

Who benefits from government expenditure on early childhood development? A study of Indian states

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Synopsis

Background and motivation

Child development is internationally recognised as one of the most important prerequisites for overall development at the individual as well as collective levels. The United Nations Convention on the Rights of the Child (UNCRC), 1989 defines a child as any person under the age of 18 unless the child attains maturity earlier, as per the law applicable to the child. A child's early childhood phase covers many distinct stages: from 'conception to birth' and from 'birth to 3 years', with emphasis on the first 1000 days (from conception to 24 months), followed by the 'preschool and pre-primary years' (3 years to 5 or 6 years, or the age of school entry) and the age from 6 to 8 years^{1,2}.

Early Childhood Development (ECD) forms part of the 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015. Sustainable Development Goal indicator 4.2.1 specifically monitors the government actions towards ensuring access to quality ECD and learning opportunities to all children. The Nurturing Care Framework for ECD was developed by the World Health Organisation (WHO), UNICEF and World Bank along with other partners³ comprises of a set of conditions that are required during early childhood for the child's body and brain to grow and develop optimally and for the child to reach full potential. The five components (conditions) are: good health, adequate nutrition, responsive caregiving, opportunities for early learning and safety and security.

At the international level, progress has been made with regard to indicators like under 5 mortality rates and stunting. However, the world faces challenges to ECD on many fronts. For instance, a large number of under 5 children have not met their development goals and many young children are facing malnutrition and also the lack of proper and adequate care and support. Vulnerable children such as those of the younger ages, those at the bottom wealth quintiles and with disabilities remain at most risk of deprivations. Disparities can be observed between geographical regions of world with regard to achievement in terms of various

¹ See <https://www.unicef.org/media/107616/file/UNICEF-Programme-%20Guidance-for-Early-Childhood-Development-2017.pdf> for definition of UNICEF's Programme Guidance for early childhood development by the UNICEF Programme Division 2017

² See <https://data.unicef.org/topic/early-childhood-development/overview/#:~:text=The%20formative%20early%20years%20of,overall%20developmental%20status%20of%20children>

³ Other partners: Partnership for Maternal, Newborn & Child Health (PMNCH) and the Early Childhood Development Action Network (ECDAN) (Details available at: <https://ecdan.org/nurturing-care-framework-for-early-childhood-development/>)

indicators of Nurturing Care for ECD. These disparities are not only inter-regional but also intra-regional and inter-generational, considering young children in the top and bottom of the wealth hierarchy.

Status of early childhood development in India when observed through achievements in terms of the indicators of Nurturing Care for ECD shows that progress is being made with regard to many of the indicators. However, large proportions of the country's under-5 child population face early childhood development challenges including those of being under-weight, stunting and of poverty related threats. Substantial improvements for major proportions of under 5 children in India are required also in terms of Health and Nutrition indicators of Nurturing Care.

India is home to one of the largest child populations in the world. For fair and sustainable development, investing for ECD is considered to be one of the most cost-efficient, powerful and smartest strategies a country or even the world as a whole can make for its future. The most important indicator of a country's commitment towards child development is the investment that it makes towards fulfilling the relevant goals. Child development budgeting in India is plagued by some issues such as those of inadequate funding and issues related to sectoral break-up of resource allocation and fiscal marksmanship.

The recommendations of the 14th Finance Commission sought to increase the share of the states in the central taxes to compensate for the reductions in central allocations for Centrally Sponsored Schemes. Thereby also enhancing fiscal autonomy of the states related to expenditure on priorities such as ECD. However, studies have reported decline in priority towards child budgeting and social sectors. The gravity of the situation considering the development of the most vulnerable section (young children) of the nation's population and the wide-ranging and far-reaching impacts of the same is the main motivation of the present study.

