

NATIONAL RURAL HEALTH MISSION: STATE WISE PERFORMANCE IN INDIA (2005-12)

Arshiya Halder, Student, Masters degree, Department of Economics, University of Calcutta.

Satarupa Bandyopadhyay, Assistant Professor, Department of Economics, Bethune College, Kolkata-6

ABSTRACT

National Rural Health Mission (NRHM) has been an ambitious project by the Government of India to provide affordable healthcare to the remotest rural areas since 2004-05. NRHM had huge sums of annual budgetary outlays allocated to it. This study tries to evaluate the effect of NRHM by comparing the reduction in Infant Mortality Rate (IMR) (one of its three mentioned goals) between High Focus states and the Non Focus states. Annual data of IMR has been used for all the 28 states (2005-2012) and then these states have further been divided into two groups; the high focus and the non focus. The analysis of the data is done and the results show that there has been no significant effect of the NRHM on the IMR for the period of 2005-2012.

Keywords: National Rural Health Mission (NRHM), Infant Mortality Rate (IMR), High Focus States, Non Focus States, India.

1. INTRODUCTION

The health sector of India has always been vastly overlooked and even neglected. The state of public health infrastructure, especially in the rural areas, was predominantly underdeveloped. Prior to independence and for years after that, there were a few attempts by the government at improving the health sector like the *Bhore Committee (1940)*, headed by Sir Joseph Bhore, which was set up by the Government of India to understand the health situation of the country. *Community Needs Program (1974-1978)* was another such initiative, aimed to provide certain basic needs to communities that included improved health services. *Integrated Child Development Services (1975)*, was aimed to tackle malnutrition and health problems of children less than 6 years of age and their mothers. Amidst all of this, India also underwent a massive structural shift in the year 1991 with its macroeconomic reforms. The grave situation balance-of-payment deficit and the fiscal deficit drew a rethinking of the development strategy. With this pre-context, World Bank released its sixteenth *World Development Report (1993)* that focused on investing in health. It examined the interplay between human health, health policy and economic development. The report advocated a three-winged approach to health policy for the developing countries. First, was to foster an economic environment that will enable the households to improve their own health. The second step was to redirect government spending away from specialized care, towards low cost and more effective activities such as immunization and programs to treat and control infectious diseases. The third step was to encourage greater degree of diversity and competition in the provision of health services, by decentralizing government services and encouraging greater participation by non-governmental and private organizations. In the year 2000, India became a part of the Millennium Declaration of UN and was one of the 189 countries that took the pledge to achieve the eight *Millennium Development Goals (MDGs)* by 2015. Three of the MDGs were to combat HIV/AIDS, Malaria and other diseases, to improve maternal health and to reduce child mortality. The National Health Policy (2002) of India, was released, keeping clearly in mind the MDGs and was focused on attaining the goals by the year 2015. It clearly made a radical shift from the earlier efforts in the sense that it not only provided the targets to be achieved, but it also recognized the socio-economic differences, the structural impediments in the public health infrastructure and allowed for the flexibility of the different states. All these efforts throughout the span of a few decades, led to the culmination of the National Rural Health Mission (2005).

1.1 NATIONAL RURAL HEALTH MISSION: AN OVERVIEW

On 12th April 2005, Government of India, under the leadership of Prime Minister Dr. Manmohan Singh, took a major welfare initiative by launching National Rural Health Mission in 18 states (High Focus states) which had weak, poor and rudimentary public health infrastructure. It was the first time a mission of such a large scale was launched that targeted the health sector, in India. The goal of NRHM was to provide accessible, affordable and quality healthcare to the rural population, especially the vulnerable sections. By 2012, it aimed at fulfilling some of the following objectives:

- To reduce Maternal Mortality Rate (MMR) from 407 to 100 per 1, 00,000 live births.
- To reduce Infant Mortality Rate (IMR) from 60 to 30 per 1000 live births.
- To reduce Total fertility Rate (TFR) from 3.0 to 2.1 during the seven year-period of the mission.

The Mission attempted to achieve these goals through a set of core strategies including improvement and enhancement in budgetary outlays for public health, decentralized village and district level health planning and management, appointment of Accredited Social Health Activist (ASHA) to facilitate access to health services, strengthening the public health service delivery infrastructure, particularly at village primary and secondary levels, improved management capacity to organize health systems and services in public health, promoting the non-profit sector to increase social participation, and community empowerment, inter-sectoral convergence, upgradation of the public health facilities to Indian Public Health Standards (IPHS), reduction of infant and maternal mortality through *Janani Suraksha Yojana (JSY)*, etc.(NRHM, 2005: MoHFW, 2007).

Given the condition of the public health infrastructure as it were with its rudimentary structure, it would not have been possible to provide the desired services till the infrastructure was successfully upgraded. To establish functional health facilities by restoring the existing infrastructure and fresh construction wherever required was what was needed for the success of the mission. The mission also attempted to improve service delivery by putting in place enabling systems in all levels. Given the vast scale of the program, NRHM also received huge importance in the annual budgets. In the budget of 2005-2006, the Government of India earmarked a cumulative budget of Rs 6605 crores for NRHM. This budgetary outlay has only increased ever since the initial year. Budgetary allocation for National Health Mission (NHM), under Department of Health and Family Welfare amounted to Rs 20542 crores in 2012. Actual expenditure on NRHM, however, was only Rs 12063.41 crores as on 31st December, 2012 (Financial Review, 2013)

NRHM had been committed to the community in the sense that its performance and management has been broadly under the umbrella of the *Panchayati Raj* system. The architectural corrections enshrined in the Preamble of NRHM document primarily comprised of decentralization, communitization, organizational structural reforms in health sector, inter-sectoral convergence, public private partnership in health sector and mainstreaming Indian system of medicines under *Ayurveda, Yoga, Unani, Sidha and Homeopathy (AYUSH)*, induction of management and financial personnel into health care management and delivery system. According to a report of Evaluation Study by Planning Commission (2011), co-existence of both AYUSH and allopathic medicine was seen to perform well only in Tamil Nadu and in some parts of Orissa and J&K.

