Estimating Public Spending on Health by Levels of Care for National Health Accounts: An Illustration of Use of Data on Withdrawals by Drawing and Disbursing Officers (DDOs) in India

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Estimating Public Spending on Health by Levels of Care for National Health Accounts: An Illustration of Use of Data on Withdrawals by Drawing and Disbursing Officers (DDOs) in India

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Abstract

This paper illustrates the use of information on withdrawals by Drawing and Disbursing Officers (DDOs) for improving estimates of public spending for National Health Accounts (NHAs) in India. Using information from two selected States (Karnataka and Rajasthan), the study highlights the advantages of combining DDO-level information with budgetary data for two purposes (i) mapping public spending to different provider classes of the international *System of Health Accounts* 2011 (SHA 2011) and (ii) mapping public spending to different types of healthcare providers in India. The benefits of using DDO-level information are found to be higher while mapping expenditure to healthcare providers in India than mapping to international categories of the SHA 2011. In particular, while mapping public spending to different types of healthcare providers in India, the improvement in precision of estimates brought about by DDO-level information was found to be significant in the two States.

Key Words: National Health Accounts (NHA), Health Expenditure Estimates, Public Health Spending, Health Provider Spending, Drawing and Disbursing Officers (DDOs), Indian States

JEL Classification Codes: H51, H72

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1. Introduction

An important determinant of the effectiveness of public spending on health is its distribution across primary, secondary and tertiary health care services. In most developing countries, healthcare services are required to be provided through a chain of health facilities structured in the form of a pyramid. The broad base of the pyramid corresponds to health facilities providing primary care with relatively more and more specialized care services provided towards the apex of the pyramid. The pyramidal structure of the health system is based on the fact that the volume of health care services required by population reduces as one move from primary to tertiary. The structure is also considered to be important for cost effectiveness of health interventions. Primary health care services provided at the base of the pyramid have lower operational costs and can act as screening centres for referring patients to higher level facilities, where operational costs are higher. The pyramidal structure also ensures better access to health care services to more population of the country, as adequate health care services at lower levels reduce the requirement of patients to travel large distances to access higher level health facilities. Broadly, there is a consensus on the effectiveness of larger volume of health services provided at lower levels of health facilities.

Cross-country comparisons for an understanding of the distribution of expenditure in the health pyramid are not very meaningful due to differences in the structure of health systems. Also, significant differences in expenditure accounting practices across countries pose problems of comparability. Possibly due to this, cross-country empirical evidence on the issue is limited. Only a few early studies in developing countries had attempted to develop such estimates by categorizing facilities into relatively homogeneous groups (Mills, 1990; Barnum and Kutzin, 1993). More recently, attempts have been made to standardize documentation of expenditure across the health pyramid of countries through international frameworks like the *System of Health Accounts 2011* (SHA 2011).[3] These frameworks have been adopted in compiling the National Health Accounts (NHA) of a number of countries, including India.

NHAs are primarily based on budget documents of Governments, and are dependent on the budget accounting practices adopted in individual countries. In countries like India, accounting heads in Government budgets do not strictly adhere to the tiers of the health pyramid, and various assump-

[3] OECD, Eurostat, World Health Organization 2011, *A System of Health Accounts.*

tions are required to classify expenditure into different types of health facilities in the health pyramid. These assumptions induce errors in estimates and make it difficult to identify the precise structure and distribution of expenditure across the health pyramid. In many cases, mapping of expenditure to different types of health facilities in India is also not possible using budgetary data alone. Given that documentation of public spending by levels of care is important for health policy formulation and a wider use of NHA in India, budgetary data pose limitations.

Easy availability of disaggregated information on withdrawals by Drawing and Disbursing Officers (DDOs) in India in recent years has opened up the possibility of using disaggregated data for better quality of estimates in India's NHA. DDOs in India are authorized by an administrative department to withdraw funds from the State treasury under different budget heads and are attached to various health facilities. Withdrawals by a DDO of any facility reflect expenditure on that facility, and the sum of all withdrawals by DDOs of a particular type of facility indicates expenditure on that type of health facility. This allows estimation of expenditure on each tier of the health pyramid to a significant extent. In general, withdrawals by DDOs provide disaggregated information on health expenditure under each budget head, which can be potentially used to derive more precise estimates of public spending for NHA in India. Till recently, records of these withdrawals were not available in an easy usable form, which limited the use of this information for deriving NHA estimates in India.

This paper attempts to illustrate the advantages of using disaggregated information on withdrawals from budget heads for deriving improved estimates of public spending on different types of providers in the health pyramid in India. Using information on public spending from Karnataka and Rajasthan, the analysis highlights two issues: (i) how public spending can be mapped to different provider categories of SHA 2011, and (ii) how public spending in the two States can be mapped to different types of healthcare providers (India-specific providers) to derive estimates of expenditure by different types of health facilities. The choice of the States is based on the spread of DDOs associated with the health sector. Karnataka has more than 4000 DDOs and ranks among the States with the highest number of DDOs in the country. Rajasthan on the other hand, has only around 1200 DDOs.

