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Health Satellite Account, 2017–18, Uttarakhand

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NCAER India Centre, 11 Indraprastha Estate, New Delhi 110002. INDIA.

Study Team

Project Leader: *Dr Poonam Munjal*
Research Team: *Dr Palash Baruah, Mr Asrar Alam, Ms Elizabeth Lyn, Mr Animesh Sharma, Ms Sonal Jain*
Field Support: *Krishna Kumar Lal*
Editor: *Ms Anupma Mehta*
Secretarial Assistance: *Ms Shashi Singh*

Published by
Professor Anil K. Sharma
Secretary and Operations Director
National Council of Applied Economic Research
NCAER India Centre
11, Indraprastha Estate, New Delhi–110 002
Tel: +91-11-2345 2657, 6120 2698
aksharma@ncaer.org
www.ncaer.org

Publications Coordinator
Jagbir Singh Punia

Manisha Panwar,
I.A.S
Additional Chief Secretary

Government of Uttarakhand

Department of Planning
Uttarakhand Secretariat
4, Subhash Road, Dehradun, 248001
(Office) :035-2714389
(Fax) : 0135-2712095
EMAIL : acsuk.planning@gmail.com
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Preface

It is a great pleasure to note that the Uttarakhand Directorate of Economics and Statistics is releasing the report on its first ever Health Satellite Account (HSA) for 2017-18 under the Support for Statistical Strengthening Project. With the health sector gaining a lot of focus and importance by governments at all levels, due to the pandemic, this pioneering work is sure to benefit the Government of Uttarakhand in framing policies for the health sector. The report will also set a benchmark for other such studies in future.

I take this opportunity to thank the study team of the National Council of Applied Economic Research (NCAER) for undertaking this study and for preparing the sub-national HSA by adopting the methodology that largely conforms to the methodology recommended in the National Health Accounts Guidelines for India, 2016, which itself is based on the internationally accepted System of Health Accounts (SHA-2011).

I appreciate the efforts of DES Officers particularly Shri Sushil Kumar, Director DES and Dr. Manoj Kumar Pant, Additional Director/Nodal Officer SSS for initiating this study. I congratulate the whole team of DES and NCAER for their efforts to complete the study during covid-19 period.

(Manisha Panwar)

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NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH
NCAER India Centre, 11 Indraprastha Estate, New Delhi 110 002
Tel: +91 11 2345 2698, 6120 2722
pgupta@ncaer.org, www.ncaer.org

Poonam Gupta
Director General

Foreword

The health sector has gained immense importance in the last several months since the advent of an unprecedented health crisis in the form of the COVID-19 pandemic across the world. Governments, at all levels, have had to spend substantially higher than the usually budgeted amounts on providing healthcare, building health infrastructure, conducting free tests for infections, undertaking free vaccination drives, and many other exigencies. The State of Uttarakhand in India is not an exception. Out of the total State budget of Rs. 57,400 crore, proposed by the Uttarakhand Government for 2021-22, about Rs. 3,319.6 crore is slated for allocation to the medical and family welfare department.

Currently, there is a higher-than-ever need to understand the financial flows of the health expenditure through various financing schemes. The Health Satellite Account is a framework that fulfils this requirement. It helps the government in optimally utilising the resources on health by identifying the resource gaps and areas for ensuring efficient resource mobilisation.

It is in this context that the present study, undertaken by the National Council of Applied Economic Research (NCAER) to prepare the State's first Health Satellite Account (HSA) assumes great significance. This study is based on the methodology delineated by the National Health Accounts–Guidelines for India, 2016, prepared by the Ministry of Health and Family Welfare, Government of India, which itself is based on the internationally accepted System of Health Accounts (SHA-2011). The HSA presents the health expenditure (public and private) by four different classifications, namely, sources of finance, financing schemes, healthcare functions, and providers of healthcare facilities.

I take this opportunity to thank the Director General Health, Government of Uttarakhand, and Ms Manisha Panwar, and the Additional Chief Secretary, Department of Planning, Government of Uttarakhand, for initiating this important study. In the same vein, I express my gratitude to Mr. Sushil Kumar, Director, Department of Planning and Dr Manoj Pant, Additional Chief Executive Officer, Department of Planning, Government of Uttarakhand, for the valuable insights and constant cooperation he offered the NCAER team through the course of the study. The study team is also particularly grateful to Mr Maneesh Rana and Dr Ila Pant for their useful comments and suggestions.

I also express my gratitude to all the members of the NCAER study team, including Dr Poonam Munjal, Team Leader; Dr Palash Baruah, Senior Research Analyst; Ms Elizabeth Lyn, Mr Animesh Sharma, Research Analysts, for their efforts in completing the study amidst the challenge of the pandemic in the country, which has not only resulted in lockdowns and travel restrictions but also posed health issues for some of the team members and their families. I hope that the study will prove to be a useful contribution to the literature on health for the State of Uttarakhand, in particular, and the country, as a whole.

Poonam Gupta

New Delhi
September, 2021

Dr Poonam Gupta
Director General, **NCAER**

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I. Introduction

Health is described as the 'real wealth' of human beings and the enjoyment of highest attainable standards of health is one of the most fundamental rights of any human being without any distinction of race, gender, religion, political beliefs, and economic or social condition. Universal health care has also been stressed by the UN under its Sustainable Development Goal#3, which states, "Ensure healthy lives and promote well-being for all at all ages by 2030".

The health sector includes a very diverse set of activities covering both detection as well as that not only includes services that detect diseases but also its prevention and awareness. The health sector thus in India due to its overlapping features, function, and objectives is quite vast and provides a rich source of revenue as well as employment generation for the economy. The need to raise additional public resources for expanding insurance coverage, improving the efficiency of spending, and ensuring the effective performance and sustainability of health systems, among others, necessitates the preparation of a good database that can help the government in optimising utilisation of resources on health, and in identifying resource gaps and potential areas for capturing efficiency in resource mobilisation. The Health Satellite Account, conceptualised by the WHO, is a globally recognised framework for measuring health expenditure and the flow of funds in the country's health sector.

The Health Satellite Account is a new concept for India and is not common in an international context as well. It helps in making explicit, the implicit data in this area, thereby aiding policymakers in analysis and/or decision-making in the health sector. There are a few reports on National Health Accounts for India, and for a few States like Tamil Nadu and Punjab. Internationally, the Healthcare Satellite Accounts are sporadically available for the US and a few EU countries.

II. State Profile

The State of Uttarakhand is divided into two divisions, Kumaon and Garhwal, with a total of 13 districts. The provisional capital of Uttarakhand is Dehradun. The population, as per Census 2011, is 100.86 lakh, of which 70 per cent reside in rural areas. About two-thirds of the population belongs to the working age-group of 15 to 64 years. According to the Periodic Labour Force Survey, conducted by National Sample Survey for 2017-18, the labour force participation rate for those in the age group of 15 years and above stood at 69.1 per cent for males and 20.3 per cent for females in the rural areas. The corresponding figures were estimated at 71.3 per cent for males and 12.3 per cent for females in the urban areas.

The State's economic growth, in terms of the year-on-year growth in its Gross State Domestic Product (GSDP) was recorded at 4.3 per cent for 2019-20, which signifies a deceleration from the growth of 8.0 per cent and 5.8 per cent achieved in 2017-18 and 2018-19, respectively.

The total road length of the State is 69,777 km, of which the surfaced road length is 52,140 km. Despite its tough terrain and vulnerability to natural disasters, all the major locations in the State have good connectivity. Uttarakhand has two domestic airports, one at Jolly Grant in Dehradun district and another at Pant Nagar in Udham Singh Nagar district.

With regard to health, Uttarakhand has performed well on several health parameters, faring better than the national averages, and overall the State has showcased a mixed performance in its health sector with lots of inter-district variation.

Some of the key health-related characteristics of the State are delineated below.

- Uttarakhand has performed exceedingly well in promoting the health advances in the State with life expectancy at birth being 71.3 years, exceeding the all-India average of 68.5 years.

- Pithoragarh recorded the highest life expectancy of 72.1 years while Haridwar was at the bottom with a life expectancy of 67.7 years, with the difference between these districts at almost five years, reflecting vast inter-district variations

- According to the National Family Health Survey (NFHS-4, 2015-16) data, the total fertility rate in Uttarakhand, after remaining constant for two decades, witnessed a sharp decline from 2.6 to 2.1 years in 2015-16.

- Uttarakhand has about 3 Unani hospitals and 543 Ayurvedic hospitals and dispensaries catering to patients who rely on natural health remedies.

- Uttarakhand has set up 6 female hospitals, 15 combined hospitals, 3 base hospitals, and 12 district hospitals, to provide gender-specific health care to women and to universalise health care services for the general populace.

- Uttarakhand, on an average, showed an inclination towards institutional deliveries, recording 76.5 per cent of institutional deliveries.

III. Public Health Expenditure

- The total public health expenditure comprises the revenue and capital accounts. Most of the expenditure is incurred on the revenue account, which comprised 95.7 per cent of the total health expenditure.

- The maximum allocation of revenue account is towards the state Rural Health Services– Allopathy, which accounts for 38.1 per cent of the total current expenditure of the Department of Health and Family Welfare (DoHFW).

III.1. Public Health Current Expenditure by Healthcare Financing Schemes

- Of the total public health expenditure of Rs. 1331.03 crore, the State government's share was the highest, at 64.6 per cent, during 2017-18.

- The Union Government contributed 32.2 per cent and the local government accounted for just 0.6 per cent of the total.

- The share of government-based voluntary insurance schemes in the total public expenditure stood at 2.7 per cent.

III.2. Public Health Current Expenditure by Revenues of Financing Schemes

- Most of the revenue is sourced from the State government's Internal Transfers and Grants, which accounts for 71.2 per cent of the total expenditure.

- This is followed by transfers from the Union government on, say, the establishment of Central Drug Stores; 100 per cent Centrally-sponsored schemes like the National Blindness Prevention Programmes; or 90 per cent Centrally-sponsored schemes like the Rashtriya Swasthya Yojana, 10 per cent of which is allocated under State government transfers.

III.3. Public Health Current Expenditure by Healthcare Functions

- Outpatient curative care has the highest share in public health spending, accounting for 27.4 per cent of the total. Inpatient care (at 26.3 per cent) accounted for the second highest public expenditure in the State, followed by preventive care at 20.7 per cent.

- The Reporting Item, "Traditional, Complementary and Alternative Medicines", contributed to 16 per cent of the total public expenditure while the "Total Pharmaceutical Expenditure" accounted for 3.5 per cent of the total public spending.

- Significantly, other health care services accounted for 13.6 per cent of the total public health expenditure, followed by governance and health system and finance

administration, (8.1 percent) and medical goods, which accounted for 8.1 per cent and 3.0 per cent of the total expenditure, respectively.

- Home-based curative care accounted for 0.9 per cent of the total public expenditure. This includes expenditure incurred on payment of honorariums and annual promotions for part-time midwives and ASHAs. It also includes half of the annual incentives for ASHAs, with the other half being allocated for Preventive Care (HC.6).

III.4. Public Health Current Expenditure by Healthcare Providers

- The highest public spending was incurred on public hospitals, which accounted for about 31.05 per cent of the total public expenditure.

- Other health care providers, including health providers within the boundaries of autonomous universities, research institutions, and international organisations, accounted for about 27.86 per cent of the total public expenditure, followed by public specialised hospitals, which received an allocation of 15.77 per cent of the total public expenditure.

- The total public expenditure on providers of the health care system, administration and financing accounted for 10.52 per cent of the total expenditure, followed by ambulatory health care services (5.37 per cent), providers of preventive care (3.45 per cent), and other government health care practitioners (3.29 per cent).

- Offices of private general medical practitioners are estimated to have account for a share of 1.28 per cent of the total public expenditure. Lastly, some of the budget expenditure was also allocated to private hospitals as an assistance or grant. About 0.53 per cent of the total public expenditure was received by both private general hospitals and specialised private hospitals. Providers of medical goods had a share of 0.2 per cent of the total public expenditure in the State.

III.5. Total Public Health Expenditure by Factors of Provision

- In terms of public health expenditure by factors of provision, employee remuneration (comprising wages and salaries, social contribution and other allowances or other costs related to employees) emerged as the largest input in health care service provisioning in Uttarakhand, accounting for a total of 70.4 per cent of the total public health expenditure.