Summary of the review of literature

Various dimensions of the multisectoral aspects of ECD and the interventions for improving the same have been reviewed in this section. Evolution of the concepts of ECD and nature of interventions to rights-based approach in present times has been traced through the literature including the adoption of Nurturing Care Framework for ECD globally and also in India. Empirical studies to ascertain and analyse the status of ECD and impacts of interventions in the short- as well as the long-term have been reviewed. The progressive impacts of

interventions in terms of reducing various forms of inequalities in ECD have been studied. India specific literature on the impacts of interventions related to child health and nutrition, early childhood care and education and protection along with their limitations have been looked at. Financial aspects and issues related to ECD both at the global and at the national and sub-national levels have been reviewed through available literature along with the impacts of public expenditure on childhood development in general at the sub-national level. It is found that the significance of investments geared for optimal ECD is recognised and initiatives have been taken for the same at the global, national and sub-national levels and wide-ranging literature is found to examine various aspects ECD and the relevant interventions. However, there is a dearth of studies related to understanding the impacts of interventions for early childhood development on different groups of the beneficiaries in India at the sub-national level. Most benefit incidence analyses found in the surveyed literature deal with government expenditures on broad categories of health and education. Studies that cover the determinants of benefit incidence outcomes are rare. Hardly any study has been done to assess the distribution of benefits (and its determinants) of public expenditures on ECD at the subnational level in India. This study seeks to fill that gap by not only examining the distribution of benefits of the expenditures of the state governments on ICDS and NHM but also assessing the determinants of the benefit incidence outcomes of these expenditures. The present study seeks to contribute its findings related to that aspect of ECD in the context of the changed fiscal structure of India post 14th Finance Commission recommendations.

To explore key aspects of government expenditures for ECD in India and the resultant incidence of benefits on different sections of beneficiaries at the sub-national level, this research focuses on two major schemes geared for ECD, the Integrated Child Development Services (ICDS) and the National Health Mission (NHM), with special focus on its Reproductive, Maternal, Newborn and Child Health (RMNCH) component, to answer the research questions specified as follows:

- I. How do Central Government fiscal transfers to states affect their expenditures on early childhood development? This question is focused on exploring whether the states augment or substitute their own expenditures by the central grants on ICDS and NHM.
- II. How well targeted is state governments' expenditure on early childhood development? This broadly seeks to assess the patterns of proportional utilisation of the expenditures of state governments on ICDS and NHM by the respective beneficiary groups. It also

looks at targeting in terms of orientation of the coverage of a specific programme towards its most vulnerable and neediest beneficiary group.

- III. How pro-poor is the coverage of ICDS and NHM? The question deals with observing the concentration of coverage of ICDS and NHM among respective beneficiary groups. The categorisation of the groups done separately in terms of wealth quintiles and also location (rural vs urban).
- IV. Which factors affect the targeting of govt. exp. On ICDS and NHM? This seeks to ascertain the determinants of benefit distribution proportions among the respective beneficiary groups (including the most vulnerable groups) of ICDS and NHM.

1.4 Objectives and testable hypotheses

For finding the possible answers to the questions as listed above the objectives of this research are:

1. Assessment of the impact of central govt. transfers on expenditure by states towards NHM and ICDS.
2. Assessment of the distribution of benefits of government exp. by states on ICDS and NHM (using Benefit Incidence Analysis) among the groups of beneficiaries.
3. Identification and testing (through empirical methods) of major determinants of the benefit incidence outcomes of government expenditure on ICDS and NHM by states.

The hypotheses relevant to the objectives are as follows:

- (1) Central Government fiscal transfers complement spending by states on early childhood development.
- (2) States with greater fiscal autonomy and better fiscal absorptive capacity tend to have better targeted government spending on ICDS and NHM.
- (3) States with more educated women and having greater access to information tend to exhibit better targeting of government spending on ICDS and NHM.

Methodology and data sources

The methodology used in the different chapters of the thesis are discussed in detail in the corresponding chapters along with the sources of various types of data used for the analyses. A brief summary of the same is provided here:

- In the introduction itself an extensive review of the relevant literature is done and the gaps in the existing literature are identified. The gaps that the present study would try to fill are defined therein. The introductory chapter discusses study's foundational aspects such as the background and motivation, research questions, objectives, major hypothesis, methodology, limitations of the study and the plan of the study.
- Chapter-2 at the outset, attempts are made to find out if there's any association between child health and nutrition indicators and government funding of ICDS and NHM at the level of the states. This is done through a simple correlation exercise. Thereafter, the impact of Central Government transfers on the expenditure of the states on RCH and NHM are examined through panel fixed-effects OLS regressions and on ICDS through random-effects regression. The data used in the correlation and regression analyses have been sourced from NFHS-IV & V, websites of OpenBudgetsIndia, of MoSPI, of MoWCD and of MoHFW (also through RTIs), respective state budgets, CAG-Finance Accounts of the states and RBI's estates database, Parliamentary questions & answers, Population Projections for India and states 2011-2036, Health Management Information System (HMIS) of NHM, and the web-portals for ICDS and NHM.
- In Chapter-3, the preliminary quintile-wise and location-wise (rural vs urban) coverage analyses of ICDS and NHM are fully based on unit-level data of NFHS-IV & V. Some of the major sources of data for the Benefit Incidence Analyses area: Parliamentary questions and answers, unit-level NFHS data and Pop. Projections for India and States 2011-2036, MoHFW, Finance Accounts of the CAG and HMIS of NHM.
- For estimating the benefit incidence of the expenditures on ICDS and NHM services, the coverage rates and utilisation rates have been calculated with regard to the various beneficiary groups under the ICDS-SNP & -PSE and NHM (RMNCH). The results of the analyses are also interpreted in terms of targeting vis-à-vis the coverage rate. Targeting being considered as the extent of orientation of the programme coverage towards the most vulnerable group among the eligible population who have responded.
- In Chapter-4, beta regression analyses are done for identification of major determinants of benefit incidence of state govt. exp. on ICDS and NHM. Benefit incidence coefficients derived in chapter-3 and data from E-states database of RBI on state government finances, State Audit Reports of CAG, NFHS-IV and -V have been used.

Summary of Findings

Chapter 2 sought to assess the impact of the central government fiscal transfers on the expenditures of the state governments for ICDS and NHM. The chapter also includes a preliminary correlation exercise involving the indicators of child health/nutrition and the budget approvals/releases (for ICDS and NHM). Child development budgets in India suffer from low funding and the findings of the simple correlation exercise become important. They are described as follows:

- States with low levels of child health and nutrition are expected to receive larger budget approvals and releases to improve their ECD status. The correlation analysis suggests that a scenario similar to this prevailed during 2015-16 with regard to NHM. However, the correlation between IMR/U5MR and budget approvals/releases (for ICDS and NHM) was only moderate to low during 2019-21. The reduced central support to states for Centrally Sponsored Schemes (CSS) since 2015-16 could be among the causes for the reduction in the correlation during the latter period.
- Substantial variation across the states was observed considering the actual releases as percentages of the approved budgets. However, the actual release of funds was lower than the originally approved budgets for all of the states during both periods. Similar scenario was found in case of ICDS during 2019-21. Releases being lower than budget approvals is a general social sector financing pattern of the government. Yet, the findings suggest that the allocations and releases for ICDS and NHM do not seem to be helping to ensure minimum standards of ECD services in the states.

The main focus of the chapter was to empirically assess the impact of fiscal transfers of the centre to the states on the state's own expenditures for ECD (particularly on ICDS, RCH and NHM expenditures). The regression analyses reveal that:

- States tend to augment their own expenditures on RCH and ICDS by the central grants that they receive for these schemes. This is in line with the norm and the states seem to be amenable to increase their own spending for the schemes focused on ECD. Yet, they could also have been bound by the conditionalities of tied-grants or specific purpose transfers related to RCH and ICDS.
- However, with regard to NHM, the states tend to deviate from the norm and substitute their own expenditures by the central government grants that they receive for the

scheme. This undesirable practice could reflect that the priorities of the state in terms of health may be sectors other than ECD, such as secondary and tertiary health.

The third chapter focused on assessing the distribution of benefits of the government expenditures on ECD programmes among the various groups of beneficiaries. Prior to the benefit incidence analysis, a preliminary examination of the distribution of beneficiaries of ICDS and NHM (RMNCH) among different quintiles and location (rural vs urban) was done on the basis of the unit-level NFHS data of the two latest rounds. It was found that:

- Out of the total number of beneficiaries of ICDS and NHM (RMNCH) in the sample, the relative proportions of those belonging to different quintiles varied widely among the states. For ICDS, on an average across the states, it was found that the proportional coverage of the poorest quintile beneficiaries was more than that of the richest quintile beneficiaries, during both periods.
- However, for NHM (RMNCH) the scenario was found to be other way round. Richest quintile beneficiaries were proportionately more than the poorest quintile beneficiaries on an average across the states during both the periods.
- The rural vs urban beneficiary proportions in the samples for ICDS and NHM (RMNCH) also varied across the states. The rural beneficiary proportions were larger. Yet, the rural vs urban proportions were more balanced in states like Kerala and Tamil Nadu during both time periods.