2. Withdrawals by DDOs, and its Advantages

DDOs are authorized by an administrative department to withdraw funds from the State treasury under different budget heads. These officers are attached to various healthcare 'providers' or

'functional' entities and are authorized to withdraw funds for that entity.[4] The amount of withdrawals by a DDO of an entity reflects expenditure by that entity, and DDO-wise withdrawals provide information on disaggregated expenditure by different 'providers' and 'functional' entities under each budget head. In any budget head, the withdrawals by DDOs associated with different providers and functions allow one to disaggregate expenditure under the budget head into more precise categories of providers and functions. Notably, a DDO often withdraws from multiple budget heads (as illustrated for a case in Appendix Figure 1) and conversely, multiple DDOs withdraw from the same budget head (as illustrated for a case in Appendix Table 1).

Information on DDO-wise withdrawals helps to overcome some of the limitations of budgetary data in a number of ways. First, in Indian budgets, multiple 'providers' are often clubbed under the same budget head. For instance, the budget head of 'hospitals and dispensaries' is often an aggregation of expenditure on facilities like district hospitals, sub-district hospitals, tertiary-level hospitals and other dispensaries. Identification of DDOs attached to these facilities and their withdrawals help to break up expenditure under the budget head into different types of health facilities or healthcare providers. This facilitates better mapping of public spending to healthcare providers in India.

Secondly, certain budget heads like 'public health' cannot be mapped to any provider although most of the expenditure under the head is incurred through specific providers. Information on DDO-wise withdrawals help to disaggregate this expenditure by type of providers.

Thirdly, even when budgetary heads are clearly associated with a particular type of provider, there are often differences across States in the way expenditures are accounted under these heads. For example, although there is a well-defined budgetary head for PHCs and CHCs in rural areas, in many States, expenditure in these heads is reported as nil as these are accounted under other budget heads.[5] Such reporting practices are sometimes driven by differences in administrative structures. For example, expenditure reported under 'Assistance to Zilla Panchayats' and 'Assistance to Taluk Panchayats' accounts for about a third of the total health expenditure in Karnataka, and cannot be

[4] As per SHA 2011, 'healthcare providers' relate to organizations that are involved in the delivery of health care goods and services. 'Health functions' relate to the type of health service consumed from different healthcare providers.

[5] Expenditure on Primary Health Centres (PHCs) under the budgetary head of 2210-03-103 is reported as zero in States like Karnataka, Maharashtra and Uttar Pradesh. Similarly, expenditure on Community Health Centres under the budgetary head of 2210-04-104 is reported as zero in the States of Andhra Pradesh, Bihar, Kerala, Odisha, M.P. and Maharashtra.

mapped to any provider or functional entity. In such cases, identification of DDOs associated with specific providers enables one to map expenditure to specific provider and functional entities. Similarly, expenditure on PHCs in the Karnataka budget is reported as zero as these are incurred through Zilla Panchayats and Taluk Panchayats and booked under the budget heads 'Assistance to Zilla Panchayat' and 'Assistance to Taluk Panchayat'.

Differences in the components of expenditure included under similar budget heads induce errors while mapping expenditure to different types of providers. An example of this is reflected in the fact that in NHA 2004-05, expenditure under the budgetary head of 'Hospitals attached to teaching institutions' was mapped to tertiary-level service providers in India. Our analysis using DDO data suggests that a significant proportion of expenditure under this budget head in Karnataka is withdrawn by district and sub-district hospitals, which are not tertiary-level service providers. In Rajasthan, however, this error is likely to be insignificant as the budget head mainly includes expenditure incurred on tertiary-level service providers. Use of information on DDO-wise withdrawals reduces the errors induced due to such differences in budgetary accounting practices.

Lastly, we cannot identify public spending on each tier of the health pyramid in India, by analyzing budgetary data. In most Indian States, expenditure on many sub-district facilities cannot be identified from budgets. In such cases, a tier-wise estimate of expenditure across the health pyramid is only possible using DDO-level information.

3. Data and Methodology

The exercise is based on information on DDO-wise withdrawals for expenditure under the budgetary head of Health and Family Welfare provided by the Finance Department of the two State Governments in India: Karnataka and Rajasthan. Information provided by the departments included record of each withdrawal by DDO for expenditure towards 'Health and Family Welfare' on the revenue account (budget heads 2210 and 2211) in the year 2012-13. Against each withdrawal, the dataset had information on the designation (and code) of the DDO withdrawing funds, the name (and code) of the treasury from which the DDO had withdrawn funds, the detailed budget head under which funds had been withdrawn and the amount of funds withdrawn. The total number of with-

drawal records in the datasets of Rajasthan and Karnataka were around 20,000 and 84,000 respectively. The dataset for Karnataka included records on three accounts: State account, and the two tiers of local Governments (Zilla panchayat (ZP) and Taluk Panchayat (TP)) accounts.[6]

The 'designation' of a DDO has been used to identify the providers with which a DDO is associated. In some cases, the DDO was found to be associated with a functional entity, and not a provider entity (e.g. Malaria control officer, Tuberculosis control officer, etc.). In such cases, withdrawals by DDOs did not provide any additional information for mapping spending to health care facilities, and one had to rely on budget classifications alone.

Estimates of expenditure corresponding to SHA 2011 and health care providers in India have been derived using two approaches (a) budgetary data alone, and (b) supplementing budgetary data with information on DDO-wise withdrawals. The difference in estimates between the two approaches is used as an indicator of the extent of improvement in precision that can be brought about by using DDO-level information.

