need. To examine this possibility, it's necessary to look at the relationship between funding allocation and key health indicators. Table 5 ranks districts by per capita allocation and compares health indicators.

Table 5. Per capita allocation to RCH and Mission Flexipools, 2011–12, and key health indicators, by district

District	Per capita allocation (PCA, in rupees)	Average annual increase in PCA* (%)	IMR	Crude birth Rate
High Focus Districts (based on DLHS-3 2007–08)				
Pithoragarh	209	30	20	15.0
Chamoli	205	26	27	17.4
Bageshwar	179	33	31	14.5
Uttarkashi	171	23	42	15.7
Non-High Focus Districts				
Pauri Garhwal	178	27	41	19.2
Almora	158	19	20	16.0
Rudra Prayag	149	28	20	16.6
Champawat	146	25	35	17.0
Tehri Garhwal	129	24	58	21.6
Nainital	114	22	30	16.8
Dehradun	84	18	37	17.1
Udham Singh Nagar	60	16	36	18.5
Haridwar	54	21	67	22.1
Uttarakhand	109	22	41	18.2

This table is sorted by HFD vs. non-HFD, and then by per capita allocation for RCH and Mission Flexipools.

*Average annual increase in PCA or per capita allocation over the 4 years of 2008–09 to 2011–12.

Sources: UKHFWS records; VSD, 2012; Census of India, 2011

In Table 5, the districts designated as High Focus Districts (HFDs) as of the 2010–11 budget year are grouped at the top. These four were identified by the government as the districts in Uttarakhand most in need of additional health resources based on the results of the 2007–08 District Level Health Survey. In the table, it is not possible to discern a clear logic in funding allocation. For example, per capita allocation was highest in the HFDs, but these districts did not have the highest levels of need, based on the two health indicators—IMR and crude birth rate (CBR)—that are available from surveys. This suggests that per capita allocations and need are not linked in any obvious way or that there is no consistency in the designation of a district as “high focus.”

According to the NRHM PIP guidance documents, states are instructed to “ensure that high focus districts get at least 30 percent more than a non-high focus district, i.e., high focus get a weightage of 1.3 against 1 for non-high focus” (MOHFW, 2013). It is unclear what the basis is for these weights. On an absolute basis, large districts in Uttarakhand currently receive more funds than smaller districts, regardless of HFD designation. However, on a per capita basis, the discrepancy in allocation varies considerably depending on which districts are being compared. For example, the non-HFD Haridwar received the least per capita

allocation of ₹54. In contrast, Pithoragarh, an HFD, received nearly four times as much per person, far more than the recommended weight of 1.3. Currently, the implementation of the weighting scheme is not clear.

When the available RCH indicators are examined in detail, a poorly funded district such as Haridwar emerges as one of the worst-performing districts, while Pithoragarh, an HFD, has performed relatively well. Although not shown, our analysis found that this undesirable relationship between per capita allocation and need appears in previous years as well.

A potential ameliorating factor would be the tendency of PCAs for these two pools to increase over time in poorly performing districts. Unfortunately, the imbalance tends to become more prominent over time. The districts with the highest PCAs, which perform better, also have the highest increases per year in their allocations (see “average annual increase in PCA” in Table 5).

These results suggest that on a per capita basis, recent NRHM funding allocations are not efficient across the state. If need is considered, as established by the recent performance on key health indicators, the allocation does not appear equitable and is not improving over time.

These findings imply that NRHM allocative efficiency could be increased if RCH Flexipool and Mission Flexipool funds were allocated with consideration both for districts’ performance on key health indicators and the amount of NRHM funds they receive per capita.

