

Unit costs for allopathic and AYUSH outpatient care in public facilities in Urban Delhi, India

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ABSTRACT

Introduction: The National Health Policy, 2017, suggests pluralism in health care with the integrated delivery of AYUSH and allopathic care at public facilities. Information on unit cost of outpatient visits for both types of care at public facilities is useful to guide the policies on health-care delivery. **Methods:** The costs in 2019–20 were estimated for each type of care at allopathic urban primary health center (UPHC) and AYUSH facilities using top-down methodology and adding out-of-pocket expenditures (OOPE) incurred to reflect true costs. Data from national health survey, annual government budgets, and reports were used. **Results:** The average cost of an outpatient visit for allopathic care was ₹325 at a UPHC and ₹189 in a homeopathic dispensary and ₹692 in an Ayurvedic dispensary. While OOPE per visit at UPHC was ₹177, no OOPE was incurred at AYUSH facilities. The government expenditure per visit for allopathic care at UPHC at ₹148 was the lowest compared to any type of AYUSH care. The cost per facility for allopathic UPHC was higher than both Ayurvedic and homeopathic dispensaries. Unani dispensaries were least cost-effective, both in terms of cost per visit and cost per facility. **Conclusion:** Costs per visit at a facility are impacted by footfalls. For Ayurveda, despite lower facility costs as compared to UPHC, per visit costs were higher due to low utilization. Improving evidence-based utilization of AYUSH care is critical for the success of the government policy of mainstreaming AYUSH care at low cost.

Keywords: AYUSH, cost per facility, cost per visit, Delhi, primary care, traditional medicine, unit cost

Introduction

Traditional medicine is considered to be an important form of primary health care^[1] and is found to be used in many countries such as the USA, Canada, Malaysia, South Korea, Nigeria, and so on for the treatment and management of conditions like arthritis, asthma, migraine, diabetes mellitus, dengue epidemic, and so on.^[2–4] The comprehensive approach of Ayurveda and other Indian systems of health care that have its rising popularity even in other countries^[5,6] is well known.

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These traditional systems of medicines in India, referred to as AYUSH (Ayurveda, Yoga, Unani, Siddha, and Homeopathic), are known to be useful in promoting health and fulfilling unmet needs, with an emphasis on prevention and ability to manage chronic disorders without some of the iatrogenic side effects associated with allopathic treatment.^[7–11] A study of cancer patients in Kerala, India, found that because of the overwhelming disease burden and unmet needs, many patients resorted to AYUSH treatment along with allopathic treatment.^[12] The World Health Organization also recognizes Ayurveda as a sophisticated system of traditional medicine.^[13] The two recent Indian National Health Policy^[14,15] documents also contain directions for pluralistic health care and mainstreaming of AYUSH care in the country. Experts too envisage a role of AYUSH in achieving Universal Health Coverage (UHC).^[16,17]

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AYUSH industry is witnessing massive growth with a turnover of US\$ 18.1 billion and exports of US\$ 1.54 billion in the recent times.^[18] The share of on AYUSH in total health expenditures increased from 3.6% in 2017–18 to 3.9% in 2018–19.^[19] The increasing expenditures on AYUSH care necessitate economic evaluations to help in making decisions about health-care delivery and investments.^[20] Estimates of health-care costs are important for economic evaluations. Unit cost estimates help to understand whether the budgetary allocations are commensurate with the utilization patterns and provide value for money across types of facilities and nature of treatment (AYUSH/allopathic).^[21,22] However, not much is known about the cost and utilization of providing AYUSH care and its comparison with the cost of allopathic care.

Several studies in India have looked at the cost of services, programs, and conditions,^[23–29] outpatient and inpatient care at public facilities,^[30–32] and out-of-pocket expenditures (OOPEs) at private facilities.^[15,33,34] But all these studies pertain to allopathic care.

This study estimates and compares the financial costs and utilization for outpatient care per visit and per facility of AYUSH and allopathic care at public facilities, namely, AYUSH public dispensaries (AD) and urban primary health centers (UPHC) in urban Delhi for 2019–20. Two indicators of costs, namely, cost per visit and cost per facility, have been used.