4. Mapping of Public Expenditure to Classes of Health Care Providers of SHA

In Karnataka, about 45 per cent of the expenditure in the budget was reclassified when information from budgets was supplemented by information on withdrawals by DDOs. About 36 per cent of this was on account of the budget head for local governments alone 'Assistance to Zilla Panchayat (ZP) and Taluk Panchayat (TP)', which cannot be mapped to any provider category without DDO–level information of withdrawals from the ZP and the TP account. The remaining 9 per cent was on account of reclassification of amounts in other budget heads in the State account (Table 1). Notably, the relatively large improvement in precision in Karnataka is because of the decentralized structure of administration and its reporting in budget documents in the State.

Notably, the Karnataka budget document provides allocations (not actual expenditures) in the ZP and TP accounts. As bulk of the expenditure incurred through ZP and TP accounts in Karnataka is

[6] In 2012-13, around 64 per cent of the total expenditure of the State was incurred through the State account, 35 per cent through the Zilla panchayat account, and 1 per cent through the Taluk panchayat account.

committed in nature, it is possible to use 'allocations' reported in the State budget under different heads for ZP and TP as proxies of 'actual expenditure'. In other Indian States, with relatively high levels of decentralized spending, however, this may not hold true.

The expenditure under the budget heads of the ZP account and TP account was reclassified using DDO-level information, to understand the precision that can be brought about in these two accounts. The analysis suggests that using DDO-level information results in reclassification of about 12 per cent of the total expenditure at the ZP level. The corresponding reclassified amount in the TP account was about 1 per cent (Table 2 and Table 3). Together, in all the three accounts, if one combines information on allocation under different budget-heads for the ZP and the TP accounts with information on actual expenditures for other heads from State budgets, the improvement in precision that is derived by using DDO data is about 10 per cent.

In Rajasthan, the amount reclassified after supplementing budgets with information on DDO withdrawals was only about 4 per cent (Table 4). It should be pointed out that Rajasthan has one of the most structured budgets in the country, and therefore, the improvement in precision that can be derived by supplementing DDO-level information to budget data in the State is expected to be among the least across Indian States.

5. Mapping of Public Expenditure to Health Care Providers in India

The usage of DDO data for mapping public expenditure to each tier of provider in the health pyramid of India indicates a much higher level of precision. In Karnataka, the proportion of expenditure reclassified after adding DDO data was about 25 per cent in the State account, 12 per cent in the ZP account and 14 per cent in the TP account. If one uses a weighted average of the errors in these three accounts, the aggregate improvement in precision at the State-level would be about 21 per cent of total expenditure. Table 5, 6 and 7 indicate the reclassified amount while mapping expenditure to health care providers in India in the State account, ZP account and the TP account respectively. In Rajasthan too, the improvement in precision was about 17 per cent (Table 8).

In the absence of DDO-level information, certain types of health care providers in India, like district hospitals, taluk hospitals and sub-divisional hospitals cannot be identified from budgets.

DDO-level information helps to identify expenditure in such facilities. Also, in certain cases, although DDO-level data does not allow one to map expenditure to a specific type of provider, it facilitates mapping expenditure to a group of health facilities in India. For example, in Karnataka, Taluk-level Health Officers (THOs) withdraw funds for facilities located within a taluk (Taluk hospitals, CHCs, PHCs and SCs). These withdrawals although cannot be identified with any particular type of health facility, can be identified as those spent at the lowest tier of the health pyramid which include facilities at the taluk level. Similarly, withdrawals by Block-level Medical Officers (BCMOs) withdraw funds for facilities within the block and thus, can be identified with the group of facilities at the lowest tier of the health pyramid.

6. Major Budget Heads Contributing to Improvement in Precision

An analysis of the distribution of error across different budget heads suggests that a substantial part of the reclassified amount (particularly in India specific classification) is concentrated in three heads: Hospitals and dispensaries (2210-01-110), Employees State Insurance Scheme (2210-01-102) and Prevention and Control of diseases (2210-06-101) (Table 9). In both Karnataka and Rajasthan, these heads account for more than 90 per cent of the total reclassified amount in India-specific mapping (Table 9). In SHA 2011 mapping too, these heads constituted more than 70 per cent of the reclassified amount in the State account of Karnataka (Table 9). In Rajasthan too, the budget heads of Employees State Insurance Scheme and Prevention and Control of Diseases contributed substantially to the reclassified amount in SHA 2011 mapping. However, the amount reclassified under the head of hospitals and dispensaries was relatively low in SHA 2011 mapping as many of the India-specific providers under the head, were aggregated in the same category.

In the budget head 'Hospitals and Dispensaries', DDO-level information allows one to disaggregate expenditure on different types of providers as shown in Figure 1. Budgetary data alone cannot be used for such a bifurcation as expenditure on different types of providers is aggregated under the head. Similarly, in the budget head Employees State Insurance Schemes (ESIS), expenditure on hospitals and dispensaries of ESIS cannot be differentiated from budgets. DDO-level information allows one to break-up this expenditure into hospitals and dispensaries of the ESIS and allows more precise categorization (Figure 2).