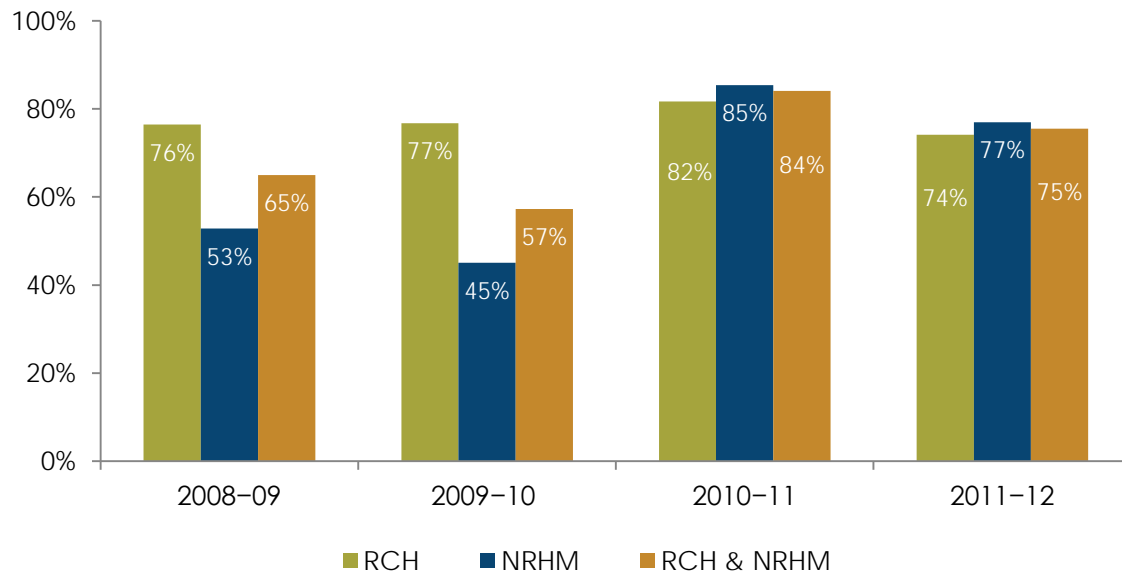
2. Are districts able to fully spend the funds that are allocated to them?

On average, districts have managed to spend between 57 percent and 84 percent of funds in the RCH and NRHM Additionalities pools in the last four years. These percentages have improved in the most recent budget years, despite large increases in total funding. However, consistent underspending has resulted in large account balances, which continue to grow.

A necessary criterion for an effective health financing scheme is that allocated funds be fully utilised (Box 1). Moreover, it is imperative that the funding is also utilised *well* (i.e., it is spent on the inputs most closely linked with improving the health status of the population).

To understand utilisation at the district level, the study team examined the proportion spent (utilised) from the total available funds for the RCH Flexipool and the Mission Flexipool, per fiscal year (sometimes called the “absorption capacity”).

Figure 7: Utilisation of available funds for RCH and Mission Flexipools, all districts



Source: UKHFWS records

In the fiscal year 2011–12, districts spent on average 75 percent of the total funds available to them (see Figure 6). In previous years, this ranged from 57 percent to 84 percent. The highest performing district was Tehri Garhwal (85 percent utilisation), while the lowest was Chamoli (65 percent, see Annex A).

A previous study on NRHM fund flows in Karnataka found that districts in that state spent an average of 84 percent of recently released funds (Gayithri, 2012). However, that study had an important limitation: it did not account for the substantial opening balances of the districts at the beginning of the year. Adjusting study methods for direct comparison with that study reveals that districts in Uttarakhand spent an average of 90 percent of *newly released* funds in 2011–12, which suggests that they are relatively effective at spending funds.

Over the four years of analysis, total allocation to the RCH and Mission Flexipools grew by 83 percent, but expenditures grew by 112 percent. Therefore, while the districts' expenditure performance varies from year to year, their capacity for spending the funds has increased more quickly than allocations. In other words, districts have become better at spending.

Some districts continue to use substantially less than is allocated to them (see comparisons in Annex A). This results in an accumulation of unspent funds each year and suggests that efforts to increase absorptive capacity at the district level and below should continue to increase the cost efficiency of the health system. These efforts can focus on districts that have difficulty in utilising funds. (See Annex A for data on utilisation of RCH Flexipool and NRHM Additionalities funds by district.)

3. Are expenditures of NRHM funds in high-burden districts in accordance with their higher needs?

When compared against key health indicators, levels of district-level spending on maternal and child health do not appear to reflect the need for these services. For example, districts with low levels of institutional deliveries do not show systematic spending to address this need compared to districts with better rates of institutional deliveries. Districts with high under-five mortality seem to spend less on child

health than states with better outcomes. Low-performing districts would do well to increase spending on these key areas to improve health status.