The NRHM also provided flexibility to the different states. As Sinha(2009) says, “*From the gram panchayat headquarter level clinics at sub centres in West Bengal to the Muskaan programme at ICDS centre in Bihar; the Mamta Abhiyaan in Gujarat, the boat clinics and mobile medical units in Assam, are an affirmation of flexibility available to the states*”. The NRHM also introduced the concept of ASHA: Accredited Social Health Activist. ASHAs were recruited as well as trained, and their numbers were more than the number of villages in India by August 2009. The ASHA program is the most recent and the largest of scale in the various efforts to introduce the system of Community Health Workers (CHW) in India. The success of NRHM is largely associated with and more so, dependent on the efficiency of the performance of ASHAs. NRHM has seen the ASHA program as means of connecting the village households with the healthcare facilities. NRHM was later unified into the National Health Mission (NHM). Together with the National Urban Health Mission (NUHM), NRHM forms the two-tier wings of operation of NHM.

1.2 PLAN OF STUDY

The main focus of this paper lies in the performance of NRHM that has been studied by the comparison between the High Focus states and the Non-Focus States. By studying the changes in the indicator of IMR in the different states, the functioning of NRHM has been analyzed. This paper is a modest attempt to examine the performance of NRHM by considering one of its targets (IMR).

The rest of the paper is organized into six sections. Section 2 presents literature review. Section 3 presents the research objective. The data and methodology of this study are presented in section 4. Analysis and Results are presented in section 5 shows the line diagrams and the testing of hypotheses. Section 6 presents conclusion and recommends some policy suggestions.

2. LITERATURE SURVEY

Although NRHM can be largely applauded for a paradigm shift in the way the health infrastructure and public distributive system is perceived in India, it still needed to address a lot of the perennial problems in the health sector. Citing the *Evaluation Study of Planning Commission (2011)*, it mentions “*Hospital Maintenance* or initiatives under PPP are still lacking in the state. Even peripheral services like cleaning, washing, catering and others, have only been viewed to be outsourced to improve the services compared with appointment of regular staff for such services.” It also says how the quality of services is adversely affected by the shortage of nurses and staff at all levels of facilities. Poor management of bio-waste and lack of basic facilities like electricity, water and cleanliness all add up to the direful state of the medical system.

Performance of ASHAs was considered satisfactory in seven states, according to the Evaluation Study published by the Planning Commission on 2011. The gap between normative goal and the grass-root scenario of public health distributive system could have been remedied if the Village Health Nurses (VHN) were properly trained and converted to ASHAs. At the same time, Ashtekar (2008) has been very dismissive of paramedics, nurses and doctors and their willingness to work in the rural areas. He mentions that failure of decentralization and the absence of proper inter-sectoral integration and coordination are what prevented NRHM from reaching its goals. ASHAs form the chief part of the entire design and strategy of the National Rural Health Mission. Therefore, The National Health Systems Resource Centre (NHSRC) in their 2011 evaluation emphasized that while the ASHA program has been established on a large scale, thereby serving an integral role in the public health system, the ASHAs’ effectiveness and functionality must have been further optimized. Bajpai and Dholakia (2011) of Columbia University did a survey that revealed that ASHAs in the states of Bihar, Uttar Pradesh, Chattisgarh and Rajasthan, worked only 26-28 hours per week, which translates roughly into 70% of the standard full time employment. Therefore, ASHAs do not even have full time job.

As much as can be seen in the literature survey, it is clear that there has been a lot of debates on the performance and the effectiveness of NRHM. Functioning of ASHAs and the rejuvenation of the public distributive system under NRHM has been largely discussed. Since the period of time during which NRHM came into existence has been really short and is one of the most contemporary issues, not much work has yet been published on this topic. However, it’s clear that evaluation of one of its goals/targets has been largely overlooked till now. There has been a marked absence in the evaluation of its influence on the health indicators.

In this paper, we are thus, trying to evaluate the performance of the 18 High Focus states in comparison to the other Non-Focus states. The Infant Mortality Ratio (IMR) of the different states is being considered and whether NRHM has been able to fulfill one of its objectives is being studied.

3. RESEARCH OBJECTIVE

With this background, the specific research objective of our paper is:

- o. To examine the performance of NRHM by comparing the High Focus states and Non Focus states with respect to the change in state wise Infant Mortality Rate (IMR) in India during 2005-12.

4. DATA SOURCE AND METHODOLOGY

The data used in the paper, have been obtained from the web portal of Central Bureau of Health Intelligence, www.cbhidghs.nic.in. The IMR values have been obtained from the National Health Profiles of each year, from 2005-2012. IMR values have been taken till the year 2012 because the mission had sought to fulfill its objectives by the year of 2012. So to study the effect of NRHM on the Indian health infrastructure, IMR data has been taken from the year of its implementation to the year by which it aimed at fulfilling its objectives.