Table 1: Classification of expenditure by health care providers as per SHA 2011 (ICHA-HP) classes and reclassification error in Karnataka, 2012-13 (State account) (Rs. Millions)

Under the budgetary head of Medical and Public Health (2210)				
Based on budget		**Based on budget and DDOs**		**Amount reclassified using DDOs**
Code*	**Amount**	**Code***	**Amount**	
HP.1.1	5116.48	HP.1.1	4831.96	284.5
		HP.1.3, HP.3.4.9	284.5	
HP.1.2	405	HP.1.2	405	0
HP.1.3	1336.02	HP.1.3	1336.02	0
HP.3.4.9	172.4	HP.3.4.9	163.9	8.49
		HP.1.1, HP.7.1	8.49	
HP.4.1	637.5	HP.4.1	637.5	Nil
HP.6	1676.9	HP.1.1, HP.1.3, HP.3.1.3, HP.3.4.9, HP.7.1	273.6	273.6
		HP.6	1403.3	
HP.7.1	3525.1	HP.1.1, HP.1.3, HP.3.4.9, HP.6, HK	1169.97	1169.97
		HP.7.1	2355.13	
HK	7672.9	HP.1.1, HP.1.3	142.09	142.09
		HK	7530.8	
NRHM	1827.4	NRHM	1827.4	Nil
Total under 2210 (State account)			**22369.7**	**1878.66**
Under the budgetary head of Family Welfare (2211)				
HP.3.4.1	133.83	HP3.4.1	85.45	48.37
		HP1.1, HP1.3, HP.7.1, HK	48.37	
HP.7.1	101.34	HP.7.1	59.83	41.52
		HP.1.1, HP.3.4.1, HK	41.52	
HK	157.92	HK	84.44	73.48
		HP.6, HP.1.1	73.48	
Total under 2211 (in State account)			**393.09**	**163.36**
Percentage of total expenditure under 2210 and 2211 reclassified				**9**

Note: Around 90 per cent of expenditure under Family Welfare (2211) was incurred through Zilla panchayat account and are excluded from the State account. * Refer Appendix Table 2

Table 2: Classification of expenditure by health care providers as per SHA 2011 (ICHA-HP) classes and reclassification error in Karnataka, 2012-13 (Zilla Panchayat account) (Rs. Millions)

Under the budgetary head of Medical and Public Health (2210)				
Based on budget		**Based on budget and DDOs**		**Amount reclassified using DDOs**
Code*	**Amount**	**Code***	**Amount**	
HP.1.1	832.82	HP.1.1	489.87	342.95
		HP3.1.3, HP.3.4.1, HP.3.4.9, HP.6,	342.95	
HP.3.4.9	5021.59	HP.3.4.9	5003.24	18.35
		HP.1.1, HP.7.1	18.35	
HP.4.1	10.08	HP.4.1	7.63	2.45
		HP.1.1, HP.3.4.9	2.45	
HP.6	375.8	HP.6	111.68	264.12
		HP.1.1, HP.3.1.3, HP.3.4.9	264.12	
HP.7.1	399.24	HP.7.1	268.93	130.32
		HP.1.1, HP.3.4.9, HP.6	130.32	
Total under 2210 (Zila Panchayat account)			**6639.53**	**758.19**
Under the budgetary head of Family Welfare (2211)				
HP.1.1	0.037	HP.1.1	0.03	0.007
		HP.3.4.9	0.007	
HP.3.4.1	12.38	HP.3.4.1	6.27	6.10
		HP.1.1, HP.3.4.9	6.10	
HP.3.4.9	2770.99	HP.3.4.9	2770.99	Nil
HP.7.1	346.61	HP.7.1	292.24	54.38
		HP.1.1, HP.3.1.3, HP3.4.9, HP.6	54.38	
Total under 2211 (in Zila Panchayat account)			**3130.03**	**60.49**
Percentage of total expenditure under 2210 and 2211 reclassified				**11.7**

Note: Around 10 per cent of expenditure under Family Welfare (2211) was incurred through State account.
* Refer Appendix Table 2

Table 3: Classification of expenditure by health care providers as per SHA 2011 (ICHA-HP) classes and reclassification error in Karnataka, 2012-13 (Taluk Panchayat account) (Rs. Millions)

Under the budgetary head of Medical and Public Health (2210)				
Based on budget		**Based on budget and DDOs**		**Amount reclassified using DDOs**
Code*	**Amount**	**Code***	**Amount**	
HP.1.1	0.005	HP.1.1	0.003	0.002
		HP.3.4.9	0.002	
HP.3.4.9	278.47	HP.3.4.9	275.16	3.31
		HP.1.1, HP.6	3.31	
HP.7.1	35.05	HP.7.1	34.47	0.58
		HP.1.1, HP.3.4.9	0.58	
Total under 2210 (Taluk Panchayat account)			**313.52**	**3.88**
Total under 2211 (Taluk Panchayat account)*			**Nil**	**Nil**
Percentage of total expenditure reclassified				**1.24**

Note: *No expenditure under the budget head of Family Welfare is incurred through the Taluk Panchayat Account

* Refer Appendix Table 2.

Also, the budget head of prevention and control of diseases does not provide information on the providers through which the expenditure is incurred. DDO-level data helps to identify the type of providers through which these expenditures are incurred. This facilitates reclassification of expenditure under this head by types of providers (Figure 3).

In the ZP account of Karnataka, a substantial amount of budgetary expenditure is booked under the budget heads of Karnataka Health Systems Development Project (KHSDP), Prevention and Control of Diseases, Taluka-level general hospitals and State Health Transport Organization (SHTO). Expenditure under these heads can be mapped to specific providers like taluk hospitals, CHCs, PHCs, SCs, and Ayush facilities using DDO-level information.