Districts have a certain degree of autonomy to spend NRHM funds that are allocated under approved programmatic line items. For example, depending on the district's needs, RCH Flexipool funds can be spent on maternal health (MH), child health (CH), program management, training, and family planning, among many other budget headings.

While the health indicators and funding priorities will undoubtedly differ between districts, an effective funding system should show greater correlation between health outcomes and spending in related areas of health programming. Therefore, to examine the appropriateness of spending on this criterion, funds spent under the MH and CH line items were compared at a district level against two key health outcome indicators identified by the Uttarakhand Health and Population Policy as being of specific interest.

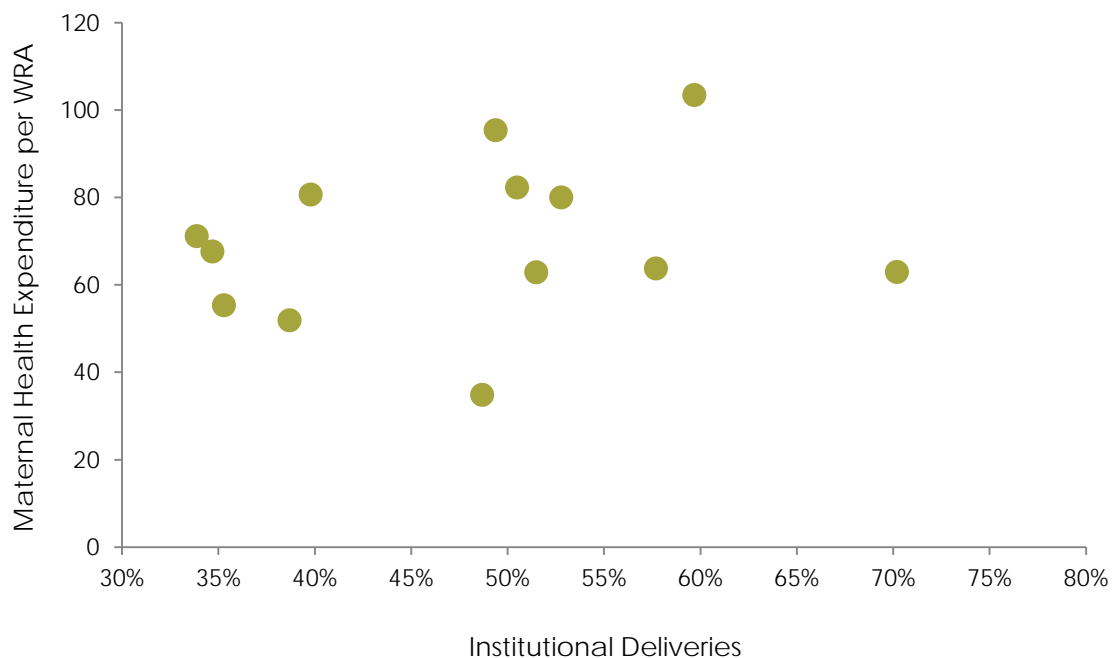
The MH budget heading includes line items related to institutional delivery, the Janani Suraksha Yojana³ program, and incentives for the community health workers under the Accredited Social Health Activist (ASHA) program. Figure 6 graphs the NRHM per capita expenditure across districts for the MH budget heading against the percentage of deliveries performed in institutional settings, one of the two key indicators. Each point in the graph represents a single district.

In an effective health financing system, especially where overall funding is limited, those districts with poor performance on institutional delivery should be allocated more resources. The MH budget heading is the funding source for improving institutional delivery (among other outcomes). Therefore, a hypothetical trend line to compare the relationship between the two indicators should slope *downward*; that is, as the historical institutional delivery level is higher, the recent funding allocated under MH is lower for that district, given an overall constraint in resources. If there is no constraint in resources, such an inverse relationship is not necessary. Given India's health needs, there appears to be a constraint on resources.