Infant Mortality Rate (IMR) is defined as the number of deaths per thousand live births of children, under one year of age. Before NRHM came into action, the IMR for the whole country during 2003 was 60 and that in the year 2004, was 58. The high value of IMR, prevailing in the country at that time, thereby shows why IMR was thus chosen as one of the main objectives of NRHM. For the analysis of the data, in this paper, descriptive statistical methods have been primarily used. Line diagram charts have been used to show the change of IMR for both the high focus states and the non focus states. In the line diagram showing the IMR of the year 2012, States have not only been divided into the High Focus and Non Focus states, but they have also been demarcated into two more different groups, according to their performance, based on the national IMR average of 2012. The measure of skewness is close to 0 and thus, both mean and median generate almost the same value. For the sake of simplicity and for further testing, mean has been used for the analysis. The IMR data of the two groups (High Focus states and Non Focus states) has also been rigorously used for testing the significant difference in their means. The formula used for the μ -

test is :

$$z = \frac{\bar{x}_1 - \bar{x}_2}{S.E.}; \text{ Where S.E= standard error.}$$

$\bar{x}_1$ = mean of the High Focus States

$\bar{x}_2$ = mean of the High Focus States

In this case, standard error = $\left[\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2} \right]^{1/2}$ (For small sample case where standard deviations are known).

Also, to test the disparity between the two groups, for both cross-sectionally and inter-temporally, testing of hypothesis has been done for the equality of the standard deviations. The formula for the σ test is:

$$F = \frac{s_1^2}{s_2^2}; \text{ Where } s_1^2 = \left[\frac{n_1}{n_1 - 1} \right] \cdot S_1^2$$

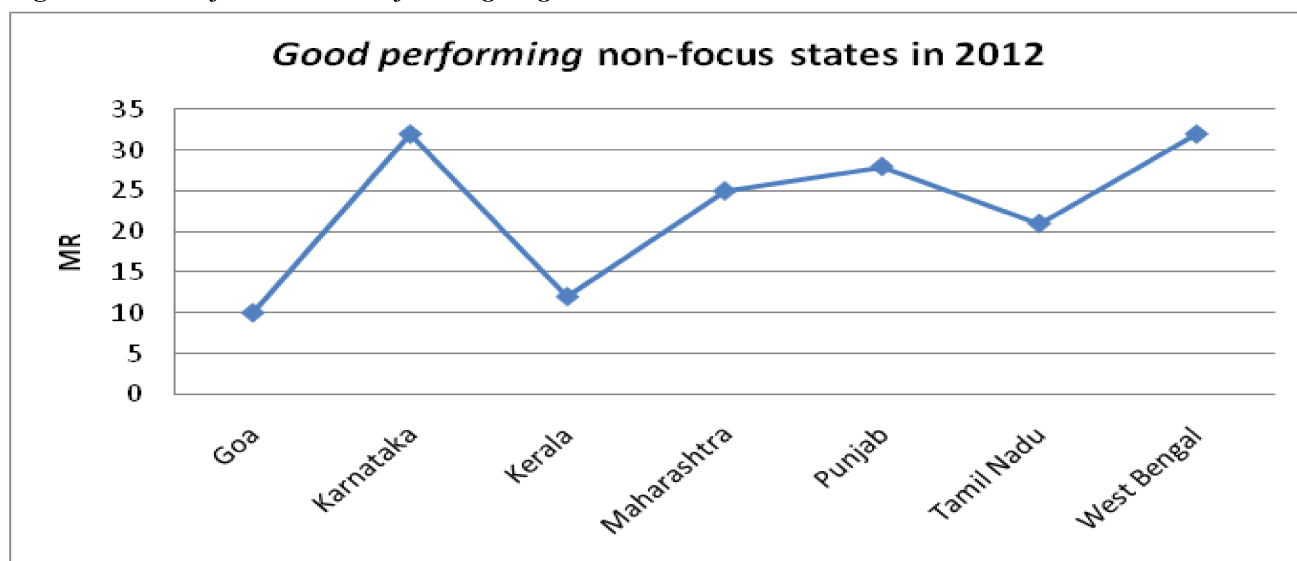
$$s_2^2 = \left[\frac{n_2}{n_2 - 1} \right] \cdot S_2^2$$

Here, S_1 and S_2 = standard derivations of sample 1 and 2 for small sample case where population mean is unknown. It follows F distribution with degrees of freedom ($n_1 - 1$, $n_2 - 1$).

5. ANALYSIS and RESULTS

To examine the research objective, first all the twenty-eight states have been divided into two groups: the *eighteen* High Focus states and the *ten* Non Focus states. These two groups have been further demarcated into *good performing* and *bad performing* states, based on the national average of IMR in 2012. The national average is 35.0 and High Focus States having IMR below this value have been considered *good performing* while the others, having IMR values above 35.0, have been considered *bad performing*. Same procedure has been adopted for the Non Focus States. Thus all the states have been demarcated into four groups. Computing the mean of each of the groups, it is observed that the good performing High Focus States have a mean of 26.0 whereas; the mean of the *good performing* Non Focus States is 22.857. Similarly, it is seen that the *bad performing* High Focus states have a mean of 47.090 while the *bad performing* Non Focus states have a mean of 40.33. These figures give rise to a contrast and conflicting view of whether NRHM has been that influential in the reduction of IMR. For a more graphical approach, the line charts have been drawn, showing the four different groups.