Table 4: Classification of expenditure by health care providers as per SHA 2011 (ICHA-HP) classes and reclassification error in Rajasthan, 2012-13.
(Rs. Millions)

Classification of expenditure by health care providers as per SHA 2011 (ICHA-HP)				
Based on budget		**Based on budget and DDOs**		**Amount reclassified using DDOs**
Code*	**Amount**	**Code***	**Amount**	
HP.1.1	12069.4	HP.1.1	11257.1	812.4
		HP.1.3, HP.3.4.9, HP.6	812.4	
HP.1.2	100	HP.1.2	100	0
HP.1.3	1092.44	HP.1.1	0.02	0.02
		HP.1.3	1092.4	
HP.3.1.3	183.9	HP.3.1.3	183.9	0
HP.3.4.9	8370.26	HP.3.4.9	8348.1	22.2
		HP.7.1, HP.HK	22.2	
HP.6	2756.48	HP.1.1, HP.1.3, HP.3.1.3, HP.3.4.9, HK	375.3	375.3
		HP.6	2381.1	
HP.7.1	912.04	HP.1.1, HP.3.1.3, HP.3.4.9, HP.6	10.7	10.7
		HP.7.1	901.4	
HK	3605.62	HP.1.1, HP.1.2, HP.1.3	31	31.0
		HK	3574.6	
UNCL	70.7	HP.3.4.9, HP.6, HP.7.1	70.7	70.7
Total under 2210			**29160.9**	**1322.3**
Total under 2211			**7478.18**	**10.82**
Percentage of total expenditure reclassified (under 2210)				**5**
Percentage of total expenditure reclassified (under 2210 and 2211)				**4**

* Refer to Appendix Table 2.

Table 5: Classification of expenditure by health care providers in India and reclassification in Karnataka (State account), 2012-13.
(Rs. Millions)

Based on Budget		Based on Budget and DDOs		Amount reclassified
Category	**Amount**	**Category**	**Amount**	
ESI hospitals and dispensaries	1334.1	ESI dispensaries	548.8	931.3
		ESI hospitals	382.5	
		ESI hospitals and dispensaries	402.7	
Hospitals (including Dispensaries)	4238.5	District Hospitals	1548.69	3882.5
		Taluk Hospitals	1940.96	
		CHCs	41.38	
		PHCs and SCs	59.8	
		Hospitals (including dispensaries)	356	
		Others	291.65	
Public health	1650.9	District Hospitals	19.3	223.9
		Taluk Hospitals	21.1	
		CHCs	14.5	
		PHCs and SCs	138.9	
		Others	30.1	
		Public Health	1427	
Other Categories	15146.2			473.1
Total Amount (2210)	**22369.7**			**5510.8**
Total Amount (2211)	**393.09**			
Total (2210 and 2211)	**22762.8**			
Percentage reclassified				**24.6**

Table 6: Classification of expenditure by health care providers in India and reclassification in Karnataka 2012-13 (Zila Panchayat Account) Rs. Millions)

Based on Budget		Based on Budget and DDOs		Amount reclassified
Category	**Amount**	**Category**	**Amount**	
Administrative Expenses	745.9	Administrative expenses	591.2	154.7
		Ayush Facilities	7.4	
		CHCs	16.6	
		Mobile Units	0.1	
		PHCs and Sub-centres	35.8	
		Public Health	71.6	
		Taluk level hospitals	22.2	
		TB Clinics	0.9	
Hospitals (including Dispensaries)	348.3	CHCs	113.3	348.3
		PHCs and Sub-centres	51.0	
		Public Health	20.5	
		Taluk level hospitals	163.5	
		TB Clinics	0.1	
Public Health	375.8	Public Health	111.675	264.1
		CHCs	21.752	
		PHCs and Sub-centres	154.231	
		Taluk level hospitals	5.914	
		TB Clinics	82.225	
Taluka level hospitals	484.5	Taluk level hospitals	119.2	365.3
		Ayush Facilities	4.1	
		CHCs	94.0	
		PHCs and Sub-centres	267.0	
		Public Health	0.1	
Other Categories	7815.5*			26.9
Total Amount	**9770**			**1159.3**
Percentage reclassified				**12**

* Around 74 per cent of expenditure in the Zila Parishad account is incurred towards PHCs and Sub-centres

Table 7: Classification of expenditure by health care providers in India and reclassification in Karnataka, 2012-13 (Taluk Panchayat Account) (Rs. Millions)

Based on Budget		Based on Budget and DDOs		Amount reclassified
Category	**Amount**	**Category**	**Amount**	
Administrative Expenses	35.05	Administrative Expenses	34.5	0.58
		Ayush Facilities	0.4	
		CHC	0.02	
		PHCs and Sub-centres	0.11	
Ayush Facilities	278.47	Ayush Facilities	235.64	42.82
		CHC	2.04	
		PHCs and Sub-centres	10.7	
		Public Health	0.17	
		Taluka level health facilities	1.10	
		Taluka Health Officers (THO)	28.81	
CHC	0.005	CHC	0.003	0.002
		PHCs and Sub-centres	0.002	
Total Amount	**313.5**			**43.4**
Percentage reclassified				**14**