As shown in Figure 8, there is *no significant correlation* between NRHM spending on maternal health and institutional delivery outcomes, and certainly no inverse relationship, as desired.

³ This program provides conditional cash transfers to mothers as incentives to give birth at a health facility. It is closely linked with the ASHA program, which encourages community health workers to link pregnant mothers to delivery facilities.

Figure 8. Maternal health (MH) expenditure per woman of reproductive age versus institutional deliveries



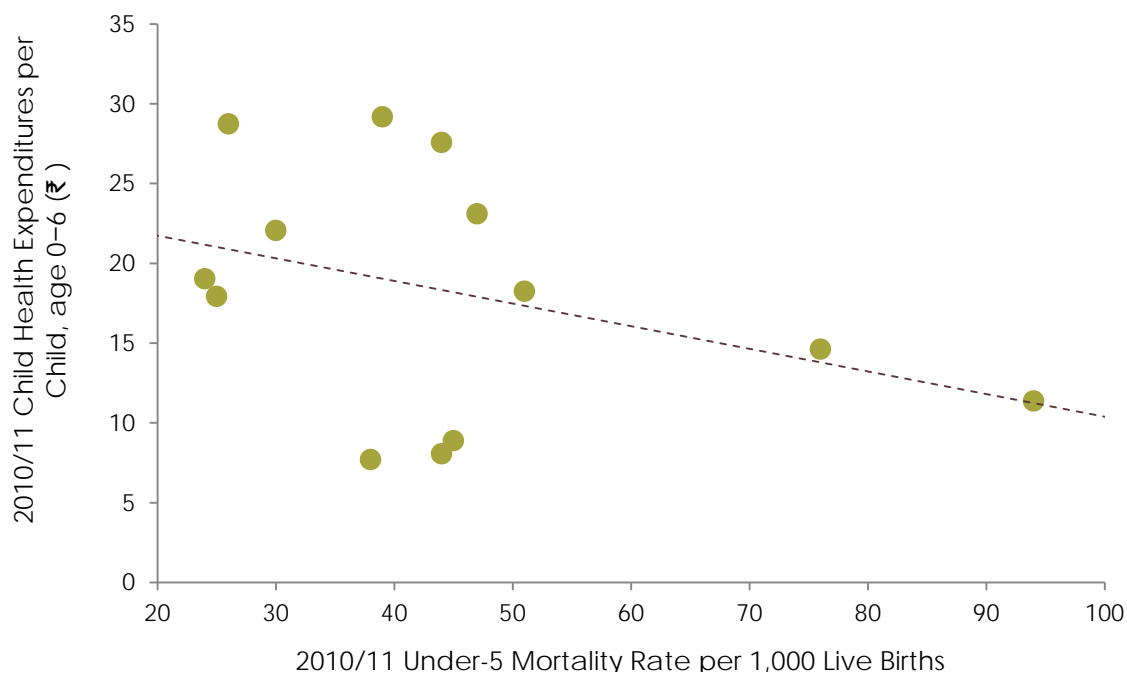
Each dot represents a district.

Sources: UKHFWS records; VSD, 2011; Census of India, 2011

The CH budget heading contains line items related to school health programs, but also for facility-based newborn care. Comparing per capita CH expenditures with the U5MR in districts, the appropriate relationship between the two variables plotted together in a chart—given an overall constraint on resources for health—would be an *upward sloping* linear trend. That is, if the historical U5MR is higher, the recent spending under CH is higher in that district—in other words, a positive correlation should be observed.

In Uttarakhand, the data suggest that there is in fact a *negative correlation* (Figure 9). Districts with higher U5MR are spending relatively less on child health programs. This result suggests that poorly performing districts could improve the effectiveness of health financing by devoting more resources to CH.

Figure 9. Per capita child health (CH) expenditure versus U5MR



Each dot represents a district. In Figure 7, the dotted line is the best fit line to the data.

Sources: UKHFWS records; VSD, 2011; Census of India, 2011

Similarly, a plot of Routine Immunisation (RI) expenditure per child against the percent of children immunised reveals a pattern that is the opposite of what is desired (see Annex B.1). Districts with the lowest rates of immunisation also have the lowest rates of spending on RI. Ideally, these districts should be devoting more funds to immunisation than other districts.