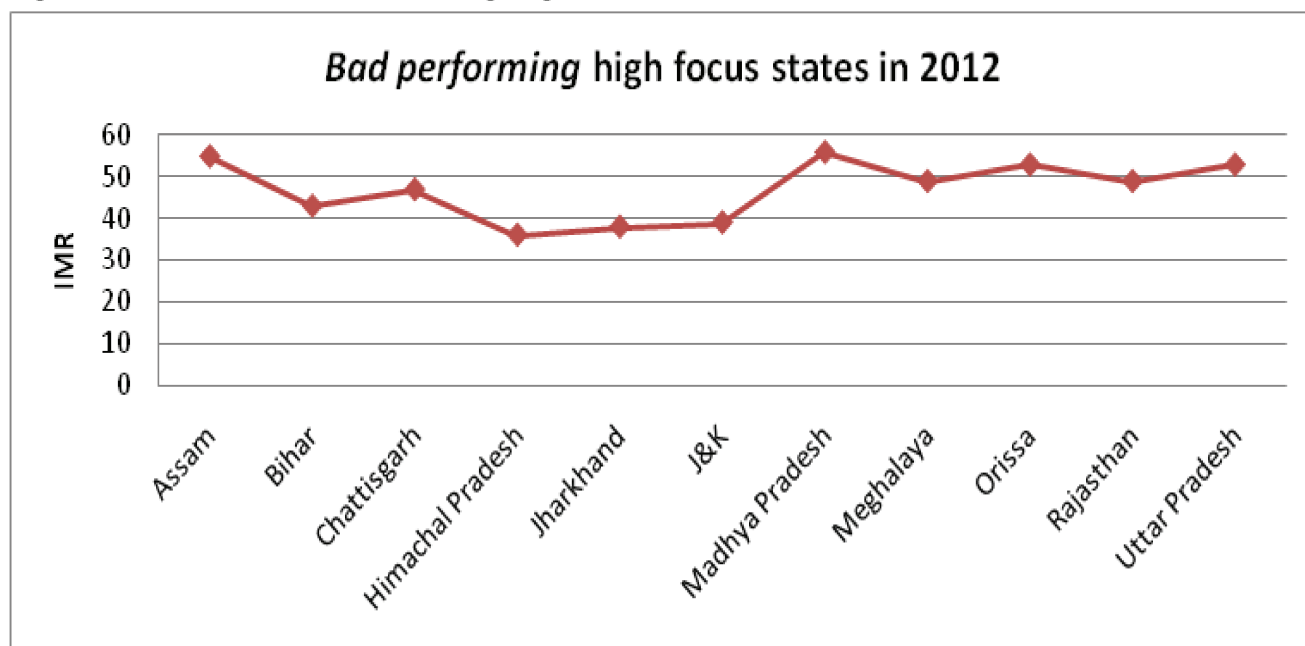
Figure 1: IMR of the Good Performing High Focus States in 2012.



Source: National Health Profile, Central Bureau of Health Intelligence, 2012

As seen in Figure 1, the performance of these high focus states have been well, considering the fact that the lowest value of IMR is that of Manipur at just 10.0. The national average of 2012 is 35.0. States like Nagaland, Sikkim and Tripura have done well in comparison to the national average.

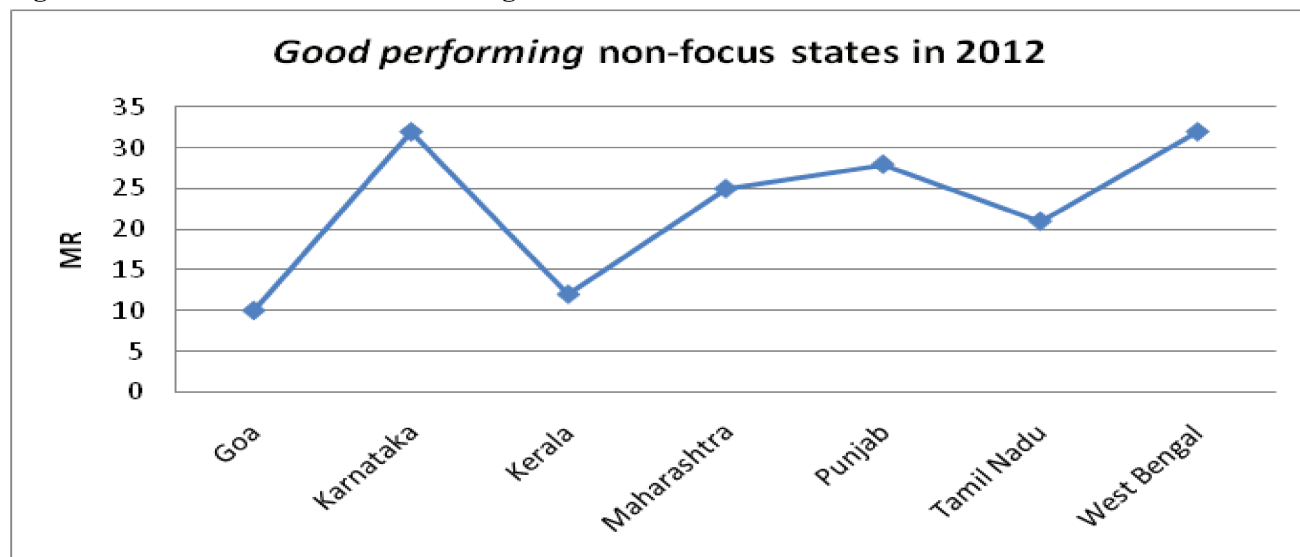
Figure 2: IMR of the Bad Performing High Focus States in 2012



Source: National Health Profile, Central Bureau of Health Intelligence, 2012

Figure 2 clearly shows that out of the eighteen high focus states under NRHM, eleven of them performed badly in 2012, as their IMR values lay well above the national average of 35.0. Madhya Pradesh, at 56.0, has the highest value of IMR while the lowest value belongs to Himachal Pradesh at 36.0. States like Assam and Uttar Pradesh have done poorly in comparison to the national average, with their IMR values at 55 and 53 respectively.