The benefit incidence analysis considers children (6m-6y) as the more vulnerable and needy group among the beneficiaries of ICDS-SNP. Within this group children (6m-3y) is considered more vulnerable. For ICDS-PSE, girls are considered to be the more vulnerable beneficiary group and for NHM (RMNCH), children (0-59m) are taken to be the more vulnerable group among the beneficiaries. The analysis revealed:

- Efficient targeting (utilisation rate compared to coverage rate) of government expenditure on ICDS-SNP towards children (6m-6y), on an average across the states, during both periods. Efficient targeting was also observed for PLM during 2019-21.
- Government expenditure for NHM (RMNCH) on an average and also for each of the states, was found to be efficiently targeted for women (15-49y) during both periods of time. However, the utilisation rate of the service was skewed away from children (0-59m).
- The utilisation rates of the services across the states were not balanced. Better utilisation rate of one of the three services by the more vulnerable and needy beneficiary group in

a state was not found to imply similar utilisation pattern for all of the services in the state.

- The utilisation proportions (or benefit incidence coefficients) were mostly found to be higher for the two ICDS services than for NHM (RMNCH) across all states.
- On the whole, the benefit distribution of ICDS-SNP showed a favourable scenario with higher utilisation proportions of the younger group of children (6m-3y) in general. The ICDS-PSE utilisation proportions were mostly balanced between boys and girls. However, NHM (RMNCH) utilisation patterns strongly skewed away from children (0-59m) were observed.

The fourth chapter attempted a determinants analysis of the benefit incidence coefficients observed in Chapter 3. Supply-side and demand-side influencers of the benefit incidence coefficients of expenditures on ICDS and NHM (RMNCH) were explored. The focus here was on the vulnerable and needy groups of beneficiaries of ICDS-SNP & -PSE and NHM (RMNCH). The findings of the empirical exercise suggest that:

- Nutritional alternatives other than Take-Home Rations (THR) as SNP for children (6m-3y) are preferred by educated women with access to information. It was also found that such women tend to prefer hot-cooked meals/snacks over other alternatives for children.
- Fiscal absorptive capacity (FAC) and States' Fiscal Autonomy (SFA) are found to be insignificant with regard to proportional utilisation of SNP by children (6m-3y) and also by children (6m-6y). Yet, results suggest positive association of FAC and SFA with the benefit incidence coefficients of utilisation of SNP by children (6m-3y). The positive associations indicate that higher fund utilisation capacity and fiscal autonomy enable and prioritize the distribution of SNP benefits in favour of children (6m-3y). However, negative association of FAC and SFA with the proportional utilisation of SNP by children (6m-6y) suggest that states on an average could be prioritizing THR more than snacks/hot cooked meals. It is found that lower proportional utilisation of SNP by children (and conversely with higher proportional utilisation of SNP by women) is associated with higher levels of Women's Awareness. It seems to suggest that child nutrition tends to be prioritised by women with education and also by those with access to information. However, women with both education and access to information seem to become aware of the need to pay attention to their own health and nutrition, as well.

- Results related to PSE in general indicate prioritisation of girls under PSE. A combination of increases in women's education along with their access to information tends to raise the proportional utilisation of PSE by girls.
- For NHM (RMNCH), results suggest that states with higher fiscal autonomy tend to prioritize children while states with higher fiscal absorptive capacity tend to prioritise children. Perhaps, NHM (RMNCH) could inherently be geared to benefit women more than children. A combination of higher women's education and their access to information seems to raise the proportional utilisation of NHM (RMNCH) services by children. It indicates that women's awareness could encourage them to seek improvements in quality and accountability in the provision of services and also raise the proportional utilisation of NHM (RMNCH) services by children.

Limitations of the study

- ECD is a multidimensional and multistage phenomenon, precise measurement of the same is still elusive. Moreover, the varying pace of ECD between children and the variety of concepts and practices related to ECD prevalent across different social and geographical settings makes conclusive interpersonal and intergroup comparisons of ECD unwieldy. The multisectoral character of the expenditures for ECD being wide and layered and the lack of uniform budget reporting practices of the states made it impracticable for a single-researcher to collect and examine the whole gamut of expenditures related to ECD. Primary survey backed deeper analysis of many aspects of ECD such as utilisation and impact analysis at the sub-state regional levels were not feasible due to constraints of time and resources. Conventional Benefit Incidence Analysis was not possible due to issues of data availability issues. Estimations had to be relied on, due to lack of concrete data, for some of the inputs required for the benefit incidence analysis carried out considering beneficiary groups. Regression analyses especially of the fourth chapter were done with the limited data-set that was available. Notwithstanding these limitations, the present study attempts to analyse key aspects of government expenditures on ECD, mainly through ICDS and NHM. This study tries to make refined and robust assessments of the incidence of benefits of these expenditures and their determinants at the subnational level and other analyses as specified using reliable data sources and techniques. The findings would aid in improving the initiatives of and benefits to the stakeholders (direct and indirect) of ECD.