- Among the constituents of staff remuneration, salaries accounted for 62.3 per cent of the total public health expenditure, with social contributions accounting for 5.7 per cent and other costs related to employees accounting for 2.4 per cent of the total.

- Non-health care services accounted for the second largest share, after wages and salaries, at about 18.2 per cent of the total public health expenditure. Non-healthcare services include office expenses, maintenance of vehicles, payments for consultancy, publications, advertisements, and expenses incurred on guests and food, among other things.

- Other items of spending contributed to 4.4 per cent of the total public health expenditure. This factor of provision included minor works, other expenditure not elsewhere classified, and medical facilities.

- Fixed capital accounted for 3.9 per cent of the total public health expenditure. This included capital expenditure for the creation of assets and major works involving construction and expansion.

- Expenditure on health care goods, like hospital equipment, medicines and chemicals, materials and supplies constituted only 1.6 per cent of the total public health expenditure. Health care services and non-health care goods together constituted just 1.4 per cent of the total expenditure.

IV.1. Private Health Current Expenditure by Healthcare Financing Schemes

- The total value of private health expenditure incurred by the households as their out-of-pocket expenditure was estimated at Rs. 1,088.1 crore. This comprised direct payment for healthcare goods and services by the households.

- Other primary coverage schemes or pre-payment for health insurance schemes and premiums by households amounted to Rs. 113.5 crore, as per the State-wise data on the premium paid, published by IRDA.

- Of the total private health expenditure of Rs. 1,201.6 crore in Uttarakhand for 2017-18, 90.8 per cent was on account of OOPE, or the direct payment by households. The remaining 9.2 per cent was spent indirectly through health insurance policy premiums.

- Of the total Private Final Consumption Expenditure of the State, estimated at Rs. 80,629 crore, the expenditure on healthcare goods and services was just 1.5 per cent of the total.

IV.2. Private Health Current Expenditure by Healthcare Functions

- Inpatient curative care has the highest share of total private spending, accounting for 41.1 per cent of the total private expenditure followed closely by outpatient curative care, which accounted for 34.3 per cent of the total private health expenditure.

- Further expenditure on medical goods had a share of 8.7 per cent of the total private expenditure. Ancillary services captured 6.4 per cent of the total private spending.

- Preventive care services accounted for 4.7 per cent of the total private spending while home-based curative care had a share of 0.1 per cent of the total private expenditure. Another important health care provider was governance and health system and financing administration, which had a share of 4.7 per cent in the total private expenditure.

IV.3. Private Health Current Expenditure by Healthcare Providers

- Of the total private health expenditure of Rs. 1,201.6 crore, retailers and other providers of medical goods constituted the largest share of 46.6 per cent, followed by private general hospitals, with a share of 20.9 per cent.

- Providers of ancillary services accounted for about 17.5 per cent of the total private spending while 4.8 per cent of the total private expenditure was incurred on private offices of general medical practitioners.

- Each of the remaining healthcare providers accounted for less than 5 per cent of the total private health expenditure, together constituting about 10.2 per cent. These included public general hospitals (with a share of 3.7 per cent), public and private specialised hospitals (shares of 1.9 per cent each), governance and health system and finance administration (1.9 per cent), providers of preventive care (0.5 per cent), and other health care providers (0.3 per cent).

V. Total Health Expenditure

- The State's total health expenditure was estimated at Rs. 2,895.7 crore, of which public expenditure constituted 58.5 per cent and private households (comprising out-of-pocket expenditure and voluntary pre-payments for insurance schemes) accounted for the remaining 41.5 per cent.

- The total current health expenditure, Rs. 2,532.6 crore, refers to only recurrent expenditure on healthcare, the net of all capital expenditure. This indicates the operational expenditure, which impacts the health outcome of the State. The current health expenditure worked out to be 87.5 per cent of the total health expenditure of the State.

- Public health insurance expenditure refers to the finances allocated by the government towards payment of premiums for health insurance schemes or reimbursements of government employees' health expenditure. At Rs. 35.4 crore, public health insurance expenditure accounted for just 1.2 per cent of the total health expenditure.

- In contrast, private health insurance expenditure was higher at 3.9 per cent of the total health expenditure. This indicates the preference of households for voluntary pre-payment plans.
- Of the total general government expenditure for the year 2017-18, at Rs. 4,2725.5 crore, expenditure on healthcare stood at just 3.96 per cent. This was in sharp contrast to the proportion that the government spends on education, which is 19.9 per cent of the total general government expenditure.

- Public expenditure on AYUSH (Ayurveda, Yoga, Naturopathy, Unani, Siddha, and Homeopathy) or TCAM (Traditional complementary and alternative medicine) was 12.5 per cent of the total public expenditure.

- The percentage distribution of Total Health Expenditure by Healthcare Financing Schemes, reveals that 42.96 per cent of the total expenditure was on account of households' out-of-pocket expenditure. State government schemes constituted another 33.93 per cent while Union Government schemes accounted for 16.9 per cent of the total health expenditure in the State.

- The percentage distribution of the Total Health Expenditure by Revenues of Healthcare Financing Schemes, reveals that 42.96 per cent of the total expenditure was on account of revenues from households. The State government's share is 37.43 percent and union government spends about 14.18 percent through various grants and schemes.

- The percentage distribution of Total Health Expenditure by Healthcare Functions, shows that 33.29 per cent of the total health expenditure was incurred on in-patient curative care, while 30.7 per cent was incurred on outpatient curative care. Preventive care accounted for 13.12 per cent of the total. The total expenditure on pharmaceuticals, primarily referring to over-the-counter expenses, accounted for 44.88 per cent of the total health expenditure and almost 47 per cent of the total expenditure was incurred on non-allopathic or TCAM treatment.

- Lastly, the percentage distribution of Total Health Expenditure by Healthcare Providers, showed that the largest healthcare provider receiving the healthcare revenues is "Retailers and other providers of medical goods". These accounted for 22.22 per cent of the total expenditure. General public hospitals accounted for 18.06 per cent while other health care providers accounted for 14.8 per cent of the total

I. Introduction

I.1. Context of the Study

"*He who has health has hope and, he who has hope has everything"* (Thomas Carlyle)

Health is described as the 'real wealth' of human beings and enjoyment of the highest attainable standards of health is one of the most fundamental rights of any human being without any distinction of race, gender, religion, political beliefs, and economic or social condition. The attainment of universal health care has also been stressed by the UN under its Sustainable Development Goal#3, which states, "Ensure healthy lives and promote well-being for all at all ages" by 2030.

According to the World Health Organization (WHO), health is defined as *"a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."* The role of health as an engine of economic growth is not entirely unsubstantiated, as an investment in health care leads to better, healthier lives for the populace, which in turn, increases productivity, and creates an efficient workforce, thereby significantly adding to the social and economic progress of any country.

The health sector includes a very diverse set of activities that includes services which not only detect diseases but also ensure their prevention and awareness about them. The health sector in India is quite vast in terms of its overlapping features, functions, and objectives, and signifies a rich source of both revenue as well as employment generation for the economy. The need to raise additional public resources for expanding insurance coverage, improving the efficiency of spending, and ensuring the effective performance and sustainability of health systems, among others, necessitates the preparation of a good database enabling the government to optimally utilise its health resources, and identify resource gaps and potential areas for ensure efficient resource mobilisation. The Heath Satellite Account, conceptualised by the WHO, is a globally recognised framework to measure health expenditure and the flow of funds in the country's health sector.

Realising the importance of the health sector in the economy, the Government of Uttarakhand has decided to prepare its first Health Satellite Account.

I.2. Health Satellite Account

Health Satellite Account is a new concept for India and is also not common in the international context. It helps in making explicit the implicit data in this area, thereby aiding policymakers in

analysis and/or decision-making for the health sector. A few reports are available on the National Health Accounts for India, and for the State of Tamil Nadu. Internationally, the Healthcare Satellite Accounts are sporadically available for the US and a few EU countries.

In order to systemise the information on financial flows related to health care, the OECD published its first System of Health Accounts (SHA 1.0) in 2000. Following this, based on many revisions, SHA 2011 was laid out to provide a basic standard for classifying health expenditures according to consumption, provisions, and financing.

WHO and the Pan American Health Organisation (PAHO) prepared the first Manual on Health Satellite Accounts in 2005. The primary aim of the HSA is to inform public policies and decision-making on programmes and projects related to the health sector and link the health branch to macroeconomic growth and development in the economy.

According to the first version of PAHO's Manual, the principal characteristics of the Satellite Health Account are as follows:

- It provides additional information on the health sector, such as tables showing expenditure by financing units and users/beneficiaries.
- It uses more detailed concepts, classifications, and tables related to health, which are complementary or alternative to those in the SNA, by, for example, including ancillary units, changing the coverage of the sector, or disaggregating products, among others.
- It extends and details the coverage of production, costs, and benefits of human health activities, by, for example including volunteer work and domestic work related to the care of patients within a household.
- It extends data analysis through the use of specific aggregates and indicators, and facilitates analysis of the health sector in the context of the global economy, considering, for example, the share of the health sector in the economy (percentage of GDP), and health expenditure per capita, among others.
- It enhances the analysis of monetary data by including physical data, such as the number of beds, number of outpatient consultations, and number of surgical interventions, among others.

I.3. Objectives of the Study

The broad objectives of the study are to prepare the Health Satellite Account for Uttarakhand for the year 2017-18, and to develop the capacity of the DES officials for the preparation of the Health Satellite Account of the State. The other objectives of the study are as follows:

a. Functional classification of the health care system prevailing in the State,
b. Analysis of health care provider units functioning in the State;

c. Collection of information on expenditure on health care through different sources of finance;
d. Collection of information on the funding of health care through different sources; and
e. Derivation of health indicators such as the share of health expenditure to GSDP, and per capita expenditure, among other things.

I.4. Experiences of Other Countries

Table I.1 lists the countries that have produced health accounts.

TABLE I. 1: LIST OF COUNTRIES WHICH HAVE HEALTH ACCOUNTS

1. Benin	8. Liberia	15. Zambia	22.Vietnam	29. Egypt	36. Portugal
2. Botswana	9. Mali	16. India	23. Mexico	30. St Kitts & Nevis	37. Bhutan
3. Burkina Faso	10. Namibia	17. Thailand	24. Peru	31. Lao	38. Georgia
4. Kenya	11. Niger	18. Indonesia	25. Barbados	32. Turkey	39. Australia
5. Ethiopia	12. Rwanda	19. Malaysia	26. Dominica	33. United	40. Bangladesh
6.Democratic Republic of Congo	13. South Africa	20. Afghanistan	27. Jordan	34. Sri Lanka	41. Seychelles
7. Malawi	14. Tanzania	21. The Philippines	28. Lebanon	35. United Arab Emirates	42. Republic of Korea (South Korea)

Source: NCAER Research.

The preparation of health accounts is much more regularly pursued than that of education accounts, and many countries have taken steps to document their health care expenditure either consistently (that is, in 1 to 3 years), or at least once in every four years. According to USAID, almost 41 countries have produced Health Accounts regularly while 79 countries have been preparing these accounts every four years.

Health care expenditure data can be dated back to the period 1950-1970s, when the Organisation for Economic Co-operation and Development[1] (OECD) countries (for example, France and Netherlands) regularly began estimating their private and public health expenditures. In more recent years, two efforts have been made to systemise the collection of information on financial flows related to health care. SHA-1.0 was prepared by the OECD in 2000, which includes the international classification of health accounts and the combined efforts of WHO, USAID, and the World Bank in 2003 that led to the publication of the *NHA Producers' Guide*. Building on SHA 2000, the OECD worked with the World Health Organization (WHO) and Eurostat to publish a system of health accounts, 2011 edition (SHA 2011). The SHA framework is the most widely used

reference for health expenditure accounting. Health Accounts classify health expenditure by addressing the following four basic questions:

i. Where do health resources come from? (What is the financing source?)
ii. Who manages spending? (Who is the financing agent?)
iii. What goods and services are purchased? (What is the health function?)
iv. Who provides which services? (Who is the health provider?)

The process for India to institutionalise National Health Accounts was envisaged in the National Health Policy, 2002, and the National Health Accounts Cell (NHA Cell) was established in the Ministry of Health and Family Welfare, Government of India. The NHA Cell produced health accounts estimates for FY 2001-02 and FY 2004-05. Until 2016, the NHA team had conducted three rounds of national health account estimates following the SHA 2011 methodology in 2013-14, 2014-15, and 2015-16, and plans to consistently generate these accounts. These accounts are defined within the framework of National Health Accounts Guidelines for India, 2016 (with refinements where required), and adhere to the System of Health Accounts 2011 (SHA 2011)

I.5. State Health and Population Policy

The Uttarakhand Health and Population Policy was first prepared in 2002 and subsequently revised in 2013. Additionally, the AYUSH Policy was released in 2018. The policy and health objectives of the Health and Population Policy, 2013 are discussed below.