Figure 3: IMR of the Good Performing Non Focus States in 2012.

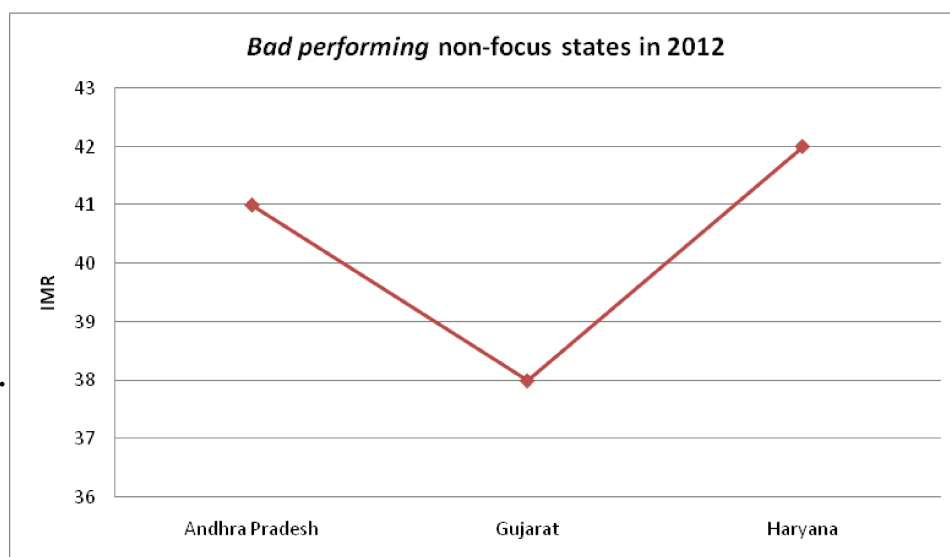


Source: National Health Profile, Central Bureau of Health Intelligence, 2012

The non focus states, that performed well, according to the 2012 national average, can also be seen to have performed distinctly well in comparison to the good performing high focus states. Although Manipur is seen to be the only state with the lowest IMR at 10.0 for the high focus states, as is evident from the line diagram of the non focus states, both Goa and Kerala have done remarkably well with their IMR at 10 and 12 respectively (Figure 3).

As seen in Figure 4, three of the non focus states performed badly in comparison to the other seven states:-

Figure 4: IMR of the Bad Performing Non Focus States in 2012

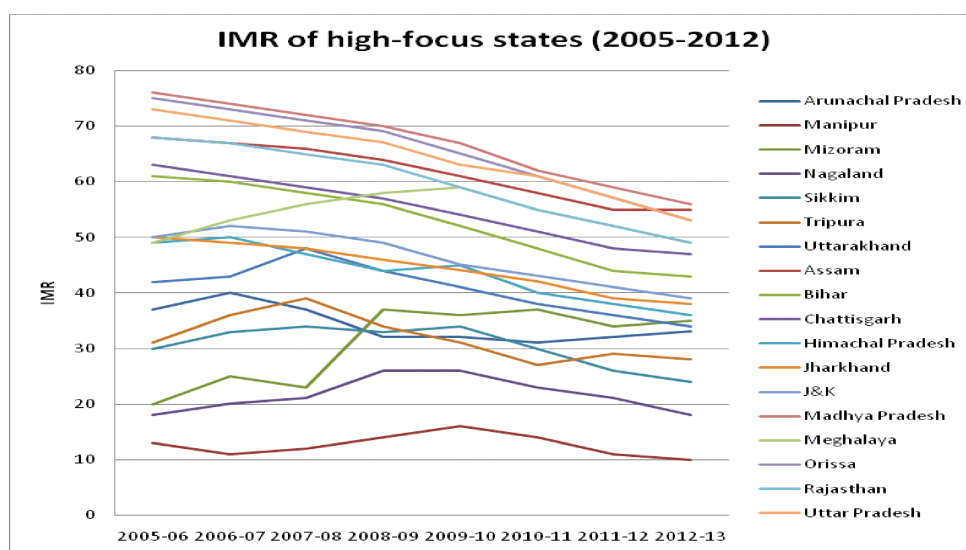


Source: National Health Profile, Central Bureau of Health Intelligence, 2012

The performances of the non focus states like Andhra Pradesh, Gujarat and Haryana although bad according to the national average, it can be seen from Figure 4 that in comparison to the high focus States, their performance was considerably well. The worst performing non focus state, Haryana, has its IMR at 42.0. The worst performing high focus State is Madhya Pradesh, with its IMR at 56.0. The crude difference between the IMR values of the worst performing high focus and non focus states clearly shows a significant gap.