Policy suggestions

Based on the study's findings, some suggestions for policy are presented as follows. The findings of the analysis of child health and nutrition and health status vis-à-vis ECD budget allocations and releases in the states in chapter 2 enable policy suggestions as follows:

- Sufficient funding of programmes such as ICDS and NHM is crucial to ensure minimum standards of ECD services in the states. Moreover, states with low levels of ECD indicated by factors such as high IMR and U5MR are expected to be supported by higher funding. Since ECD is chronically underfunded in the country, increasing the share of releases out of the approved budgets for all states is imperative. The increases should be done by creating enabling conditions for efficient utilisation of funds, even for those states that seem to be non-compliant to some of the norms, due to their limitations such as lower fiscal absorptive capacity. This would help in ensuring optimum utilisation of allocated budgets for early childhood development. It would also aid in moving towards the goal of fiscal equalisation, providing further help in achieving balanced early childhood development across the states.

The regression analyses of the 2nd chapter indicate that the states on an average tend to augment their own expenditures on ICDS and RCH by the central government grants. However, they tend to substitute their own expenditures on NHM by central grants. While the augmentative fiscal behaviour of the states needs to be encouraged the substitutionary tendencies of the states need correction through policy mechanisms.

The benefit incidence analyses of the 3rd chapter suggest that benefits of government expenditures on ICDS-SNP flows proportionately more towards the most vulnerable beneficiary group (children of age 6 months to 3 years). The benefit distribution of ICDS-PSE expenditures, in general were found to be balanced between the two beneficiary groups of boys and girls.

- Hence, the prevailing policy prescriptions regarding ICDS appear to be relevant and effective. However, benefit distribution of NHM (RMNCH) expenditures is seen to be strongly skewed, away from children under 5 years of age. Perhaps, enhancing policy effectiveness towards improving the quality and awareness of NHM (RMNCH) services could raise the utilisation rates of the services by children under the age of 5 years.

Determinants analyses of chapter 4 indicate that improving the quality of THR and promoting its utility for younger children could encourage educated, informed and aware women to utilise THR more for children (6m-3y). The analyses also indicate, though not significantly, that higher fiscal absorptive capacity and fiscal autonomy enable and prioritize the distribution of SNP benefits in favour of children (6m-3y).

- The two independent variables, FAC and SFA depend on factors such as fiscal, administrative and infrastructural health of the states. Hence improving those factors would require favourable policies that are cross-sectoral in nature.

With regard to proportional utilisation of SNP by children (6m-6y) vis-à-vis by PLM, the findings show negative association of FAC and SFA with the former. The analyses also show positive association of women's education and women's access to information with the proportional utilisation of SNP by children (6m-6y). However, a combination of the two independent variables tends to negatively influence the dependent variable. Hence,

- Institutionally reprioritising the utilisation of SNP by children would aid the flow of benefits towards children (6m-6y).
- Increasing awareness campaigns focused on child health, nutrition and well-being including the criticality of the first 1000 days of a child could influence educated women (with access to information) to utilise more of SNP for children (6m-6y).

With regard to PSE, the analyses suggest that initiatives to raise both women's educational levels and their access to information could raise the proportional utilisation of PSE by girls.

The analyses also indicate that NHM (RMNCH) as it is, could inherently be geared to benefit women more than children (0-59m). However, higher awareness among women (through a combination of education and information) tends to raise the proportional utilisation of the services by children. Hence, policy suggestions would include:

- Enhancing the orientation of institutional mechanisms relevant to NHM (RMNCH) towards the health and nutrition of children.
- Strengthening policy environment to ensure that the quality and delivery of NHM (RMNCH) services are at least at par with competing alternatives so that the distribution of benefits are more in favour of children.