Table 8: Classification of expenditure by health care providers in India and reclassification error in Rajasthan, 2012-13 (Rs. Millions)

Based on Budget		Based on Budget and DDOs		Amount reclassified
Category	**Amount**	**Category**	**Amount**	
ESI hospitals and dispensaries	511.63	ESI dispensaries	323.3	421.6
		ESI hospitals	98.3	
		ESI hospitals and dispensaries	90.1	
Hospitals (including Dispensaries)	8868.61	District Hospitals	2530.4	3884.21
		Satellite Hospitals	238.2	
		Sub-Divisional Hospitals	327.4	
		CHCs	488.0	
		PHCs and SCs	79.3	
		BCMOs	124.5	
		Hospitals (including dispensaries)	3019.3	
		Others	96.42	
Public health	2758.03	District Hospitals	235.9	1240.75
		Satellite Hospitals	20.8	
		Sub-Divisional Hospitals	50.7	
		CHCs	54.7	
		PHCs and SCs	9.76	
		BCMOs	865.5	
		Others	2.3	
		Public Health	1517.28	
CHC	2566.7	CHCs	2200.01	366.7
		PHCs and SCs	366.7	
Other Categories	14455.9			129.9
Total Amount (2210)	29160.9			6043.16
Total Amount (2211)	7478.18			
Total (2210+2211)	36639.08			
Percentage reclassified				17

Table 9: Share of selected budget heads in total reclassified amount (per cent)

Budget code	Description	Share of reclassified amount			
		SHA 2011 Mapping		India specific providers	
		Karnataka	Rajasthan	Karnataka	Rajasthan
2210-01-001	Direction and Administration	6.8	0.1	2.54	0.03
2210-01-102	Employees State Insurance Scheme	45.6	28.7	16.9	7.9
2210-01-110	Hospital and Dispensaries	12.0	4.1	69.4	56.7
2210-01-796	Urban Health Services - Tribal Area Sub-plan		5.3		7.6
2210-03-104	Community Health Centres (CHCs)		27.5		6.1
2210-05-105	Medical education allopathy	6.1	1.64	2.24	
2210-06-101	Prevention and Control of Diseases	13.4	18.7	4.94	9
2210-06-197	Assistance to Block /Inter-mediate panchayats		0.01		8.8
2210-06-796	Public Health-Tribal Area Sub-plan		5.9		1.8
Total of the above heads		**84**	**92**	**96**	**98**
Other heads		16	20	4	2
Total		**100**	**100**	**100**	**100**