For a clearer and more in-depth graphical approach, line diagrams showing the IMR values of both the high focus states and the non focus states have been shown in Figure 5 and Figure 6. The time period taken is 2005-2012, during which NRHM had been in action. These line diagrams make change in IMR of all the states more clear which shows that the high focus states have had many ups and downs and sharp spikes in their IMR whereas, the non focus states have not shown any such characteristic.

Figure 5: Line Diagram showing IMR of the High Focus States (2005-2012).

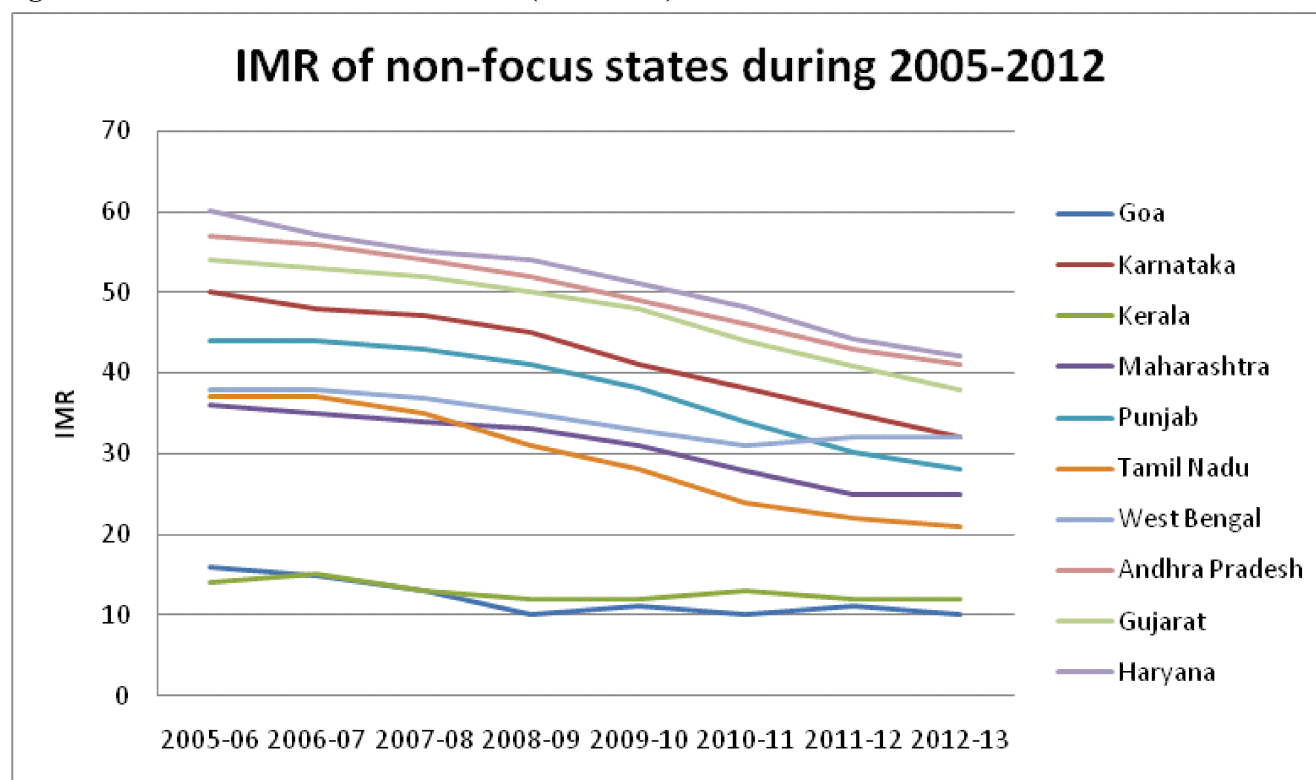


Source: National Health Profiles, Central Bureau of Health Intelligence, 2005-12

Figure 4 shows the change in the IMR of the high focus states from 2005-2012. As seen here, some of the states performed very well. Madhya Pradesh, initially with an IMR of 74 in 2005, reduced it to 56 in the year 2012, thereby

marking a sharp fall. States like Orissa and Uttar- Pradesh have also been able to bring a sharp fall in their IMR from the year 2005. Other states like Manipur and Nagaland have not shown much decrease while Mizoram even witnessed a rise in the IMR from 20 in 2005 to 35 in 2012.

Figure 6: IMR of the Non Focus States (2005-2012)



Source: National Health Profiles, Central Bureau of Health Intelligence, 2005-12

Figure 6 shows the change in IMR of the non focus states during 2005-2012. States like Goa and Kerala who already started with low IMR of 16 and 14 respectively, have still reduced it to even lower levels of 10 and 12. No state has an IMR above 50 by the year 2012. Another feature that can be observed here is that the changes in IMR of the high focus states has shown lots of spikes and sharp changes. In some states, IMR have also increased or remained stagnant. In contrast to that, the non focus states have not shown such sharp spikes. Almost every state has had smooth decrease in IMR. This contrasting picture leads to the question of whether NRHM has had a negative impact on the states, chosen under its purview.

Above discussion sums up to be implying two things: Either the policy of NRHM has failed in the implementation of an otherwise ambitious mission, or the policy had been formulated without any understanding of the varied socio-economic factors of the entire nation. Although the reasons for this can be various socio-economic and political influences of different states, further analysis can show the overall performance of NRHM states (High Focus) in comparison to the other ten Non Focus states.