Policy Objectives

In order to address the health issues of Uttarakhand, the Government has embarked upon the formulation of a comprehensive, integrated, and State-specific health and population policy.

Health Objectives

The health-related objectives of the Uttarakhand population policy were to:

- Eradicate polio by 2007;
- Reduce the level of leprosy to below 1 per 10,000 population by December 2007;
- Reduce mortality on account of tuberculosis, malaria, other vector, and water-borne diseases by 50 per cent by 2010
- Reduce the prevalence of blindness from around 1 to 0.3 per cent by 2010;
- Reduce Iodine Deficiency Disorder (IDD) by 50 per cent of the present level by 2010; and
- Increase awareness of HIV/AIDS.

Proposed Strategy

In the Tenth Five-Year Plan (2002-07), about 240 sub-centres, 19 Primary Health Centres (PHCs), 26 Community Health Centres (CHCs), 7 Blood banks, 5 Tuberculosis Clinics, 1 District Hospital at Rudraprayag, and 3 Regional Diagnostic Centres were established. In the Eleventh Five-Year Plan (2007-2012) the objective of the Directorate of Medical Health and Family Welfare was to achieve "Health for All". Under this Plan, the following strategies were adopted:

- Providing medical health services in the State's remote and disadvantaged blocks;
- Apart from the above, establishing specialist hospitals in the districts of Bageshwar and Champawat;
- Establishing Neonatal Intensive Care Units (NICUs) in all the districts to reduce neonatal mortality and to provide neonatal care services to neonates;
- Establishing and strengthening emergency services in ten district hospitals situated along the national road routes, with the objective of providing effective emergency services in cases of road accidents and during a natural disaster; also setting up five new blood banks.
- Strengthening paramedical staff and establishing a nursing institute in Dehradun to provide BSc nursing training to aspirants as part of the Eleventh Five-Year Plan; setting up and strengthening training centres for Auxiliary Nurse Midwives (ANMs) in three districts and imparting of training to ANMs under the Eleventh Five-Year Plan;
- Establishing post-mortem centres in 30 Block hospitals to deal with natural disasters and accidents; and
- Providing ten Mobile Hospital Vans in difficult and disadvantaged areas to ensure access to health services for the Scheduled Caste (SC) and Scheduled Tribe (ST) populations.

I.6. AYUSH Policy, 2018

The vision statement of the proposed AYUSH policy is "to brand Uttarakhand as the preferred AYUSH destination State for health care and tourism".

Policy Objectives

The objectives of the AYUSH policy are to:

- Position Uttarakhand as a preferred AYUSH wellness destination State on the global map;
- Establish AYUSH systems of medicine as one of the preferred choices of treatment in primary health care;
- Upgrade the existing infrastructure and develop new infrastructure, including hospitals and dispensaries;

- Improve the health status of the society through concerted policy action in all the AYUSH sectors and various health programmes provided by the public health sector by enabling universal access to AYUSH drugs and services;
- Create single window clearance for private investments in the AYUSH sector;
- Ensure high quality AYUSH drugs; and
- Improve the production of raw materials for AYUSH drugs.

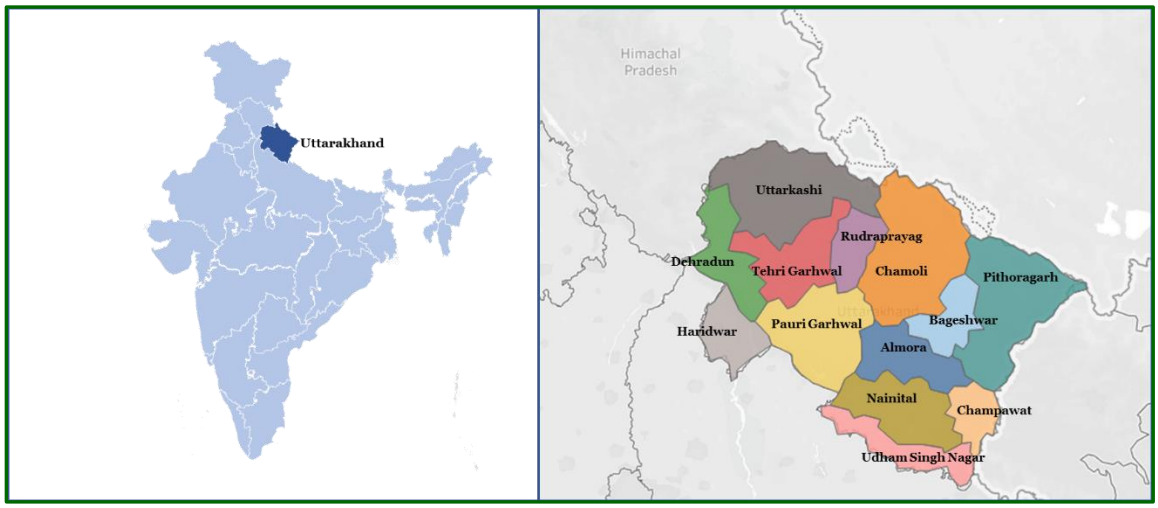
I.7. Structure of the Report

This report is structured as follows. This chapter has presented the context of the study, a brief note on the Health Satellite Account, its relevance to policymakers, broad objectives of the study, and the State Health Policy. Chapter 2 delineates the demographic, economic, and infrastructural profile of the State. Chapter 3 discusses the State health profile, covering the basic health characteristics as also the physical health infrastructure in the State. Chapter 4 provides the methodological details of the HSA, along with some key findings from both primary as well as secondary data sources. Chapter 5 presents the HSA tables and accounts in detail. The report concludes with Chapter 6, which summarises the key results of the HSA, including the contribution of health to the economy.

II. Devabhumi: The State at a Glance

Uttarakhand, formerly known as Uttaranchal, is a State in the northern part of India. It is often referred to as the "Land of the Gods" due to the presence of many Hindu temples and pilgrimage centres throughout the State. Known for the natural beauty of the Himalayas, the Bhabhar, and the Terai, which are an integral part of it, the State was carved out of the Himalayan and adjoining north-western districts of Uttar Pradesh on 9 November 2000, becoming the 27th State of the Republic of India. It borders the Tibet Autonomous Region to the north; the Mahakali Zone of the Far-Western Region, Nepal to the east; and the Indian States of Uttar Pradesh to the south, and Himachal Pradesh to the northwest. The State is divided into the Kumaon and Garhwal divisions, and comprises a total of 13 districts. The provisional capital of Uttarakhand is Dehradun, which is also a railhead and the largest city in the region. The high court of the State is located in Nainital.

Figure II. 1: Map of Uttarakhand



Source: NCAER's depiction using tableau.

II.1. Geography

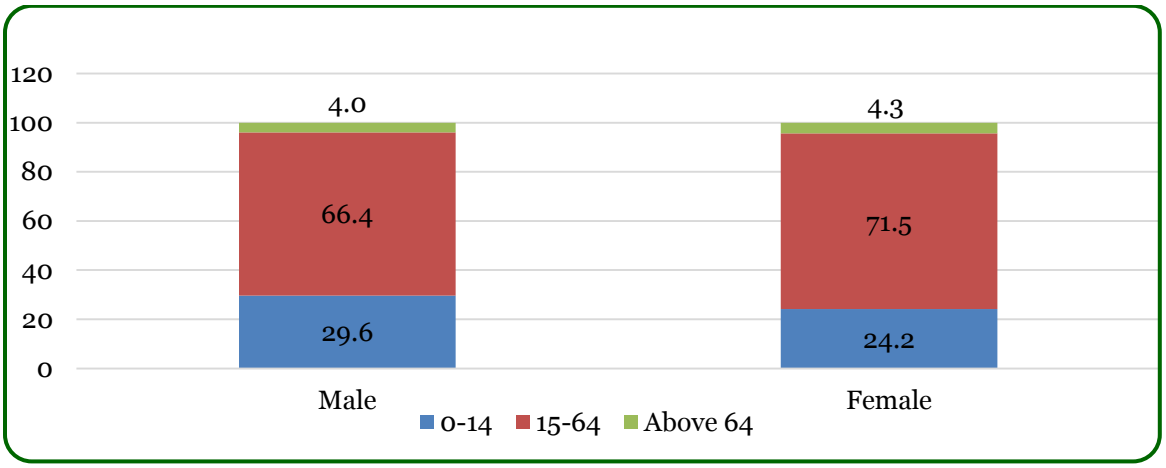
The State covers a total area of 53,483 square kilometres (km²) of which 46,035 km² are hills, 7,448 km² are plains, and 38,000 km² are covered by forests. Due to its varied geography, the State has been divided into two divisions, namely Garhwal (the western half) and Kumaon (the eastern half). The Garhwal division comprises seven districts while the Kumaon division has six districts. The State is characterised by glaciers at the highest elevations and sub -tropical forests at the lowest elevations.

II.2. Demographic Profile

As per Census 2011, the total population of Uttarakhand was 100.86 lakhs. Out of the total population, about 70 per cent were residing in rural areas and the remaining in urban areas. The sex ratio of the State stood at 963 females per 1000 males, which is higher than the national average of 943 females per 1000 males. The decadal growth rate of population in Uttarakhand was 18.81 per cent. The population density of the State was estimated at 189 persons per sq km, which is lower than the national average of 368 persons per sq km. The literacy rate was 79.6 percent in the state.

More recent data on the State's demographic details may be obtained from the survey conducted by National Sample Survey Office (NSSO) during 2017-18 on "Household Social Consumption: Education and Health". Figure II.2 shows the distribution of population by broad age group and gender, for the year 2017-18. The proportion of male and female children in the age group of 0-14 years is estimated at 29.6 per cent and 24.2 per cent, respectively. About 66.4 per cent of the total population is found to be in the age group of 15-64 years, whereas only 4 per cent fall in the age group of above 64 years of age. In the age group of 15-64 years, the proportion of the female population is about 5 percentage points more than that of their male counterparts.

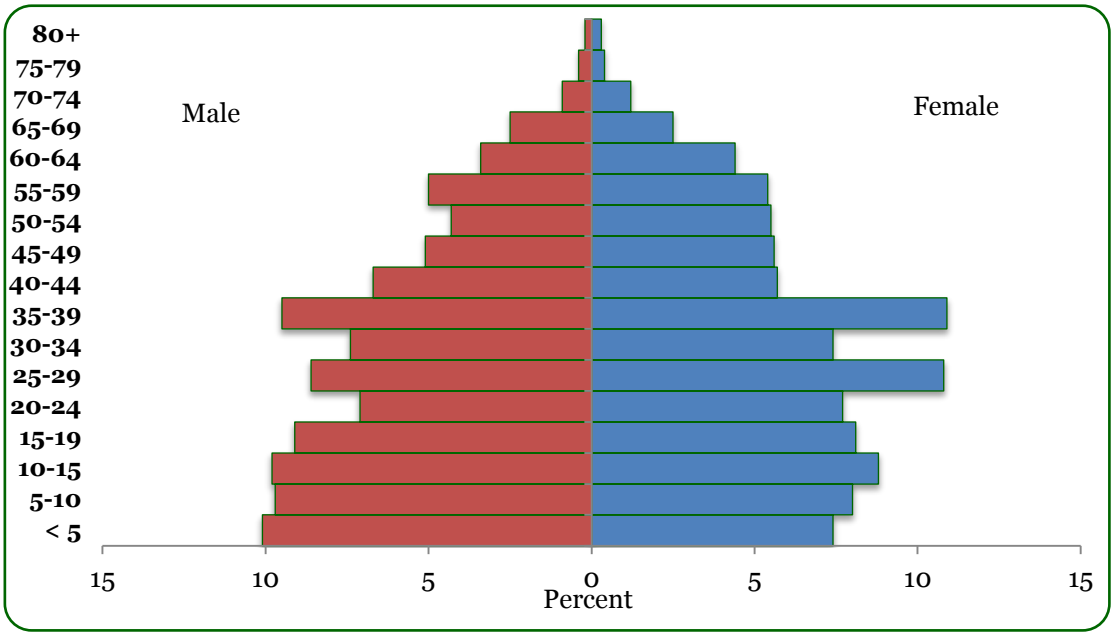
Figure II.2: Distribution of Population by Broad Age Category and Gender (%)



Source: "Household Social Consumption: Education", NSSO, 2017-18.