Clearly, there is not a positive relationship between health status and district spending on high-priority health areas. These results suggest that more may need to be done across districts to align spending to their health indicators to ensure that those funds effectively target the real health needs.

RECOMMENDATIONS

Analysis of financial data from the NRHM in Uttarakhand under Phase 1 of this study reveals that, while the state has shown impressive improvements in health outcomes in recent years, opportunities exist for accelerated gains if the effectiveness of NRHM financing can be increased.

Allocations to districts should be evidence-based and tied to health needs. NRHM allocations across Uttarakhand's districts are strongly correlated to population size, but they are very poorly correlated to health status, missing an opportunity to target funds on the basis of health needs. For example, Haridwar District is home to 19 percent of Uttarakhand's population and has the highest infant and child mortality rates in the state, but receives only 10 percent of allocated NRHM funds. In contrast, the smallest six districts, which collectively contain 19 percent of the state population and all have average or above average health indicators, receive 32 percent of the total allocation. Therefore, two equal-sized segments of the state population receive very different proportions of NRHM funding, and the group with better health indicators is targeted with over three times as much funding. Clearly the allocation of funds could be more equitable.

The concern of health financing should be to improve basic health outcomes across the state, keeping in mind the terrain and other factors that influence the cost of service delivery across districts. After allowing for higher costs in hilly districts, enhanced funding in larger districts with poorer health indicators may be needed to make greater gains in overall health. Furthermore, our utilisation analysis suggests that these large districts can perform as well as smaller districts in spending additional funds.

Currently, the state is required to ensure that High Focus Districts receive at least 30 percent more funds than non-HFDs (MOHFW, 2011). However, the basis for this requirement is unclear, since NRHM Programme Implementation Plan guidance documents do not define what the additional 30 percent should cover. Moreover, we found no evidence that this guideline is strictly followed. While HFDs in Uttarakhand generally receive more funds per capita than other districts, the additional amount varies from 0 percent to nearly 300 percent more than non-HFDs, depending on which districts are compared. The basis for the 30 percent HFD adjustment should be made clear and consistent.

In 2013, new HFDs were chosen based on the results of the 2013 Annual Health Survey. Hopefully, the new criteria set by the NRHM in 2013 for the selection of HFDs will link more strongly to health indicators, although the effect and adjustment in actual funding by NRHM line items will necessarily be slow. We note that the 2013–14 NRHM PIP Guidelines reference the previous HFDs identified in 2010–11 (MOHFW, 2013), implying that states should use the pre-2013 HFD designations as the basis for allocations.

District utilisation rates should be improved. Districts in Uttarakhand spend approximately three-quarters of the total funds available to them. This is relatively efficient compared to other states but should be improved. Based on HPP's analysis, there is an opportunity to increase spending rates and achieve greater scale and cost efficiency. Barriers to use of funds should be identified and addressed to improve the efficiency of the NRHM health system. Underutilisation of funds has been identified, but more evidence is needed to understand its causes. A forthcoming study will conduct this analysis at the district level and below.

Districts should better target allocated funds to budget sub-headings within the overall RCH and NRHM Additionalities funding pools. Health prospects across a particular district could be improved if district planners consciously align *within-district* health expenditures to a district's health needs. For example, if a district is making insufficient progress in the area of maternal health, then district planners

should direct more funds into these programs relative to others in the RCH Flexipool. These health priorities are already identified in overall state targets.

Uttarakhand has set itself the challenging but achievable task of significantly improving its key maternal, reproductive, and child health indicators by 2017. This will require not only increased investment in health but also more effective use of such investments. Just as it is critical for the state to allocate NRHM funds to districts in accordance with their needs, it is equally important that the districts subsequently spend those funds in the priority areas of health that need the most improvement.

Further research is required to justify differences in allocations and understand utilisation.

Patterns of expenditure and barriers to utilisation below the district level

Our analysis of district-level data found that districts often struggle to spend the funds that are allocated to them, especially for certain budget headings. District-level expenditure patterns are necessarily the result of utilisation at lower levels of the health system. Therefore, to truly understand fund utilisation by the districts, it is necessary to study expenditures and barriers to spending at lower levels. The next step in research is to explore fund utilisation at sub-district levels.