For the comparison between the High Focus states and the Non Focus states, the test of significance is done for both the initial year (2005) and the year by which it aimed to fulfill its objectives (2012). The High Focus states have an average IMR of 48.5 in the year 2005, in contrast to the Non Focus states, which have an average IMR of 40.6. Thus, the higher value of mean makes it clear as to why these specific states were selected for high focus under NRHM, them being in initially poorer condition than the other ten states. In 2012, the average IMR of the high focus states was 38.89 whereas that of the non-focus states was 28.10.

In 2005, although the mean IMR of the high focus states is greater than that of the non focus group of states, it is not significantly different, as checked from the one-tailed testing of hypotheses where H_0 is the null hypothesis and H_1 is the alternative hypothesis:

$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 > \mu_2$$

Here μ_1 and μ_2 refer to the mean IMRs of the two groups: the High Focus and the Non Focus states respectively in 2005. The z-statistic, as given by the above methodology, gives:

$$z = \frac{\bar{x}_1 - \bar{x}_2}{S.E} = 1.137$$

With 5% level of significance, $1.137 < 1.96$ and null hypothesis is not rejected. This means in 2005, that is, in the year in which NRHM had started, there was no significant difference between the average IMR of the High Focus states and that of the Non Focus states in India.

For the year 2012, same can be computed with the same null hypothesis and alternative hypothesis as above where μ_1 and μ_2 refer to the mean IMRs of the two groups: the High Focus and the Non Focus states respectively in 2012. Here, the z-statistic is given by:

$$z = \frac{\bar{x}_1 - \bar{x}_2}{S.E} = 2.290$$

With 5% level of significance, $2.290 > 1.96$ and the null hypothesis is rejected. This means that in 2012, the average IMR of the High Focus states was significantly higher than that of the Non Focus states. It shows that the Non Focus states have performed significantly well, in spite of not being under the NRHM.

Now for inter temporal comparison, for the High Focus NRHM states and the Non Focus states, testing of hypotheses for the equality of two means (with known standard deviations) is done by the same methodology where,

$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 > \mu_2$$

Here, μ_1 and μ_2 refer to the means of the High Focus group of states for the two time periods: 2005 and 2012. The z-statistic is given by:

For the High Focus NRHM states, it is observed:

$$z = \frac{\bar{x}_1 - \bar{x}_2}{S.E} = 1.685$$

With 5% level of significance, $1.685 < 1.96$ and thus, the null hypothesis cannot be rejected. This shows that the average IMR of the High Focus states did not decrease significantly during 2005 to 2012.

For the Non Focus group of states, it is observed:

$$z = \frac{\bar{x}_1 - \bar{x}_2}{S.E} = 2.029$$

With 5% level of significance, $2.029 > 1.96$ and thus the null hypothesis is rejected. There is significant difference between the two means. This means that for Non Focus states, the mean IMR significantly decreased during 2005 to 2012.

Finally, to compare the performances of High Focus and Non Focus states over the study period, testing of hypothesis of equality of two means is done,

$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 < \mu_2$$

Here, μ_1 and μ_2 refer to the mean rate of changes in IMR of the High Focus and Non Focus group of states during 2005 and 2012. The t-statistic is given by:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} = -2.1109$$

At 5% level of significance and 26 degrees of freedom, the tabulated value of < -2.1109 . The observed value of t thus falls in the critical region.

So, the null hypothesis is rejected and the alternative hypothesis is accepted. This implies that the average rate of fall in IMR is higher for the Non Focus states than that of the High Focus states during the study period.

This clearly implies that the High Focus NRHM group has not been able to perform as good as the Non Focus group, in the reduction of their IMR. The Non Focus group of states has not only performed well in comparison to the High Focus group of states, but they have also been able to improve their performance significantly, during the period of 2005-2012.

Now, to check the disparity between the performances of the different states, testing of hypothesis is done for the equality of the two standard deviations first for each group of states (inter temporally) and then between the two groups (for relative disparity).

With the above mentioned methodology, the hypotheses are:

$$H_0: \sigma_1 = \sigma_2$$

$$H_1: \sigma_1 > \sigma_2$$

Here, σ_1 and σ_2 refer to the standard deviations during 2005 and 2012 for the two groups of states.

It is observed that for the High Focus NRHM states,

$$F = \frac{s_1^2}{s_2^2} = 2.393$$

Tabulated value of $F_{17,17} = 1.96$ at 5% level of significance. Here, $2.393 > 1.96$. Thus null hypothesis is rejected and $\sigma_1 > \sigma_2$.

It is observed that for the Non Focus states,

$$F = \frac{s_1^2}{s_2^2} = 2.007$$

Tabulated value for $F_{9,9} = 3.18$ at 5% level of significance. Here, $2.007 < 3.18$. Thus null hypothesis is not rejected and $\sigma_1 = \sigma_2$.

In inter temporal analysis, it is observed that with $F = 2.393$, and with 5% confidence limit, the null hypothesis is rejected for the high focus NRHM group. The high focus NRHM group of states has a significant difference between the standard deviations of 2005 and 2012. With $\sigma_1 > \sigma_2$, it is clear that the NRHM group of states has been able to reduce disparity among themselves during the period of the policy, namely 2005-2012. Also, for the Non Focus group it is seen that $F = 2.007$ and with 5% confidence limit, the null hypothesis is not rejected. With $\sigma_1 = \sigma_2$, it is clear that the Non Focus group of states has not been able to reduce disparity among themselves, significantly. Thus, from this it can be stated that the decrease in disparity among the High Focus group of states might be attributed to the one single policy initiative of NRHM that guided all these states from 2005-2012. In comparison, the Non Focus states, performed well (as seen from the testing of hypotheses for equality of means) but have not been able to significantly reduce the disparity among them

To check relative disparity between the High Focus NRHM states and the Non Focus states, the same test is done for the two years 2005 and 2012, between the two groups: High Focus group of states and the Non Focus group. As again,

$$H_0: \sigma_1 = \sigma_2$$

$$H_1: \sigma_1 > \sigma_2$$

Here, σ_1 and σ_2 refer to the standard deviations of High Focus NRHM group and the non focus group of States, respectively.