Figure II.3 shows the age structure of the State population presented in the form of a population pyramid for the year 2017-18. An examination of this population pyramid reveals a noticeably larger young male population (in the age group of 0-24 years) as compared to the female population in the same age group. On the other hand, an analysis of the older population (aged 45 years and above) shows a larger female population as compared to the corresponding male population in the same age groups.

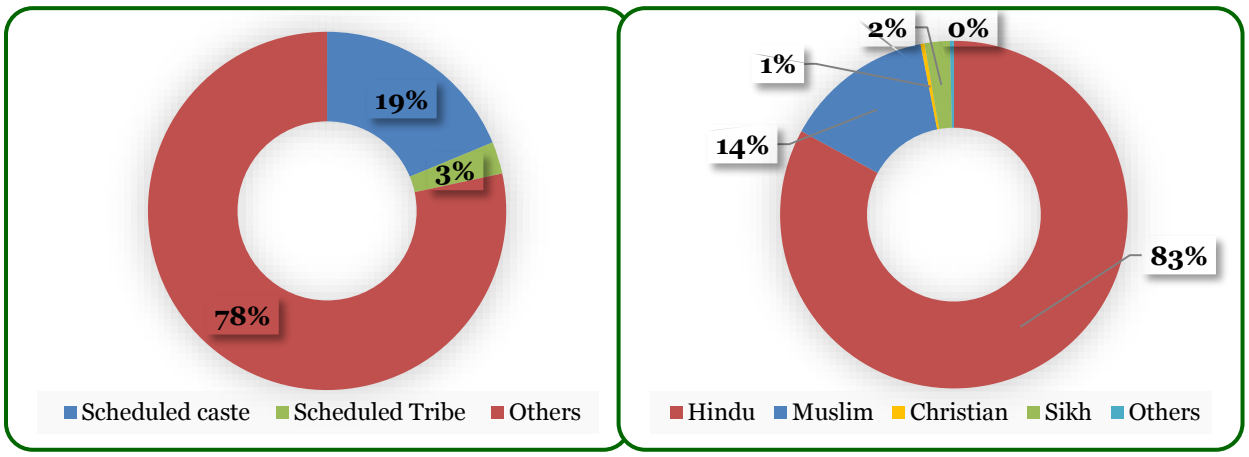
Figure II. 3: Population Pyramid (%)



Source: "Household Social Consumption: Education", NSSO, 2017-18.

Figure II.4 shows the percentage distribution of the population by social group and religion. As per Census 2011, the STs and SCs account for 2.89 per cent and 18.76 per cent, respectively, of the population in the State. As regards the population distribution of the State based on religion, Hindus account for 83 per cent of the population, followed by Muslims, accounting for 13.9 per cent of the total population, while those following the other religions comprise around 3 per cent of the total population.

Figure II. 4: Distribution of Population by Broad Social Group and Religion (%)

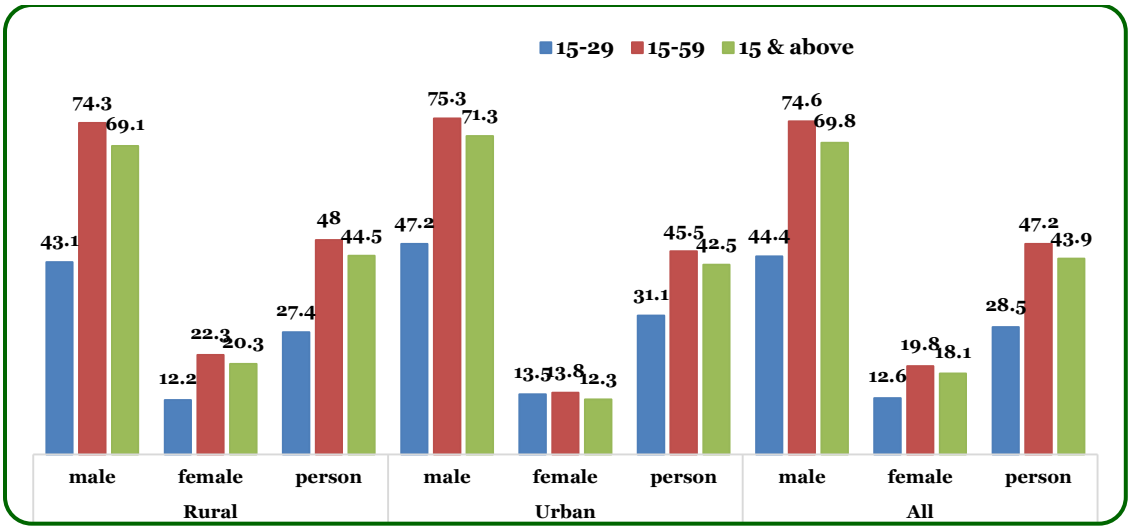


Source: "Household Social Consumption: Education", NSSO, 2017-18.

II.3. Employment

Figure II.5 shows the labour force participation rate in the State by broad age categories, gender, and regions for the period of 2017-18. According to the latest annual employment-unemployment survey, the Periodic Labour Force Survey (PLFS), conducted by NSSO during 2018-19, in rural areas, 27.4 per cent, 48.0 per cent, and 44.5 per cent of the total population in the age groups of 15-29 years, 15-59 years, and the combined group of 15 years and above, respectively, were either currently employed or seeking employment. The corresponding figures for the urban areas of the State were estimated to be 31.1 per cent, 45.5 per cent, and 42.5 per cent, respectively. The labour force participation rate for those in the age group of 15 years and above was found to be 69.1 per cent for males and 20.3 per cent for females in the rural areas. The corresponding figures for urban areas were estimated at 71.3 per cent for males and 12.3 per cent for females.

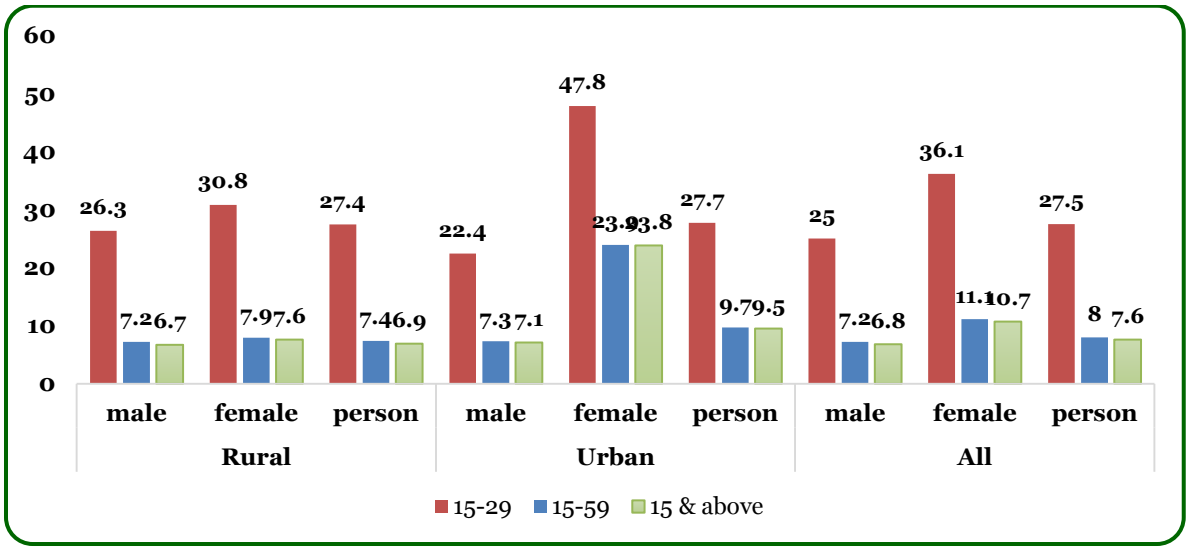
Figure II.5: Labour Force Participation Rate (LFPR) by Region and Gender



Source: "Periodic Labour Force Survey", NSSO, 2018-19.

The unemployment rate in the state was found to be around 7.6 per cent for the 15 years and above age group, for 2018-19. The unemployment rates in the State were 6.8 per cent for men and 10.7 per cent for women. In the age group of 15 years and above, the proportions of unemployed were 6.9 per cent and 9.5 per cent for rural and urban areas in the State. The unemployment rate among the population within the age group of 15-29 years was found to be higher as compared to that for the other age groups.

Figure II.6: Unemployment Rate (UR) by Region and Gender



Source: "Periodic Labour Force Survey", NSSO, 2018-19.

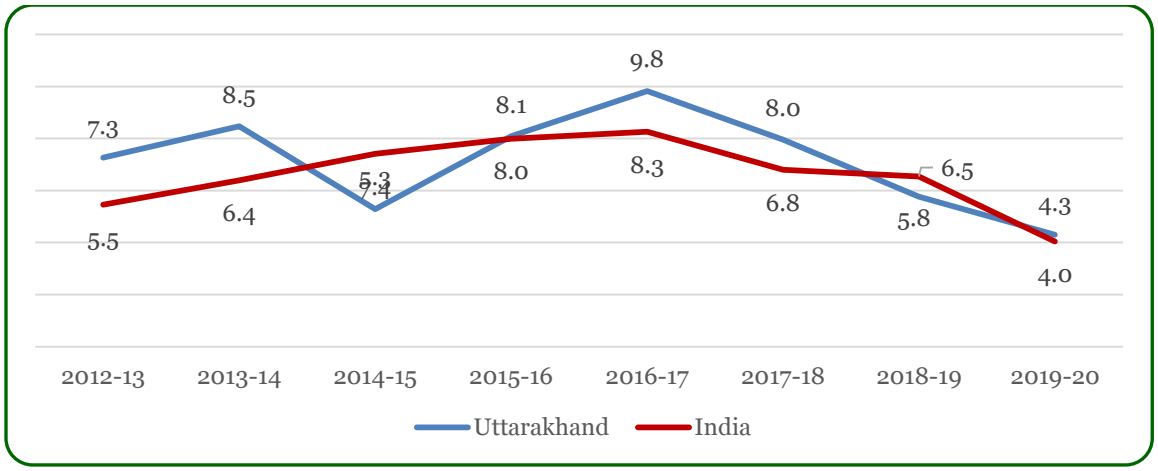
II.4. Economic Profile

Being a Himalayan State, Uttarakhand has huge forest and water resources. The primary sector of the State produces fruit and medicinal products, whereas the other crops include rice, soya, oilseeds, and pulses. There is a huge and growing food processing industry in the State. Owing to its huge forest cover, minor forest produce is also a source of livelihood for people in the State. Since it is located in the Himalayan ranges, Uttarakhand has diverse flora and fauna. The State is also a major producer of sports equipment and gears due to the availability of high-quality timber. Hydroelectric generation industries are the other major industries in the State.

The State's economic growth in terms of the year-on-year growth in its Gross State Domestic Product (GSDP) was recorded at 4.3 per cent for 2019-20, which is a deceleration from the growth of 8.0 per cent and 5.8 per cent achieved in 2017-18 and 2018-19, respectively. However, this is in tandem with the decelerated growth of 4.0 percent at the national level in 2019-20, as compared to the corresponding figures of 6.8 per cent and 6.5 per cent in 2017-18 and 2018-19, respectively.

Of the three major sectors, industry accounted for about 45.3 per cent of the GSDP in 2019-20, remaining at about the same share value since the base year of 2011-12, whereas 46.9 per cent growth was witnessed in the services sector and the remaining 7.8 per cent was contributed by the agriculture and allied sector. The share of agriculture in the total GSDP declined from 12.3 per cent in 2011-12 to 7.8 per cent in 2019-20, which translates to an equivalent gain in the share of the services sector.

Figure II.7: Growth of Gross State Domestic Product (Constant Prices)



Source: Central Statistics Office.