There are two broad methodologies used for estimating costs for outpatient and inpatient care: top-down and bottom-up. Bottom-up costing studies use input-based approach while top-down costing studies use actual expenditures incurred.

Our study used a modified top-down methodology of estimating costs that include not only the government expenditures from published government documents but also the OOPE from the National Health Survey to estimate the true costs of an outpatient visit, from both the supply and the demand side.

Material and Methods

Data

The data on the number of facilities and number of outpatient visits for all health-care facilities of the Delhi Government for 2019–20 were taken from the Annual Report, Directorate General of Health Services, Government of Delhi.^[35] Data on recurrent and capital expenditures at these facilities were available from the state budget and the outcome budget of Delhi Government for 2019–20.^[36,37] Actual expenditures rather than budgeted or revised estimates were used. Data from the 75th round of the household survey on health by the National Sample Survey Organization 2017–18 were used to obtain estimates for OOPE in various types of facilities in Delhi for 2019–20.^[38] Consumer price index was obtained from the Ministry of Statistics and Programme Implementation.^[39]

Methods

Two measures of unit cost have been estimated: cost to the government per facility and cost per outpatient visit at a facility. These costs were estimated for the following public facilities providing allopathic and AYUSH care: allopathic care at (i) UPHC (urban primary health center including dispensaries, seed PUHC, and polyclinics), and AYUSH care at (ii) Ayurveda dispensaries, (iii) Homeopathy dispensaries, and (iv) Unani dispensaries.

For each type of facility, government financial costs were estimated as the sum of recurrent and capital expenditures in 2019–20. Cost to the government per facility was estimated by dividing the total expenditures by the number of facilities and cost per visit was estimated by dividing the total cost by the total number of visits. The full cost per outpatient visit for each type of public facility was obtained by adding OOPE per visit to government cost per visit.

Out-of-pocket expenditures for government facilities

Expenditure on outpatient care that includes doctors' fee, drugs, diagnostics, and medical consumables, was used to estimate OOPE for 2017–18 (using health survey). Expenditures on transport and other expenses incurred by households such as food lodging are not included. Information on OOPE is available by the type of treatment (Allopathy, Ayurveda/Unani/Siddha, Homeopathy, Yoga/Naturopathy) and by the type of facilities (public facilities, private clinics, private hospital, charitable hospital, and informal providers). OOPE for AYUSH was estimated as the expenditure on Allopathy, Ayurveda/Unani/Siddha, Homeopathy, and Yoga/Naturopathy. For public facilities, OOPE is combined for all types of public facilities in 2017–18 health survey. This information is available separately for subcenters, primary health centers, and public hospitals in NSS 71st round,^[40] which was used along with the disaggregated information on outpatient visits by types of facilities from the Annual report to obtain OOPE for UPHC in 2017–18. Total OOPE at UPHC was extrapolated for 2019–20 by using consumer price index for Delhi.^[39] Total outpatient visits at public facilities estimated for 2017–18 were extrapolated to 2019–20 using the ratio of visits from the annual reports of 2017–18 and 2019–20.^[35] The OOPE cost per visit was obtained by dividing the OOPE by the number of outpatient visits in 2019–20 at each type of facility.

Results

Table 1 shows that the patient load per facility is three times for allopathic care in UPHCs as compared to the total visits for Homeopathy, 5 times that compared to Ayurveda, and 6 times that compared to Unani care. The share of UPHC in the total visits at these facilities is 83%. This indicates preponderant utilization of allopathic care.

Outpatient care costs

The government expenditure per outpatient visit was higher in all types of AYUSH dispensaries as compared to UPHCs [Table 2].

The cost per outpatient visit at Unani dispensaries was highest at ₹1679 and lowest at homeopathic dispensary at ₹189. The cost per visit at Ayurveda dispensary was ₹692. The cost per visit at UPHC increased after including OOPE.

The cost per facility was lowest for homeopathic dispensary and highest for Unani dispensaries. The cost per facility at UPHCs was higher than homeopathic and Ayurvedic dispensaries.

The cost per visit and per facility at Unani dispensary is more than double than at Ayurveda dispensaries despite similar budgets across both types of dispensaries.