Impact of terrain on implementation costs

A common assertion among NRHM stakeholders is that hilly districts require additional funding due to higher service delivery costs. However, it is unclear to what extent geography actually impacts implementation costs, and there is no standard adjustment to account for the effects of terrain. We found that hilly districts like Pithoragarh, Chamoli, and Bageshwar receive up to four times as much funding per capita as less hilly districts like Haridwar, Dehradun, and Udham Singh Nagar. This is true despite the fact that the hilly districts in Uttarakhand generally have better maternal and child health indicators. Therefore, to make appropriate funding decisions based on differences in terrain, implementation costs at NRHM facilities in hilly and non-hilly districts should be rigorously studied and compared.

Limitations. This study was limited to financial data on the NRHM available through the Uttarakhand State Health and Family Welfare Society.

NEXT STEPS

This analysis raises a number of important questions about NRHM funding released and spent in Uttarakhand and the factors that affect utilisation below the district level, especially for funds provided to health facilities that are untied to any particular health area.

The Phase 2 analysis will examine expenditures at the facility level to determine the barriers preventing districts from achieving higher effectiveness of health financing. It will sample district hospitals, sub-district hospitals, primary health centres, and sub-health centres. Taken as a whole, the two phases of the analysis will enable a comprehensive study of NRHM fund flow in Uttarakhand, which will also be useful for policy formulation in other states.

ANNEX A

A.1 Utilisation of RCH Flexipool by district (%)

	2008-09	2009-10	2010-11	2011-12	All years
Almora	70	86	88	74	79
Bageshwar	85	81	92	76	83
Chamoli	74	83	74	65	72
Champawat	87	72	86	70	78
Dehradun	88	85	93	73	82
Haridwar	83	66	67	71	71
Nainital	69	61	78	76	72
Pauri Garhwal	60	76	84	73	72
Pithoragarh	76	80	81	73	77
Rudra Prayag	79	81	68	67	72
Tehri Garhwal	70	96	86	83	83
Udham Singh Nagar	89	71	84	82	81
Uttarkashi	79	80	80	74	77
All districts	76	77	82	74	77

Source: UKHFWS records

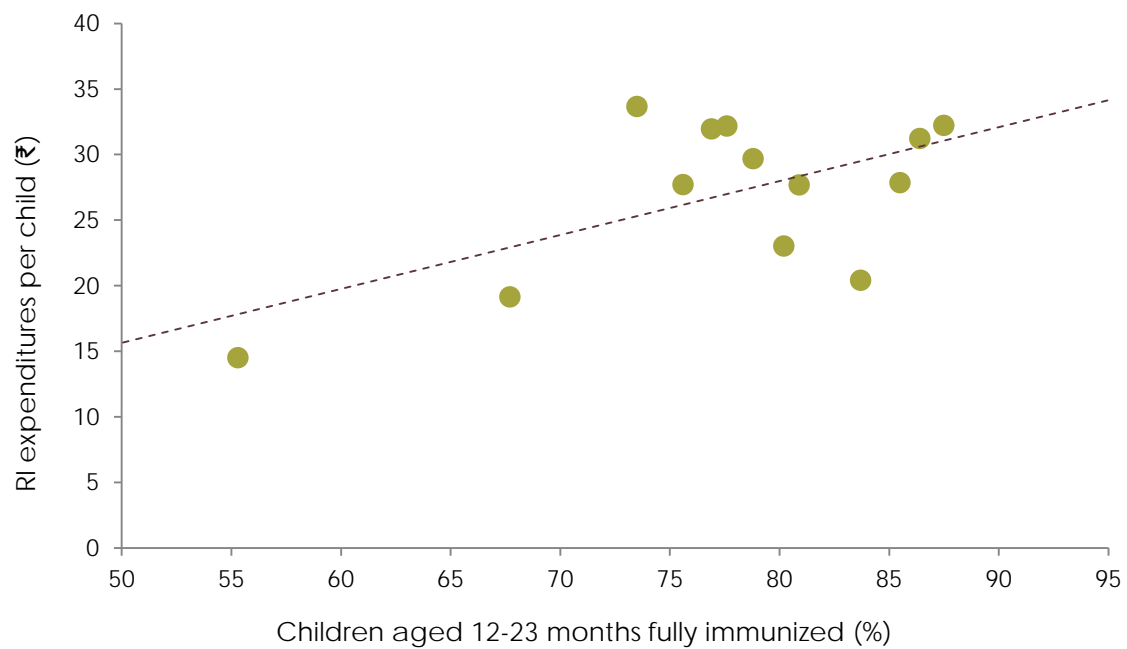
A.2 Utilisation of NRHM additionalities (Mission Flexipool) by district (%)