II.5. Infrastructure Profile

Given the topography of Uttarakhand, the laying of proper roads is crucial for people living in the hills as they have to commute often to the plains on foot for meeting their livelihood needs. The total length of roads in the State is 69,777 km, which includes 52,140 km of surfaced road length. Despite its tough terrain and its vulnerability to natural disasters, there is good road and rail connectivity to all the major places in the State. The total length of the rail route in the State was 345 km in 2013-14, and currently, it is focusing on increasing the share of railways in cargo and passenger transport. Initiatives have thus been undertaken to start monorails at Dehradun, Haridwar, and Rishikesh along the inter-city linkage routes. The main railway stations in the State are Dehradun, Haridwar, Roorkee, Kotdwar, Kashipur, Udham Singh Nagar, Haldwani, Ramnagar, and Kathgodam. Being the cheapest mode of transport, railways is the most popular mode of travel in the State. However, since over 86 per cent of the State's terrain consists of hills, the reach of railway services in the State is limited as it largely confined to the plains.

Uttarakhand has two domestic airports, one at Jolly Grant in Dehradun district and another at Pant Nagar in Udham Singh Nagar district. In 2013-14, the passenger traffic at Jolly Grant airport was 3,06,832, whereas the traffic for Pant Nagar airport was 114. In 2014-15, Jolly Grant airport recorded traffic of 3,78,646 passengers, whereas the volumes of aircraft movement and cargo handled by the airport were 4,810 tonnes and 43 tonnes, respectively.

There are three other smaller airfields in Uttarakhand, which are either not operational as yet or operational but not open for common flights. The first of these is the Gauchar airport on the Badrinath highway in Chamoli district, which is operational but not open for common flights. Bharkot airport lies along the Uttarkashi-Tehri road, and is currently not open for domestic flights. This third, the Naini Saini Airport, is situated in Pithoragarh. This airport is currently

operated by the State government but is proposed to be upgraded to facilitate operations of ATR-42 type of aircraft.

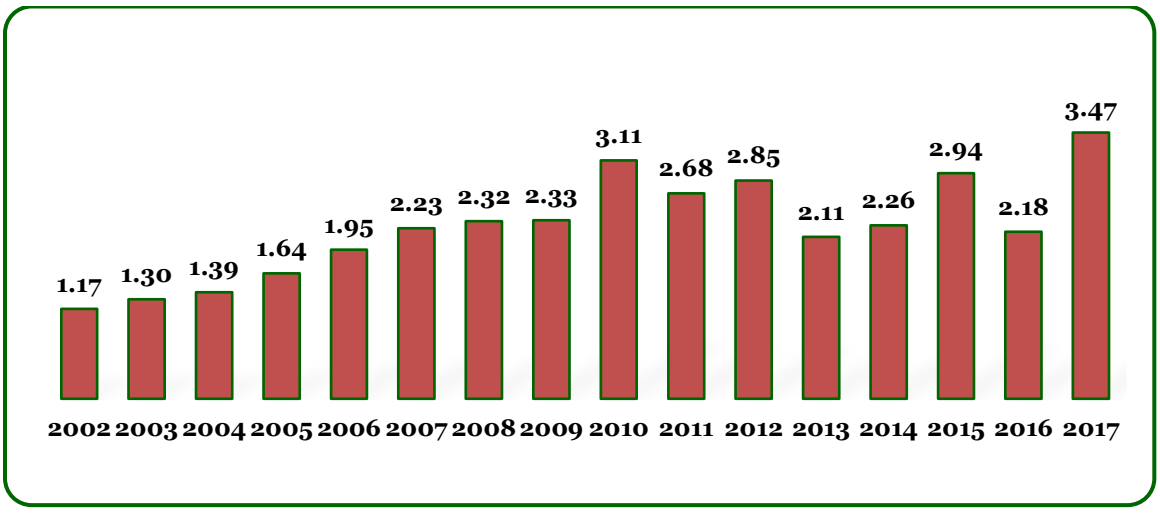
II.6. Tourism Profile

The State of Uttarakhand is naturally blessed with scenic locations, pleasant climatic conditions, lakes, snow-capped mountain peaks, glaciers, and origins of rivers, all of which make it an ideal tourist destination. Besides, the State is famous for pilgrimage and religious places, which is why it is also called 'Devabhumi'. The four *dham*s or pilgrimage sites for Hindus get their sacred waters in the form of four streams—Yamunotri from the river Yamuna, Gangotri from the river Bhagirathi, Kedarnath from the river Mandakini, and Badrinath from the river Alakhnanda.

As regards its economic aspect, Uttarakhand's tourism sector plays a vital role in the State's overall economic growth as well as in the achievement of its development goals. According to the latest estimates of the number of tourists in tourist destinations, there were a total of about 3.7 crore domestic tourist arrivals in the State in 2018. This is almost three times the number of arrivals in 2002, which stood at 1.2 crore. Effectively, the number of domestic tourist arrivals has grown at a Cumulative Annual Growth Rate (CAGR) of 7.5 per cent during the last decade and a half. The tourist inflow in Uttarakhand is expected to reach about 6.7 crore by 2026.

Meanwhile, the number of foreign tourist arrivals in the State stood at 1.5 lakh in 2018. Figure II.8 presents the time series of the total domestic tourist arrivals in the State over the years.

Figure II.8: Total Domestic Tourist Arrivals (in crore)



Source: Uttarakhand Economic Survey, 2018-19.

The State plans to expand its tourism sector further by adding some niche themes, like water sports, eco-tourism, heli-skiing, and spiritual yoga tourism, among others, as envisaged in the new Tourism Policy 2018.

The economic value of the tourism sector is also realised through the estimation of its contribution to the State's GDP and employment. According to the latest Tourism Satellite Account for the State, which was prepared for the year 2018-19, the direct shares of tourism in GDP and employment are estimated at 2.96 per cent and 11.77 per cent, respectively. If the indirect contribution is also taken into account, which arises due to the linkages of tourism sectors with a number of other sectors of the economy, these shares go up to 6.59 per cent and 26.87 per cent, respectively.

III. State Health Profile

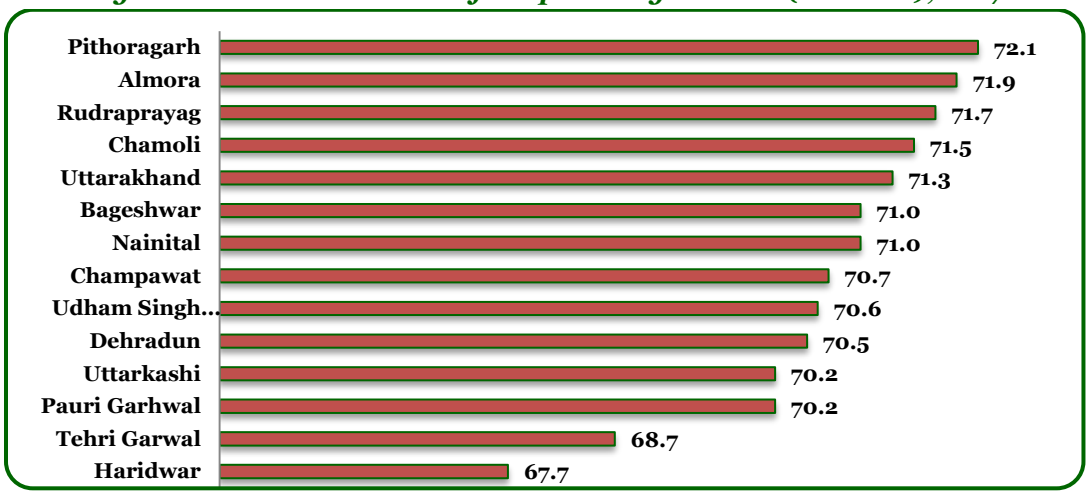
Uttarakhand has performed well on several health parameters where it has fared better than the national averages, and overall the State has showcased a mixed performance in its health sector with lots of inter-district variation. This chapter discusses the health profile of the state of Uttarakhand and its 13 districts.

III.1. Life Expectancy

Life expectancy at birth is taken as "the number of years a newborn infant could expect to live if prevailing patterns of age-specific mortality rates at the time of birth were to stay the same throughout the child's life" (UNDP, 2010). Uttarakhand has performed exceedingly well in promoting the health advances in the State with Uttarakhand's life expectancy at birth of 71.3 years exceeding the all-India average of 68.5 years. At the district level, 4 of the 13 districts have a life expectancy at birth above the State average, while 9 districts have life expectancy rates below the State average. Pithoragarh recorded the highest life expectancy of 72.1 years while Haridwar sunk to the bottom with a life expectancy of 67.7 years with the difference between these districts at almost 5 years reflecting vast inter-district variations (Figure III.1). Since life expectancy at birth depends on age-specific mortality patterns, the higher life expectancy of the State reflects the functioning of its health facilities. Higher life expectancy at birth is usually perpetuated by low child, infant, and adult mortality rates, reflected in the sample registration system data of the State.

The life expectancy figures by districts for the State are presented in Figure III.1.

Figure III.1: District-wise Life Expectancy at Birth (in Years), 2017



Source: Uttarakhand Human Development Report, 2017.

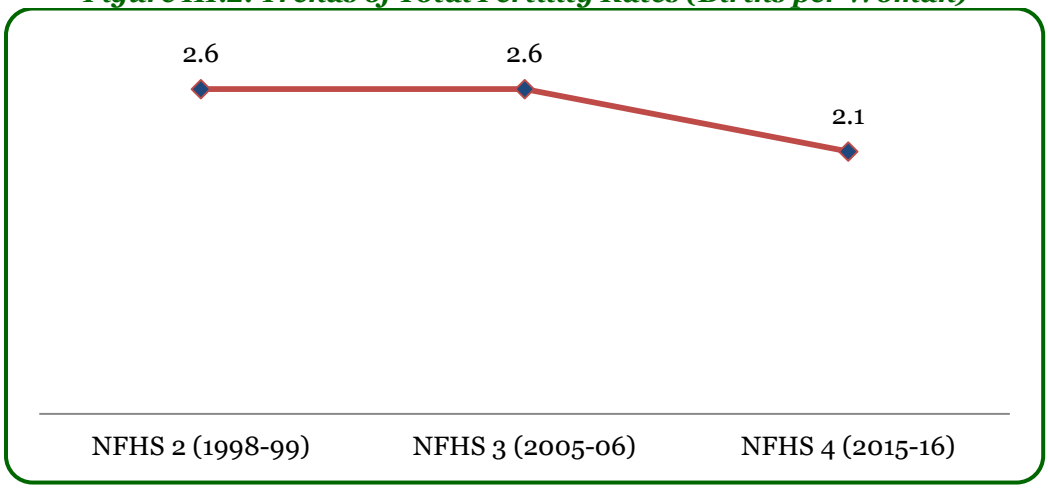
The figures for life expectancy at birth disaggregated by sex indicate that women across all districts, as well as in the State as a whole, have a higher life expectancy at birth than males with a life span of approximately 5 years more than males. At the State level, females have a life expectancy at birth of 74.3 years while the corresponding figure for males is 68.8 years. This data also validates the fact that given similar access to health care and nutrition, women tend to have lower age-specific mortality rates than men.

The lowest life expectancy for both sexes is reported in Haridwar, at 65.4 years for males, and 70.1 years for females, with the male life expectancy especially being well below the State average. Thus, Haridwar as a district does not seem to be doing too well in terms of access to health facilities and nutrition for its populace. Almora reports the highest life expectancy for females, at 75 years, while Pithoragarh reports the highest life expectancy for males, at 69.5 years. The differences in life expectancy at birth were not large across districts, barring in a few districts that had a higher life expectancy in most of the hill districts due to better access to health facilities and environmental factors in these districts (Annexure Table A1).

III.2. Fertility and Mortality

According to data from the National Family Health Survey (NFHS), the total fertility rate in Uttarakhand after remaining constant for two decades witnessed a sharp decline from 2.6 to 2.1 in 2015-16. This change reflects a growing preference towards a small family size as well as improved access to schooling for women, which has led to a sharp dip in fertility rates (NFHS-4 report, 2015-16) (Figure III.2)

Figure III.2: Trends of Total Fertility Rates (Births per Woman)



Source: NFHS Reports.

Uttarakhand has done better in terms of several health indicators over time but it still lags behind many other States. It reported the highest Infant Mortality Rate (IMR) as well as under-5 child mortality rates (U5MR) as compared to the other States though it still fared better in these indicators with respect to the all-India figure. The IMR in Uttarakhand was 40 per 1000 live births, which was higher than those for the similar hilly State of Himachal Pradesh (34) and developed States like Kerala (6) and Tamil Nadu (20).

The U5MR signifies the probability of a child born in a specified year dying before reaching the age of five years, if subject to current age-specific mortality rates expressed in the number of deaths per 1,000 live births. The U5MRs for Himachal Pradesh, Kerala, and Tamil Nadu were 38, 7, and 27 per 1,000 live births, respectively, whereas the corresponding figure for Uttarakhand was 47 per 1,000 live births.