The data from the health survey for 2017–18 show a low utilization of AYUSH treatment at only 3.9% of the total outpatient visits in urban Delhi (rest used allopathic treatment). Most users of AYUSH treatment visited private facilities. No user reported incurring OOPE at public facility for AYUSH treatment. Some of those seeking allopathic care have also utilized AYUSH medicines, per the health survey. For Delhi urban, OOPE per outpatient visit for AYUSH medicines (incurred when using private facilities) was estimated at ₹125 as compared to ₹240 for allopathic medicines in 2017–18.

Discussion

The average cost of running an allopathic UPHC at ₹6894,000 is two times higher as compared to homeopathic dispensary. The cost of UPHC per facility is similar to Ayurveda dispensary but lower than Unani dispensary.

Table 1: Number of facilities and outpatient visits for urban primary health centers (UPHC) and AYUSH dispensaries 2019–20

Types of facilities	Number of facilities	Number of outpatient visits	Number of visits per facility	Share in the total number of visits (%)
UPHC ^a	266	12,968,494	48,754	83
AYUSH dispensaries				
Homeopathy dispensary	107	1,991,395	18,611	13
Ayurveda dispensary	46	437,752	9516	3
Unani dispensary	22	180,532	8206	1

Source: Annual Report 2019–20^[33]

Table 2: Government total expenditures, out of pocket expenditure, and costs per outpatient visit and per facility for Urban Primary Health Centers (UPHC) and AYUSH dispensaries 2019–20

Types of schemes and facilities	Government total expenditure (₹'000)	Government expenditure per visit	OOPE per outpatient visit (₹)	Costs per outpatient visit (₹)	Costs per facility (₹'000)
UPHC ^b	1919,456	148	177	325	7216
AYUSH ^c dispensaries					
Homeopathy dispensary	376,410	189	0	189	3518
Ayurveda dispensary	303,115	692	0	692	6589
Unani dispensary	303,115	1679	0	1679	13,778

Source: Annual Report 2019–20, DGHS,^[35] Demand for Grants, Department of Finance, Delhi^[36] and authors' calculations

The government's cost for an outpatient visit at any of AYUSH dispensaries is greater than that at UPHC for allopathic care; however when OOPE is included, the actual cost per visit was higher at allopathic UPHC (₹325) than the 692 for homeopathic (₹189), but still lower than that at Ayurvedic (₹692) or Unani (₹1679) dispensaries.

Despite lower cost per facility to the government for AYUSH facilities compared to allopathic facilities, the low utilization at AYUSH facilities leads to higher costs per visit.

This study is the first known study of cost of care at AYUSH facilities and other benchmark estimates are not known. Regarding our estimates for allopathic care, they are comparable with those estimated for Chhattisgarh, 2020, at ₹400 for public providers.^[24] The government cost per outpatient visit was found to be slightly lower in Punjab, Haryana, and Himachal Pradesh in 2014–15^[30] and in urban PHCs in Gujarat for 2017–20. The total cost of Health and Wellness Centers at Gujarat was ₹12,000,000.^[34] These differences in costs can be attributed to differences in services offered and size of population served.

The strength of our study is the estimation of costs of facilities and outpatient visits for both allopathic and AYUSH treatment and the use of top-down costing methodology on secondary data to analyze government costs. The latter avoids reliance on expensive and time-consuming facility surveys and is regularly published. Government documents can help to obtain quick estimates to inform resource allocations for facilities. The study has one limitation, that is, ratios of OOPE across types of public facilities from the previous time period had to be used for splitting the total OOPE in public facilities in 2017–18.

We conclude that the homeopathic dispensaries are most cost-effective in terms of cost per visit and cost per facility. Ayurveda dispensaries have similar cost per facility as UPHC but have a higher cost per visit. Unani dispensaries were found to be least cost-effective in terms of cost per visit and cost per facility. Ayurvedic and Unani facilities can become more cost-effective by increasing the utilization at these facilities. Given the comprehensive approach of AYUSH care without some of the side effects associated with allopathic treatment, the government policy on mainstreaming it, its ability to meet unmet health needs, and growing international popularity, efforts

are needed for promoting evidence-based delivery of AYUSH care and its utilization among the population.

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Conflicts of interest

There are no conflicts of interest.

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