	2008-09	2009-10	2010-11	2011-12	All years
Almora	51	38	89	77	69
Bageshwar	46	46	82	74	67
Chamoli	57	34	73	65	59
Champawat	49	52	91	73	71
Dehradun	55	54	85	84	71
Haridwar	45	58	81	75	67
Nainital	69	47	89	81	74
Pauri Garhwal	44	34	86	83	68
Pithoragarh	47	48	79	73	66
Rudra Prayag	63	41	89	76	71
Tehri Garhwal	53	45	94	87	76
Udham Singh Nagar	49	51	87	78	69
Uttarkashi	56	52	92	63	70
All districts	53	45	85	77	69

Source: UKHFWS records

ANNEX B

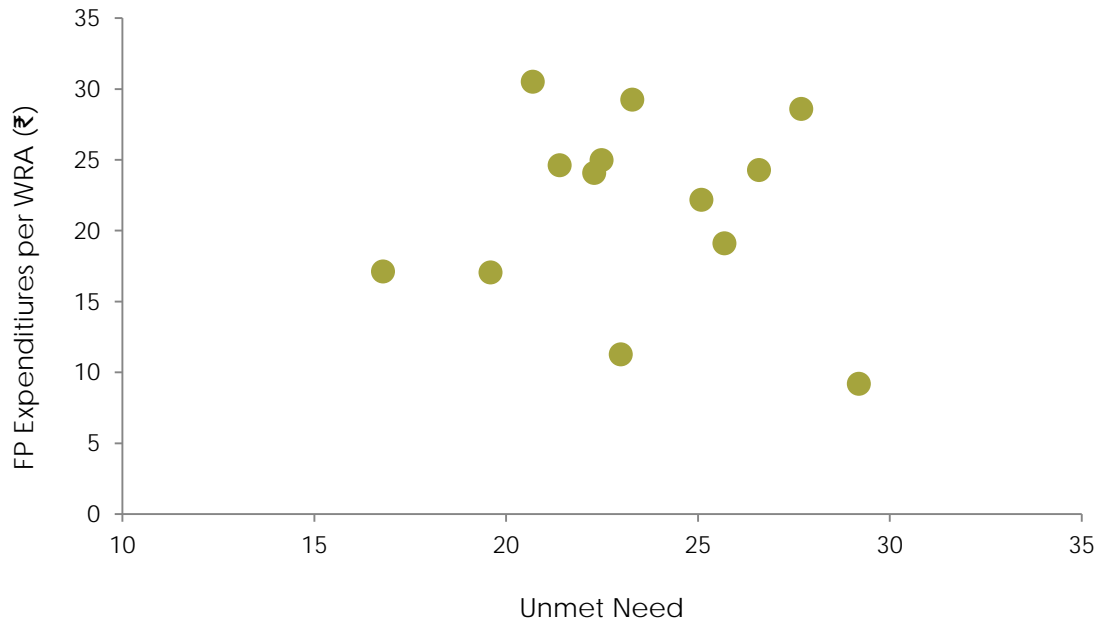
B.1 Routine immunisation expenditure per child, 2010-11



NOTE: Each dot represents a district.