According to the NFHS data, the proportion of institutional births in Uttarakhand is much lower, at 69 per cent, as compared to the much higher corresponding figures of 76 per cent in Himachal Pradesh, 100 per cent in Kerala, and 99 per cent in Tamil Nadu, as also the all-India rate of 79 per cent. The child immunisation rate for Uttarakhand is also lower, at 58 per cent than that of the other States, including the national average. The immunisation rates for the other states are as follows: Himachal Pradesh—70 per cent, Kerala—82 per cent, Tamil Nadu—70 per cent, and all-India—62 per cent. Likewise, the proportions of stunted, wasted, and underweight children are higher in Uttarakhand as compared to Himachal Pradesh, Kerala, and Tamil Nadu (refer to Annexure Table 2).

III.3. Health Infrastructure

Uttarakhand is blessed with a rare bio-diversity, inter alia, along with 175 rare species of aromatic and medicinal plants, which makes it a natural hub for Ayurveda, homeopathy, and other alternative measures of treatment, as is also evident from the large number of AYUSH hospitals in the State. Uttarakhand has mainly four types of health institutes, namely hospitals, basic health care, AYUSH hospitals and dispensaries, and family welfare centres. The small size of settlements and their widespread distribution is a formidable challenge for service delivery in the State of Uttarakhand with such a high percentage of small and scattered hamlets mainly in its tough geographical conditions, which poses quite a challenge for the provision of health care.

Uttarakhand has about 3 Unani hospitals and 543 Ayurvedic hospitals and dispensaries that cater to patients relying on natural health remedies. The presence of 55 Community Health Centres (CHCs), 239 Primary Health Centres (PHCs), and 1,765 sub-centres in the State reflects its capability of providing primary health care in its scarce and scattered regions (Table III.1).

Uttarakhand has set up 6 female hospitals, 15 combined hospitals, 3 base hospitals, and 12 district hospitals to provide gender-specific health care to women, and to universalise health care services for the general populace.

TABLE III.1: HEALTH PROFILE OF THE STATE, 2017-18

Health Facility	Number of Units
District Hospitals	12
Female Hospitals	6
Base Hospitals	3
Combined Hospitals	15
Community Health Centres (CHCs, including First Referral Units)	55
Primary Health Centres (PHCs)	239
Sub-centres	1765
State Allopathic Dispensaries	322
Ayurvedic Hospitals and Dispensaries	543
Homeopathic Dispensaries	107
Unani Hospitals	3
Blood Banks	23
T.B. Clinics	13

Source: Department of Medical Health and Family Welfare, Government of Uttarakhand.

In terms of the number of health institutes, the districts of Almora (92) and Pauri Garhwal (125) have the highest share of health institutes in the State while Champawat (24) and Uttarkashi (38) have the lowest proportion of hospitals and health institutes (Annexure Table A3).

At the district level, almost all of the districts have a significant presence of AYUSH centres with Almora (120) and Tehri Garhwal (87) accounting for the highest share of AYUSH centres, while Bageshwar (24) and Champawat (30) account for the lowest contribution in providing natural, alternative sources of treatment to the people. The AYUSH centres in the State include Ayurvedic, Unani, and homeopathic hospitals and dispensaries (Annexure Table A5).

The districts of Dehradun (332) and Pauri Garhwal (279) had the highest share of family welfare centres among all the 13 districts having the required infrastructure for providing essential child and maternal health care services in the State. Champawat was the only district that had the least proportion of hospitals/health institutes, family welfare centres (73), and AYUSH centres in the State, which reflects the poor status of health infrastructure in the district. (Annexure Tables A4).

III.4. Health Personnel

The availability and access of physicians, doctors, surgeons, and various other health personnel serves an important role in providing appropriate medical aid to the general populace, thereby enhancing the longevity and health conditions of the people. By providing essential curative and preventive care services, PHCs serve as the most important point of health care for the people they serve, especially in the harsh terrains of the State. There is an acute shortage of health

personnel in the State-run PHCs, with 55.8 per cent of positions lying vacant in the State (refer to Annexure Table A6). There are only 2 PHCs (Table III.2) per lakh population in the hilly or tribal regions of the State, which is dismally lower than the norm of one PHC per population of 20,000 in hilly or tribal regions. Uttarakhand also suffers from a crippling shortage of health personnel, with over 90-94 per cent of the positions of physicians, surgeons, and Obstetrics and Gynaecology (OBG) staff at CHCs lying vacant in the State due to insufficient public expenditure on health by the government.

TABLE III.2: AVAILABILITY OF HEALTH PERSONNEL/FACILITY PER ONE LAKH POPULATION AND COVERAGE UNDER HEALTH INSURANCE (IN LAKHS)

Health Personnel	2016
No. of doctors per lakh population (hills and plains)	13.91
No. of paramedical per lakh population (hills and plains)	38.57
No. of hospitals beds per lakh population (hills and plains)	1032
No. of PHCs per lakh population (hills and plains)	2.58
No. of maternity and child care centres per lakh population (hills and plains)	18.97
No. of other health centres per lakh population (hills and plains)	3.44
Number of persons covered under health insurance(rural)	24.28
Number of persons covered under health insurance(urban)	33.53
Number of persons covered under health insurance (total)	57.82

Source: Uttarakhand Government, Uttarakhand 2030 Vision Report, 2018.

The lack of health personnel and the increasing number of vacant positions in PHCs and CHCs paint a bleak picture of Uttarakhand's health sector. The scarcity of health personnel, with a large proportion of unfilled vacancies in the existing health centres and insufficient numbers of trained health personnel, act as impediments to the successful provisioning of health care in the state. The low level of public spending on health is one of the reasons for the shortage of medical staff. The average public expenditure on health as a percentage of GSDP was only 0.92 per cent in 2015-16, though it increased from 0.85 per cent in 2014-15 (Kumar *et al.*, 2018). This is considerably lower than the 3 per cent suggested by the Uttarakhand Vision Report 2030 (2018). The proportions of health institution centres and maternity and child care centres in the State per lakh population are 3.44 per cent and 18.97 per cent, respectively, which places a huge burden on the health institutes in terms of their capacity to provide basic health care. Uttarakhand also suffers from the lack of proper paramedical staff and doctors, with 13.91 doctors and 38.57 paramedical staff servicing a population of one lakh in both the hills and plain regions.

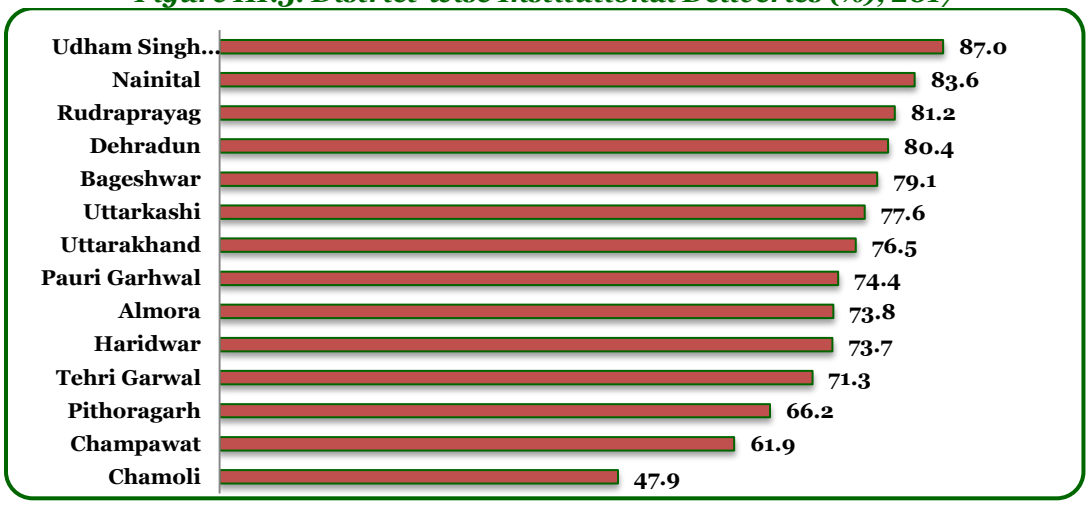
The total number of people covered under health insurance in the State stood at 57.82 lakhs, pointing to a well-functioning health insurance sector combining both government and private health insurance schemes. The number of people covered under health insurance in the urban areas (33.53 lakhs) exceeds the number of insured people in rural areas (24.28 lakhs), validating the strong presence of the insurance sector as well as of government insurance schemes in the urban areas, but lacking in the rural regions (Table III.2).

III.5. Maternal and Child Health

Maternal and child care services are among the most essential health care services that ensure not only the health of the mother, that is, the primary caregiver but also her offspring, to ensure that both of them have access to good health and nutrition throughout their lives. Maternal and child health parameters are governed by access, availability, utilisation of health services, the proportion of institutional and home deliveries, immunisation rates for children, the proportion of children enrolled in *anganwadi* centres, and the utilisation of health services for providing pre- and post-natal health care services to women. Maternal and child health are integral to human development and the place of birth as well as the access to and availability of institutional care and trained attendants at the time of delivery have important bearings on maternal and child survival. It has been found that most of the districts of Uttarakhand prefer government institutional centres for delivery rather than home deliveries, indicating that the benefits from programmes like the Janani Suraksha Yojana (JSY) are reaching women from all income groups and are promoting government institutional deliveries (UKHDR Report, 2017).

Uttarakhand, on an average, showed an inclination towards institutional deliveries, with 76.5 per cent of institutional deliveries being recorded in the State (Figure III.3).With the exception of Chamoli (47.9 per cent), Champawat (62 per cent), and Pithoragarh (66.2 per cent), in all the other districts of the State, more than three-fourths of the deliveries are institutional, with government hospitals being the preferred choice for institutional deliveries across all the districts. The shortfalls in the Chamoli district could be due either to lack of access or the under-utilisation of existing institutional facilities for deliveries. Udham Singh Nagar recorded the highest proportion of institutional deliveries, at 87 per cent, whereas Chamoli had the lowest corresponding proportion, at 47.9 per cent.

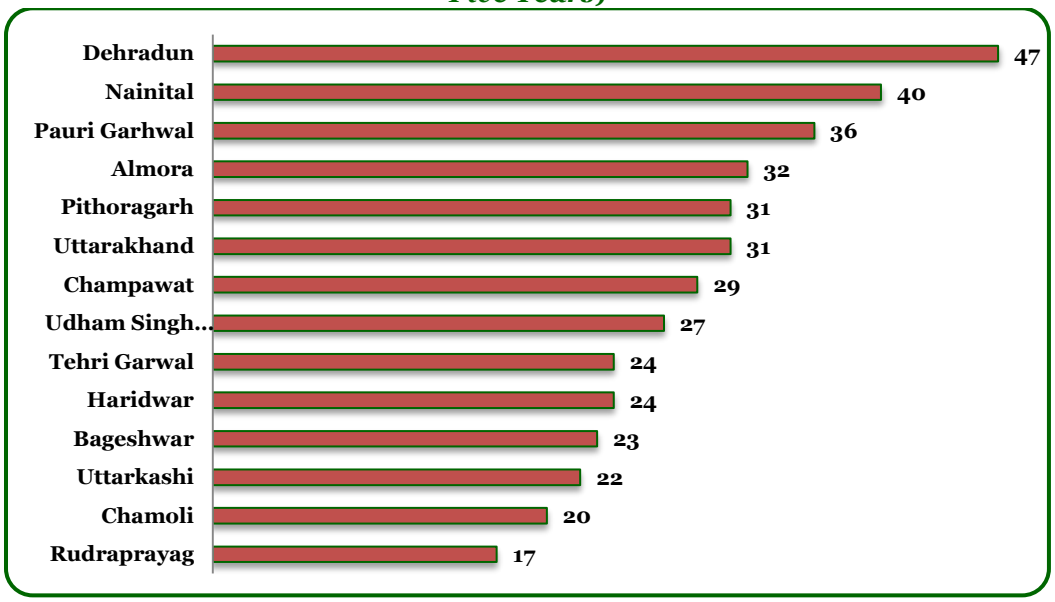
Figure III.3: District-wise Institutional Deliveries (%), 2017



Source: UKHDR Survey, 2017.