Figure 1

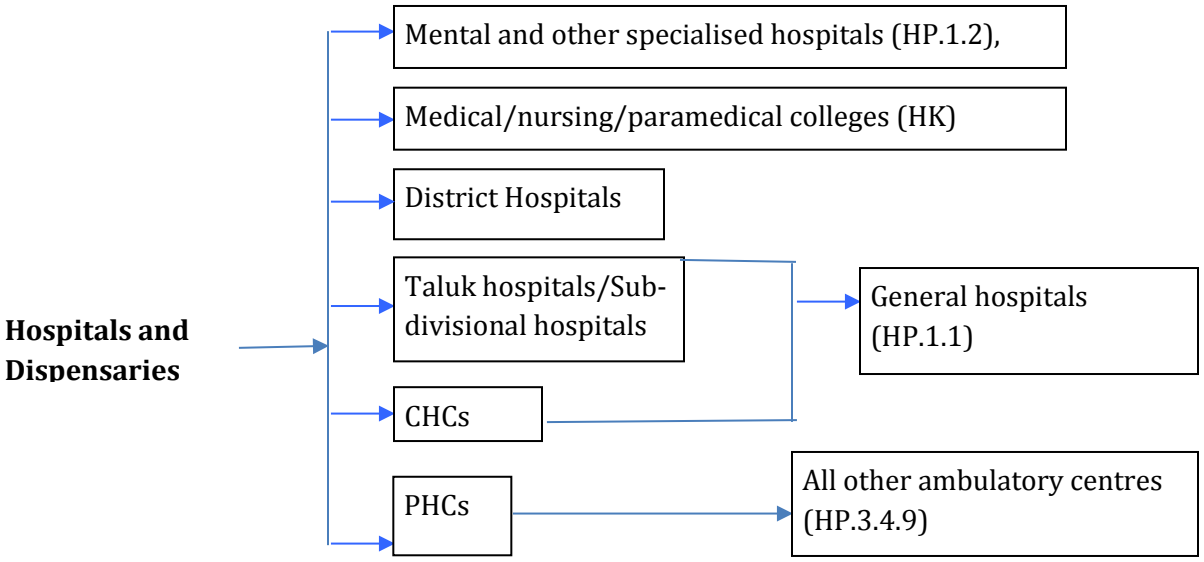


Figure 2

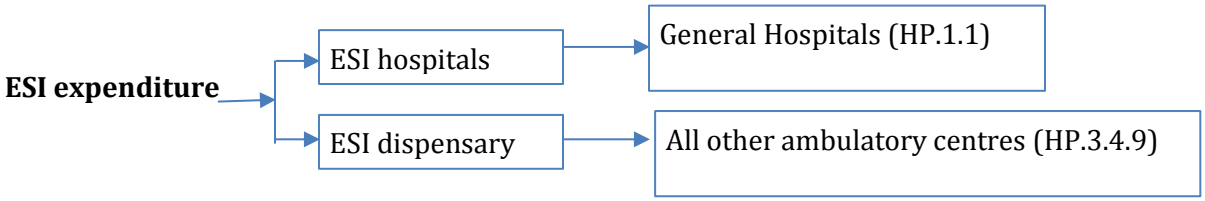
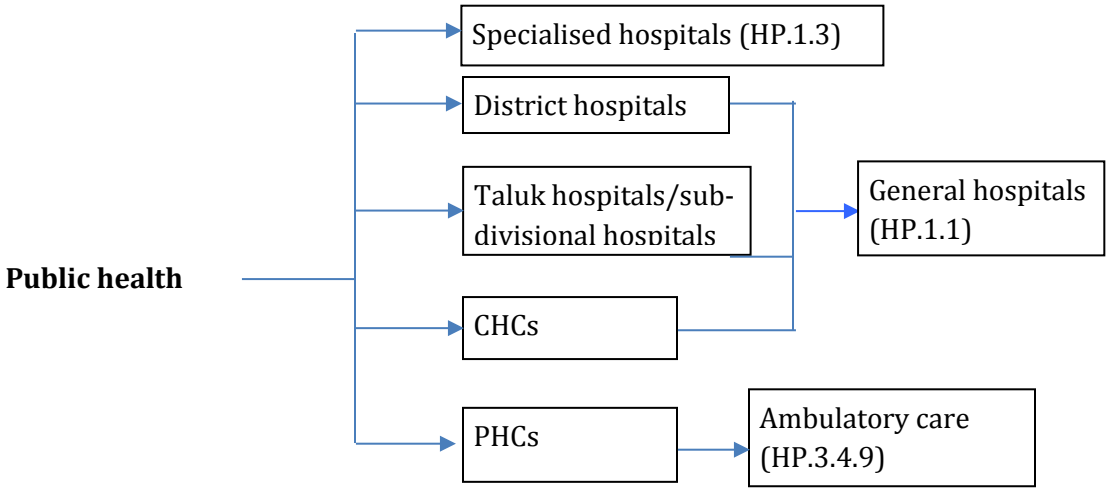


Figure 3



7. Conclusion

This paper illustrates the advantages of using information on withdrawals by DDOs for deriving improved estimates of public spending for National Health Accounts in India. In particular, the analysis uses information from Rajasthan and Karnataka to highlight the advantages for two cases (i) mapping public spending to different provider classes of the international SHA 2011, and (ii) mapping public spending to different types of healthcare providers in India.

The benefits of using DDO-level information are found to be higher while mapping expenditure to each tier of facility in the health pyramid in India than mapping to international categories of the SHA 2011. In particular, the benefits of using DDO-level information are significant while mapping public spending to different types of healthcare providers in India (21 and 17 per cent of total health expenditure in Karnataka and Rajasthan were reclassified). While mapping to provider classes of SHA 2011, the corresponding reclassified amounts were lower at 10 per cent and 4 per cent respectively. Even with respect to SHA 2011 classes, the benefits could be potentially higher in States where the level of decentralized planning and accounting is large.

The paper suggests that DDO-level information has the potential for providing improved estimates for NHA in India. However, this is based on an illustration of the benefits of using DDO-level data in the two States of Karnataka and Rajasthan. Given the wide variation in budgetary accounting practices in India, and the differences in affiliation and responsibilities assigned to DDOs in different States, the use of such data needs to be explored in other States as well for a larger understanding on the issue.

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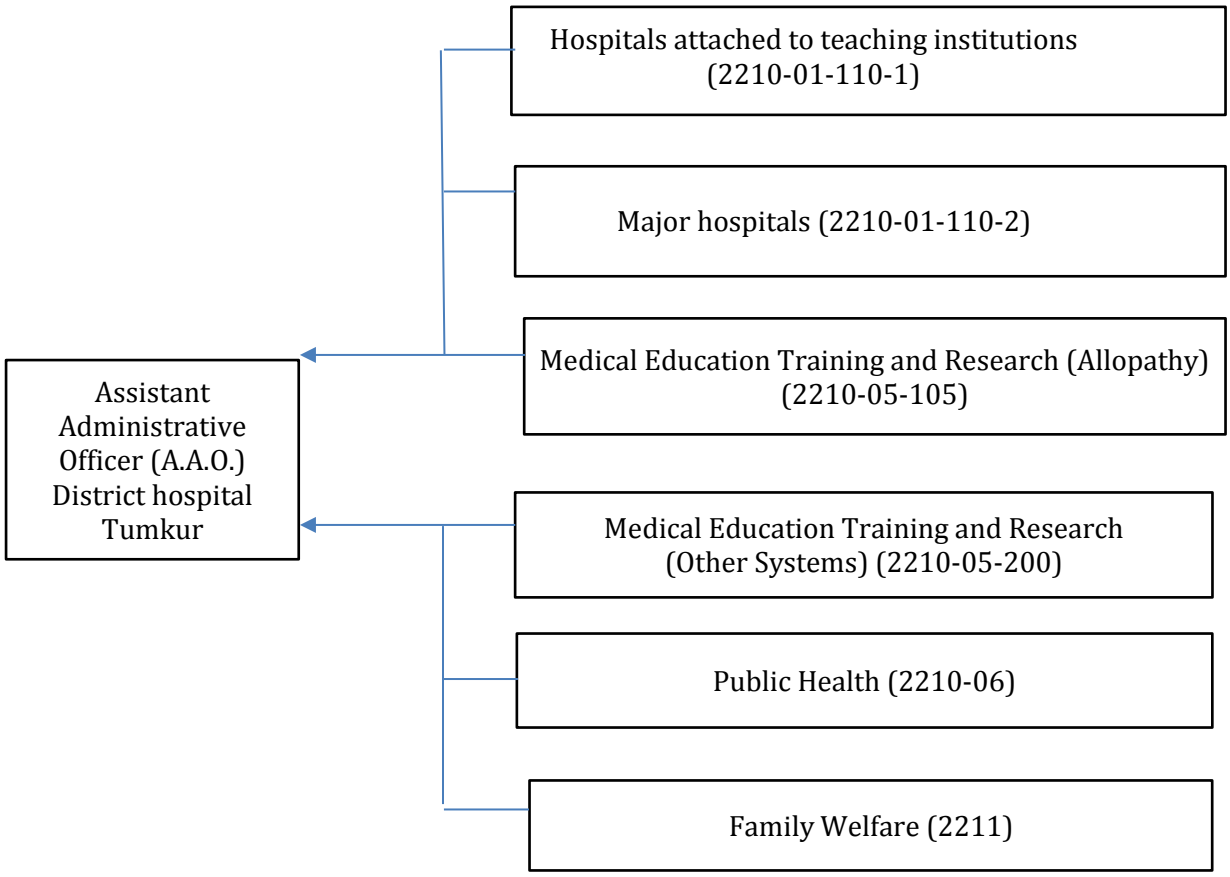
Appendix Figure 1