Source: UKHFWS records; VSD, 2011; Census of India, 2011

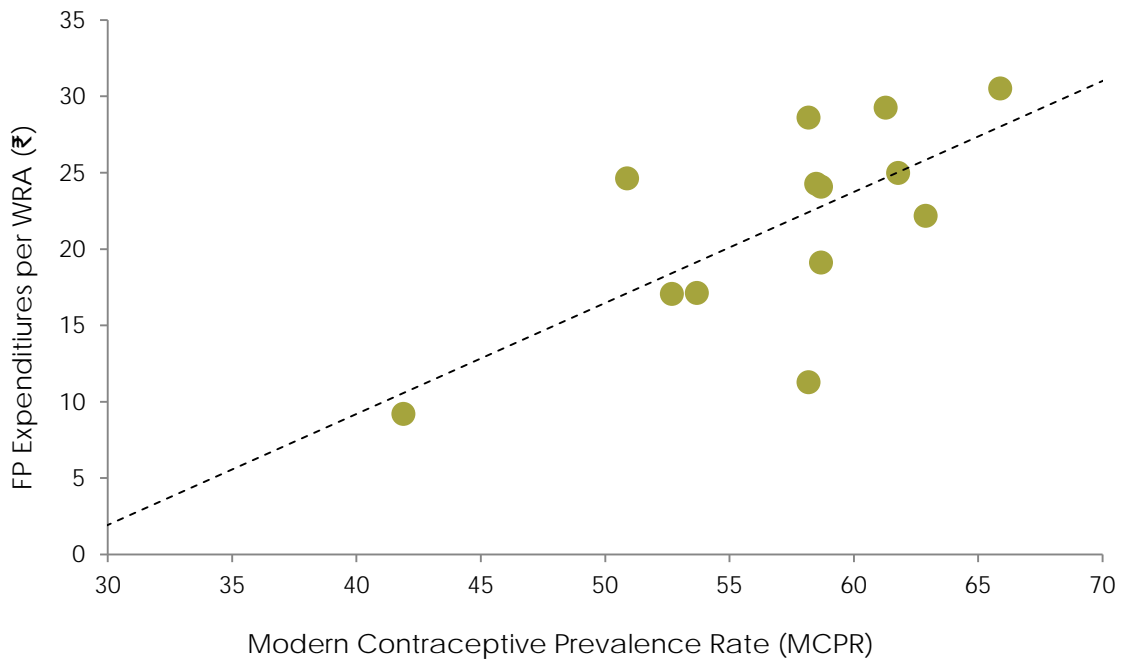
B.2 Family planning expenditures per woman of reproductive age (WRA) versus unmet need, 2010–11



NOTE: Each dot represents a district. Family planning expenditures include spending under the Family Planning budget heading, as well as line items under IEC/BCC and Training budget headings that are earmarked for FP-related activities.

Source: UKHFWS records; VSD, 2011; Census of India, 2011

B.3 Family planning expenditures per WRA versus modern contraceptive prevalence, 2010–2011



NOTE: Each dot represents a district. Family Planning expenditures includes spending under the Family Planning budget heading, as well as line items under IEC/BCC and Training budget headings that are earmarked for FP-related activities.

Source: UKHFWS records; VSD, 2011; Census of India, 2011

B.4 Family planning expenditures per woman of reproductive age (WRA) with selected health indicators, 2010–2011

District	WRA	FP Expenditure per WRA (₹)	TFR	MCPR	Unmet Need
Almora	167,019	19	2	59	26
Bageshwar	68,321	29	1.8	58	28
Chamoli	99,586	31	2	66	21
Champawat	64,768	29	2.2	61	23
Dehradun	405,419	17	2.2	54	17
Haridwar	446,053	9	3.1	42	29
Nainital	232,287	25	2.1	62	23
Pauri Garhwal	181,642	17	2.4	53	20
Pithoragarh	123,029	22	1.7	63	25
Rudra Prayag	64,351	24	1.8	59	27
Tehri Garhwal	161,738	25	2.6	51	21
Udham Singh Nagar	398,175	11	2.4	58	23
Uttarkashi	81,381	24	1.9	59	22

Family Planning expenditures includes spending under the Family Planning budget heading, as well as line items under IEC/BCC and Training budget headings that are earmarked for FP-related activities.

Source: UKHFWS records; VSD, 2011; Census of India, 2011

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