In terms of maternal health in the past five years, about 31 per cent of the women made four or more antenatal care visits for their last births, with 8 of the 13 districts lagging behind the State average. At the district level, Dehradun, at 47 per cent, recorded the highest proportion of women who had made four or more antenatal care visits, followed by Nainital, at 40 per cent, and Pauri Garhwal, at 36 per cent, while Rudraprayag, at 17 per cent, witnessed the least proportion of women who made four or more antenatal visits (Figure III.4).

Figure III.4: Four or More Antenatal Care Visits (Percentage of Last Births in the Past Five Years)

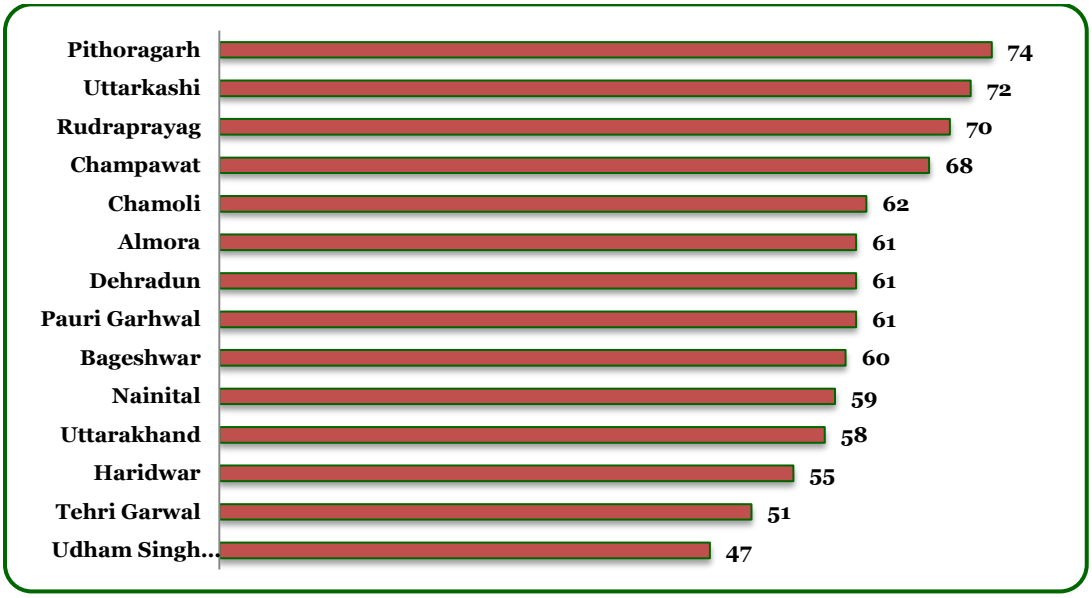


Source: NFHS-4 Report (2015-16).

The immunisation status of children in Uttarakhand for the last five years shows positive signs, as all 13 districts took steps to provide vaccinations to children. Approximately three-fourths of the child population in the age group of 0-5 years is in the process of receiving various doses of vaccinations, with an interesting finding being that the hills are doing better than the plains. Further, 58 per cent of the children in the State received basic immunisation against six major childhood illnesses, that is, tuberculosis, diphtheria, pertussis, tetanus, polio, and measles.

At the district level, 10 of the 13 districts fared better than the state overall, with Pithoragarh recording the highest proportion of immunised children, at 74 per cent, and Udham Singh Nagar recording the lowest proportion of immunised children, at 47 per cent of the total (Figure III.5).

Figure III.5: Coverage of All Basic Vaccinations of Children between 12-23 Months (in %)



Source: NFHS-4 Report (2015-16).

IV. Concepts and Definitions

This chapter presents the broad concepts and specific definitions of terminology used in the State-specific Health Satellite Account, prepared for the State of Uttarakhand. These are based on "System of Health Accounts, 2011" (SHA-2011), prepared collaboratively by the World Health Organisation (WHO), Organisation for Economic Cooperation and Development (OECD), and EuroStat. The SHA framework is meant to provide a systematic description of financial flows related to healthcare and provides a common guideline to enable international as well as national comparisons.

IV.1. Health Satellite Account

The satellite accounts typically signify the presentation of additional dimensions of an economic sector, which is also of great social interest, in a flexible manner and without overloading the integrated structure of the System of National Accounts (SNA). These are prepared to allow the expansion capacity in such sectors like tourism, health, education, culture, and environment, among others.

The Health Satellite Account (HSA) is a coherent, systematic, and integrated set of accounts and tables based on the SNA concepts and definitions. The terms Health Satellite Account or National Health Accounts may be used interchangeably as both present the health-related demand and supply structure. From the demand side, health accounts present the expenditure by sources and by financing schemes through which expenditures are made. From the supply side, these accounts identify the healthcare service providers and their services utilised.

Following the System of Health Account (SHA-2011) framework, the health expenditures are disaggregated into current and capital. The details of current health expenditures are presented according to the classifications as given in Figure IV.1.

Figure IV.1: Classifications for Present Current Health Expenditure

Revenues of Healthcare Financing Schemes	• Entities that provide resources to spend for health goods and services
Healthcare Financing Schemes	• Entities receiving and managing funds from financing sources to pay for health goods and services
Healthcare Providers	• Entities receiving finances to produce / provide health goods and services
Healthcare Functions	• Describe the use of funds across various health care services

The following sections present the appropriate classifications of healthcare functions, financing schemes, healthcare providers, and factors of provision.

IV.2. Functional Classification of Healthcare System (HC)

The functional classification of healthcare refers to groups of healthcare goods and services consumed by final users (that is, households and also collectively by the community) with a specific health purpose. Clearly, there is no one-to-one relationship between health care functions and the providers, and also the financing sources of health care. The same type of health care goods and services, like curative care or rehabilitative care or medical goods can be consumed from different types of providers, like hospitals, clinics, and medical shops, among others. At the same time, these can be purchased under various financing schemes, like health insurance, and Central or State government-sponsored schemes.

The functional classification in the health accounting framework focuses on the estimation of current spending and involves the contact of the population with the health system for the purpose of satisfying health needs. This classification is broadly based on The International Classification for Health Accounts–Health Care (ICHC-HC), as recommended in SHA-2011.

The functional classification categorises the healthcare goods and services at one-, two-, and three-digit levels, and aims to distribute health consumption according to the type of need of the consumer (for example, cure, care, prevention, and so on). The first-digit level is divided into eight categories, each of which are further classified into two- and three-digit level categories.

However, for the sub-national level health accounts, information on health expenditure by each of these categories of functional classification is difficult to obtain. Hence, the classification is restricted to two-digit categories only, to the extent possible.

The functional classification of health care, as recommended by SHA-2011 and followed by National Health Accounts of India, are presented in Table IV.1.

TABLE IV.1: FUNCTIONAL CLASSIFICATION OF HEALTH CARE

Codes	ICHA-HC Description
HC.1	Curative care
HC.1.1	Inpatient curative care
HC.1.3	Outpatient curative care
HC.1.4	Home-based curative care
HC.2	Rehabilitative care
HC.3	Long-term care (health)
HC.4	Ancillary services (non-specified by function)
HC.4.3	Patient transportation
HC.4.4	Laboratory and imaging services
HC.5	Medical goods (non-specified by function)
HC.5.1	Pharmaceuticals and Other medical non-durable goods
HC.5.2	Therapeutic appliances and Other medical goods
HC.6	Preventive care
HC.6.1	Information, education, and counselling (IEC) programmes
HC.6.2	Immunisation programmes
HC.6.3	Early disease detection programmes
HC.6.4	Healthy condition monitoring programmes
HC.6.5	Epidemiological surveillance and risk and disease control programmes
HC.6.6	Preparing for disaster and emergency response programmes
HC.7	Governance and health system and financing administration
HC.7.1	Governance and Health system administration
HC.7.2	Administration of health financing
HC.8	Other healthcare services not elsewhere classified (nec)
HC.RI.1	Total pharmaceutical expenditure
HC.RI.2	Traditional complementary and alternative medicine (TCAM)

The categories used for the State Health Account, as presented in Table IV.1 are described below.

1. Curative Care

Curative care comprises health care contacts during which the principal intent is to relieve symptoms of illness or injury, to reduce the severity of an illness or injury, or to protect against exacerbation and/or complication of an illness and/or injury that could threaten life or normal function. This includes the treatments and therapies provided to a patient with the principal intent of fully resolving an illness and trying to bring the patient to their status of health before the illness presented itself. The various steps of curative care are as follows:

- Establish a diagnosis;

- Formulate a prescription and therapeutic plan;
- Monitor and assess the clinical evolution;
- Provide therapeutic means like pharmaceuticals and other medical goods (for example, orthoses such as glasses and prosthetic appliances such as artificial teeth or limbs);
- Undertake therapeutic measures such as surgical procedures that require additional follow up; and
- Implement routine administrative procedures such as completing and updating patient records.

The main purpose of curative care remains the same in case of inpatient, outpatient and home-based curative care, with only the technology and place of provision changing.
Inpatient Curative Care: Healthcare contacts that involve an overnight stay in a healthcare facility.
Outpatient Curative Care: Healthcare contacts that involve no overnight stay in a healthcare facility.
*Home-based Curative Car*e: Healthcare contacts that involve the consumption of services at the patient's place of residence.

2. Rehabilitative Care

Rehabilitative care aims at empowering persons with health conditions who are experiencing or are likely to experience disability so that they can achieve and maintain optimal functioning, a decent quality of life, and inclusion in the community and society. Rehabilitation care includes services aimed at reaching, restoring and/or maintaining:

- Optimal physical (for example, complementing body structure through a prosthesis);
- Sensory (for example, complementing hearing recovery with a prosthesis);
- Intellectual (for example, recovering memory capability after a stroke);
- Psychological (for example, reducing depression and stress through supported learning to use a prosthesis); and
- Social functional levels (for example, by re-establishing control of basic functions such as swallowing and speaking after a stroke).

3. Long-term Care (Health)

Long-term care (health) consists of a range of medical and personal care services that are consumed with the primary goal of alleviating pain and suffering, and reducing or managing the deterioration in health status in patients with a degree of long-term dependency. This care is aimed at the dependent population with chronic or recurrent psychiatric conditions, such as physically disabled people, and mental health and substance abuse patients. The various components of long-term care (health) can be described as follows:

- Medical or nursing care that ensures a high level of quality of life assurance regardless of the type of health ailment;
- Personal care services provided in response to limitations in self-care resulting primarily due to disability and illness, that is, help with activities of daily living like eating, bathing, washing, and dressing;
- Assistance services relate to care that enables a person to live independently in a house or apartment, that is, providing assistance with tasks of household management like shopping, laundry, vacuuming, and cooking; and
- Other social care services which involve community activities and occupational support given on a continuing or recurrent basis to individuals, such as activities the primary purpose of which is social activity and leisure.

4. Ancillary Services

Ancillary services frequently comprise an integral part of a package of services the purpose of which is related to diagnosis and monitoring. This category is further divided into patient transportation and laboratory and imaging services.

Patient transportation: This item comprises the transportation of patients to a health care facility on medical recommendation or as a necessary inter-facility transfer to complement a package of health care services.

Laboratory and imaging services: This item comprises a variety of tests of clinical specimens aimed at obtaining information about the health of a patient and also a variety of services that employ imaging technology, such as X-rays and radiation for the diagnosis and monitoring of patients.

5. Medical Goods

Medicines and other medical goods frequently constitute a component of a package of services with a preventive, curative, rehabilitative, or long-term care purpose. Medical goods are further divided into pharmaceuticals and other medical non-durables, and therapeutic appliances and other medical goods, detailed as follows:

- Pharmaceuticals and other medical non-durable goods, including:
  - Prescribed medicines;
  - Over-the-counter drugs (OTC); and
  - Other medical non-durable goods, for example, first-aid kits, bandages, and hot water bottles.

- Therapeutic appliances and other medical goods, including:
  - Glasses and other vision products;
  - Hearing aids; and

- Other orthopaedic appliances and prosthetics, for example, orthopaedic shoes, artificial limbs, and surgical shoes.

6. Preventive Care

Prevention involves any measure that aims to avoid or reduce the number or the severity of injuries and diseases, their sequelae and complications (Pomey *et al.*, 2000). This includes a wide range of expected outcomes, which are covered through a diversity of interventions, organised as primary, secondary, and tertiary prevention levels.