Appendix Table 1:

Illustrative List of DDOs withdrawing funds from selected budget heads in Karnataka and Rajasthan

Sl No.	DDO Designation	Budget Head
	KARNATAKA	
1	MEDICAL OFFICER PHC SINGASANDRA	2210-06-101-1
2	ADMINISTRATIVE MEDICAL OFFICER CHC KENGERI	2210-06-101-1
3	DISTRICT VECTOR BORNE DISEASE CONTROL OFFICER BNG URB	2210-01-110-1
4	CHIEF MEDICAL OFFICER, TALUKA GENERAL .HOSPITAL, ANEKAL.	2210-01-001-0
5	INSURANCE .MEDICAL OFFICER, E.S.I...DISPENSARY, BOMMASAN-DRA AKL TQ	2210-01-102-0
6	TALUK MEDICAL OFFICER ANEKAL	2210-06-101-1
	RAJASTHAN	
1	BLOCK C.H.C.KHARCHI.	2210-06-101-19
2	PMO GOVT HOSPITAL GANGAPUR CITY	2210-06-101-19
3	SUPDT ESI HOSPITAL JODHPUR	2210-01-102-02
4	MED.OFFICER INCH.,PHC,CHHOTI SARWAN	2210-06-796-06
5	T.B. CLINIC SAWAI MADHOPUR	2210-06-101-19
6.	BLOCK CHIEF MEDICAL OFFICER, HANUMANGARH	2210-06-101-19
7.	PRINCICIPAL MEDICAL OFFICER, BHARATPUR (DISTRICT HOSPI-TAL)	2210-06-101-19

Appendix Table 2: Classification of Health Care Providers (ICHA-HP) as per SHA 2011

HP.1	Hospitals
HP.1.1	General hospitals
HP.1.2	Mental health hospitals
HP.1.3	Specialised hospitals (other than mental health hospitals)
HP.2	Residential long-term care facilities
HP.2.1	Long-term nursing care facilities
HP.2.2	Mental health and substance abuse facilities
HP.3	Providers of ambulatory health care
HP.3.1	Medical practices
HP.3.1.1	Offices of general medical practitioners
HP.3.1.2	Offices of mental medical specialists
HP.3.1.3	Offices of medical specialists (other than mental medical specialists)
HP.3.2	Dental practice
HP.3.3	Other health care practitioners
HP.3.4	Ambulatory health care centres
HP.3.4.1	Family planning centres
HP.3.4.2	Ambulatory mental health and substance abuse centres
HP.3.4.3	Free-standing ambulatory surgery centres
HP.3.4.4	Dialysis care centres
HP.3.4.9	All other ambulatory centres
HP.3.5	Providers of home health care services
HP.4	Providers of ancillary services
HP.4.1	Providers of patient transportation and emergency rescue
HP.4.2	Medical and diagnostic laboratories
HP.4.9	Other providers of ancillary services
HP.5	Retailers and other providers of medical goods
HP.5.1	Pharmacies

HP.5.2	Retail sellers and other suppliers of durable medical goods and medical appliances
HP.5.9	All other miscellaneous sellers and other suppliers of pharmaceuticals and medical goods
HP.6	Providers of preventive care
HP.7	Providers of health care system administration and financing
HP.7.1	Government health administration agencies
HP.7.2	Social health insurance agencies
HP.7.3	Private health insurance administration agencies
HP.7.9	Other administration agencies
HP.8	Rest of economy
HP.8.1	Households as providers of home health care
HP.8.2	All other industries as secondary providers of health care
HP.8.9	Other industries n.e.c.
HP.9	Rest of the world

Source: OECD, Eurostat, World Health Organization (2011), *A System of Health Accounts*.

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