It is observed that for the year 2005,

$$F = \frac{s_{H_1}^2}{s_{H_2}^2} = 1.553$$

Tabulated value of $F_{17,9} = 2.71$ at 5% level of significance. Here, $1.553 < 2.71$. Thus, null hypothesis is not rejected and $\sigma_1 = \sigma_2$.

It is observed that for the year 2012,

$$F = \frac{s_{H_1}^2}{s_{H_2}^2} = 1.303$$

Tabulated value of $F_{17,9} = 2.71$ at 5% level of significance. Here, $1.303 < 2.71$. Thus, null hypothesis is not rejected and $\sigma_1 = \sigma_2$.

Now, from the analysis of relative disparity between the two groups for both 2005 and 2012, it is observed that in 2005, the relative disparity among the High Focus NRHM group and the Non Focus group was not significant, with $F=1.553$. Again in 2012, with $F=1.303$, the relative disparity between the High Focus NRHM group and the Non Focus group of states has not been significant. The relative disparity between the two groups of states had not been significant in 2005 and even under the Central policy regime of NRHM, the relative inequality had not been significantly different.

6. CONCLUSION AND POLICY SUGGESTIONS

From the above analysis, it can be said that NRHM, as a policy, has not been able to reach its potential and fulfill its targets. As is observed, the performance of the NRHM group of states has been lagging prior to 2005 which is why they had been chosen for “high focus” under NRHM, though their performance was not found to be significantly poorer. But even after seven years, in 2012, these states have been seen to not perform at par with the other states. It may seem that since the chosen states might have started off with a worse structure and after NRHM came into action, although they improved, they could not fare well in comparison to the other states and still lagged behind. But, this logic can be ruled out as the average IMR of the High Focus states was not found to be significantly lower than that of the Non Focus states at 2005. The second reason may be that the NRHM itself had been formulated in a faulty manner. As seen for the above analysis, it is clear that the NRHM group of states could not improve their overall performance significantly more than the other non focus states. Thus, it can be said that there must have been some flaw in the flagship structure.

Again, from the test of hypothesis for equality of standard deviations, it is seen that the NRHM group of states have been able to reduce disparity among themselves since 2005. This clearly pin points to the influence of the central flagship program of NRHM. A single, unified programme has led to the reduction in their disparity, inter temporally. However, this reduction in the disparity is not significantly different in comparison to the other non focus states, as measured by the relative inequality (for both 2005 and 2012). The states that were not under the scope of NRHM seem to have done well throughout.

Thus, it is clear that the High-Focus states have not performed well in comparison to the other states. There can be four broad reasons for it: First, there might have been some flaw in the basic framework of the flagship programme, that did not take into account the various socio-economic and political scenario in the different states. Second, there might have been lack of proper implementation. Third, coordination failure between the Central and the State Governments could also have been responsible. Lastly, certain policies of the State Governments could have conflicted with that of NRHM. Thus, incompatibility of the policies could also have led to the improper functioning of the programme. But which of the followings are responsible for this demands causal analysis which requires further research.

APPENDIX

The given table shows the values of Infant Mortality Rates (IMR) of the different states during the period 2005-2012. The data has been obtained from the National Health Profile of the different states.

States	2005	2006	2007	2008	2009	2010	2011	2012
Arunachal Pradesh	37	40	37	32	32	31	32	33
Manipur	13	11	12	14	16	14	11	10
Mizoram	20	25	23	37	36	37	34	35
Nagaland	18	20	21	26	26	23	21	18
Sikkim	30	33	34	33	34	30	26	24
Tripura	31	36	39	34	31	27	29	28
Uttarakhand	42	43	48	44	41	38	36	34
Assam	68	67	66	64	61	58	55	55
Bihar	61	60	58	56	52	48	44	43
Chattisgarh	63	61	59	57	54	51	48	47
Himachal Pradesh	49	50	47	44	45	40	38	36
Jharkhand	50	49	48	46	44	42	39	38
J&K	50	52	51	49	45	43	41	39
Madhya Pradesh	76	74	72	70	67	62	59	56
Meghalaya	49	53	56	58	59	55	52	49
Orissa	75	73	71	69	65	61	57	53
Rajasthan	68	67	65	63	59	55	52	49
Uttar Pradesh	73	71	69	67	63	61	57	53
Goa	16	15	13	10	11	10	11	10
Karnataka	50	48	47	45	41	38	35	32
Kerala	14	15	13	12	12	13	12	12
Maharashtra	36	35	34	33	31	28	25	25
Punjab	44	44	43	41	38	34	30	28
Tamil Nadu	37	37	35	31	28	24	22	21
West Bengal	38	38	37	35	33	31	32	32
Andhra Pradesh	57	56	54	52	49	46	43	41
Gujarat	54	53	52	50	48	44	41	38
Haryana	60	57	55	54	51	48	44	42

Source: National Health Profiles, Central Bureau of Health Intelligence; (2005-2012).

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