Primary prevention: The goal of primary preventive measures is the reduction of risks before they generate some effect, for example, via vaccination.
Secondary prevention: Secondary prevention involves specific interventions aimed at the detection of disease, followed by therapy as early as possible, for example, via screening for diseases such as TB, diabetes, and breast cancer.
Tertiary prevention: Tertiary prevention aims at reducing the negative impact of an already established disease or injury by attempting to avoid worsening and complications, such as early surgery on a joint damaged by burns.

The breakdown of prevention includes the following classes:

- Information, education, and counselling programmes;
- Immunisation programmes;
- Early disease detection programmes;
- Healthy condition monitoring programmes;
- Epidemiological surveillance and risk and disease control programmes; and
- Preparing for disaster and emergency response programmes.

7. Governance, and Health System and Financing Administration

These services focus on the health system rather than on direct health care, and are considered to be collective, as they are not allocated to specific individuals but benefit all health system users. This classification is further divided into Government and health system administration, and administration of health financing, with the following components:

- Governance and health system administration includes:
  - Formulation and administration of government policy;
  - Setting the standards;
  - Regulation, licensing or supervision of providers/producers;
  - Management of fund collection; and
  - Administration, monitoring, and evaluation of resources.

- Administration of health financing: This class involves a sub-component specific to health financing, regardless of its public and private origin or its public and private provision. It comprises the management of the collection of funds and the administration, monitoring, and evaluation of such resources.

8. Other Healthcare Services Not Elsewhere Classified (nec)

This item includes any other health care services not classified in Sections 1 to 7. Their details are given below.

Reporting Items

Total Pharmaceutical Expenditure:
Total measurement of the pharmaceutical consumption is of major relevance in a healthcare functional approach. The total figure for expenditure on pharmaceutical consumption is obtained by adding the explicitly reported part (5) and the pharmaceutical component within treatment packages, notably as part of the interaction within the contact for curative care (1), which is expected to be the largest amount, but also part of rehabilitative care (2), and long-term care (3). There may also be amounts incorporated as part of outpatient care from prescribing physicians.

Traditional, Complementary, and Alternative Medicines:
Traditional, Complementary, and Alternative Medicines (TCAM) have been identified as policy-relevant in many countries due either to their cultural importance or their high growth rate, both in high- and middle-per capita income countries. Due to the mix of purposes and practices and financing profiles, TCAM systems, therapies and disciplines (including the related medical goods) constitute a *de facto* sub-class of hospitals, ambulatory care services, and retailers, and have to be specially extracted and summed up to be included here as an important policy item.

IV.3. Classification of Healthcare Financing Schemes (HF)

Healthcare financing schemes are the structural components of the healthcare financing systems. They signify the main types of financing arrangements through which people obtain health services. These can be broadly classified as follows:

1. ***Government Schemes, Social Insurance Schemes***: These include schemes aimed at ensuring access to basic healthcare for the whole society, and specific population groups determined and mandated by law or by the government are categorised under this.

- *Government Schemes*: Healthcare services provided by the Union, State, and local governments (urban and rural local bodies) across the country are categorised as government schemes. According to the Constitution of India, the predominant

responsibility of providing healthcare services lies with the state governments. However, all the three levels of government finance and provide healthcare services.

- *Compulsory Contributory Health Insurance Schemes*: Compulsory health insurance involves financing arrangements that ensure access to healthcare for specific population groups through mandatory participation and eligibility based on the payment of health insurance contributions by or on behalf of the individuals concerned. These include:

    - Union Government schemes;
    - State Government schemes;
    - Local Government schemes; and
    - Compulsory contributory health insurance schemes.

2. ***Voluntary Health Insurance Schemes***: Voluntary health insurance is taken up and paid for at the discretion of individuals or firms. Voluntary health insurance may also be purchased by the employer. It is usually purchased from private insurance organisations (both for-profit and non-profit), though in some cases, it may also be purchased from public or quasi-public bodies. They include:

    - Employer-based voluntary schemes;
    - Government-based voluntary schemes;
    - Public enterprise financing schemes; and
    - Private enterprise financing schemes.

3. ***Direct Out-of-pocket Payments by Households***: A majority of financing of healthcare in India is through household out-of-pocket payments. Such payments are mainly of three types: one, where the household makes a payment at point of service at a private or public facility; two, where the household pays at the point of service as part of cost sharing when enrolled in a government scheme (user fees) or compulsory contributory insurance schemes; and three, through cost sharing such as in the form of co-payments, and deductibles, when the beneficiary is enrolled in a voluntary insurance scheme.

IV.4. Classification of Revenues from Financing Schemes

The various categories of financing schemes that generate revenues are delineated below.

1. ***Transfers from government domestic revenue (allocated to health purposes), including:***
    - *Internal transfers and grants:* This category refers to transfers within the Union Government, State and local government towards health purposes, including:
        - Revenues from tax and non-tax sources allocated to government schemes;
        - The budget of national health services;
        - Government health programmes; and

- Insurance programmes implemented by the government.

2. ***Transfers distributed by the government from foreign origin, including:***
   - Transfers distributed by the Union Government from foreign origin; and
   - Transfers distributed by the State Government from foreign origin.

3. ***Social insurance contributions, including:***
   - Social insurance contributions from employees; and
   - Social insurance contributions from employers.

4. ***Voluntary pre-payment, including:***
   - Voluntary pre-payment from individuals/households; and
   - Voluntary pre-payment from employers.

5. ***Other domestic revenues (not elsewhere classified), including:***
   - Other revenues from households;
   - Other revenues from corporations; and
   - Other revenues from Non-Profit Institutions Serving Households (NPISH).

6. ***Direct foreign transfers, including:***
   - Direct foreign financial transfers;
   - All direct foreign financial transfers;
   - Direct foreign aid in kind;
   - Direct foreign aid in goods;
   - All direct foreign aid in goods; and
   - Direct foreign aid in kind: services (including TA1).

IV.5. Classification of Healthcare Providers (HP)

Healthcare providers constitute the organisations and actors that provide healthcare as their primary activity or one activity among other activities. This classification enables linkage between healthcare functions (HC) and healthcare financing (HF). The classification of healthcare providers, as recommended by SHA-2011 and followed by the National Health Accounts of India, along with the classification which is adopted for the state health account, are presented in Table IV.2.

TABLE IV.2: CLASSIFICATION OF HEALTH CARE PROVIDERS

Codes	ICHA-HP Description
HP.1	*Hospitals*
HP.1.1.1	General Hospitals - Government
HP.1.1.2	General Hospitals - Private
HP.1.2.1	Mental Hospitals - Government
HP.1.2.2	Mental Hospitals - Private
HP.1.3.1	Specialised Hospitals - Government
HP.1.3.2	Specialised Hospitals - Private
HP.3	Providers of Ambulatory or Out-patient Healthcare
HP.3.1	Offices of Medical Practitioners and Specialists (Private)
HP.3.3	Other Healthcare Practitioners (Government)
HP.3.4	Out-patient Healthcare Centres like Family Panning (Government)
HP.4	Providers of Ancillary Services
HP.4.1	Providers of Patient Transportation and Emergency Rescue
HP.4.2	Medical and Diagnostic Laboratories
HP.4.3	Others
HP.5	Retailers and Other Providers of Medical Goods
HP.6	Providers of Preventive Care
HP.7	Providers of Healthcare System Administration and Financing

1. Hospitals

Hospitals comprise licensed establishments that are primarily engaged in providing medical, diagnostic, and treatment services, including physician, nursing, and other health services to inpatients and the specialised accommodation services required by inpatients. Although the principal activity in hospitals is the provision of inpatient medical care, they may also provide day care, outpatient, and home healthcare services as secondary activities. They are further classified as follows:

- General Hospitals
  - General government hospitals, including medical college hospitals, district hospitals, sub-district hospitals and CHCs; and
  - General private hospitals, including nursing homes.
- Mental health hospital (government), which cater to inpatients who suffer from:
  - Severe mental illness; and
  - Substance abuse disorders.
- Specialised hospitals (public and private), including:
  - Speciality hospitals for treating ailments like cancer, TB, and lung diseases, and cardiology and neurology-related ailments, among others;
  - Hospitals of AYUSH; and
  - Healthcare units exclusively providing maternal and child health care.

2. Providers of Ambulatory Healthcare

These are primarily engaged in providing healthcare services directly to outpatients who do not require inpatient services, and include:

- Medical practices;
- Dental practices;
- Other healthcare practitioners; and
- Ambulatory healthcare centres.

3. Providers of Ancillary Services

This category comprises establishments that provide specific ancillary type of services directly to outpatients under the supervision of health professionals and are not covered within the episode of treatment by hospitals, nursing care facilities, ambulatory care providers, or other providers. Such services include:

- Patient transportation and emergency rescue;
- Medical and diagnostic laboratories;
- Dental laboratories; and
- Other providers of ancillary services, such as hearing testing services (except by offices of audiologists), pacemaker monitoring services, and physical fitness evaluation service.

4. Retailers and Other Providers of Medical Goods

The primary activity of this category of service providers is the retail sale of medical goods to the general public for individual or household consumption or utilisation. These providers include:

- Pharmacies;
- Retail sellers and other suppliers of durable medical goods and medical appliances; and
- All other miscellaneous sale and other suppliers of pharmaceuticals and medical goods, such as cartridges, and sale of fluids (for example, for home dialysis).

5. Providers of Preventive Care

This category comprises organisations that primarily provide collective preventive programmes and campaigns/public health programmes for specific groups of individuals or the population at large, such as health promotion and protection agencies or public health institutes as well as specialised establishments providing primary preventive care as their principal activity. The health care providers that fall into this category include:

- Accredited Social Health Activists (ASHAs);
- Multi-purpose health workers; and
- Community health workers and volunteers enrolled under national public health programmes for communicable and non-communicable diseases.

6. Providers of Healthcare Administration and Financing

This category comprises establishments that are primarily engaged in the regulation of the activities of agencies that provide healthcare and in the overall administration of the healthcare sector, including the administration of health financing. These establishments include:

- Government health administration agencies;
- Social health insurance agencies;
- Private health insurance administration agencies; and
- Other administration agencies.

IV.6. Classification by Factors of Provision

1. Compensation of Employees

The compensation of employees refers to the total remuneration, in cash or in kind, paid by an enterprise to an employee in return for work performed by the latter during the accounting period. It measures the remuneration of all persons employed by providers of healthcare in the public and private sectors, irrespective of whether they are health professionals or not. It includes the following:

- Wages and salaries of employees:
    - including both in-cash and in-kind remuneration
- Social contributions:
    - payments to social security or any form of insurance on behalf of the employees
- All other costs related to employees.

2. Self-employed Professional Remuneration

Self-employed income refers to the final consumption payments made by patients or healthcare beneficiaries typically at the practitioner's office and at quasi-corporations. Their measurement has been approached through surveys and through records from providers.

3. Materials and Services

This category consists of the total value of goods and services used for the provision of healthcare goods and services (not produced in-house) bought in from other providers and other industries of the economy. All the materials and services are to be fully consumed during the production activity period. The details of such services are provided below.

- *Healthcare services*: Services consumed usually refer to general services provided by non-health industries, including:
    - Security;
    - Payments for the rental of buildings and equipment; and
    - Maintenance and cleaning.
- Expenditure on the following healthcare goods:
    - Pharmaceuticals; and

  - Other healthcare goods, for example, cotton, wound dressings, protective clothes and uniforms.
- Non-healthcare services as follows:
  - Staff training;
  - Operational research;
  - Transport and housing;
  - Meals and drinks; and
  - Services for infrastructure.
- Non-healthcare goods as follows:
  - Office supplies;
  - Hospital kitchen supplies;
  - Transport;
  - Electricity; and
  - Water.

4. Consumption of Fixed Capital

The consumption of fixed capital is a cost of production. It may be defined in general terms as the cost incurred during the accounting period, of the decline in the current value of the producer's stock of fixed assets as a result of physical deterioration, foreseen obsolescence, or normal or accidental damage. It excludes the losses associated with damage caused by war or natural disasters.

5. Other Items of Spending on Inputs

These include:

- Taxes; and
- Other items of spending, such as:
  - Property expenses, fines and penalties imposed by the government;
  - Interest rates and costs for the use of loans; and
  - Non-life insurance premiums and claims.

V. Health Expenditure

As mentioned in the previous chapters, the main objectives of a health account are to capture the amount of money spent on health and to identify the sources of these funds, the financing schemes through which resources are mobilised, the intermediaries through whom the funds are routed, and the functions performed by the health system, as well as to identify the various providers involved in service delivery.

The prime parameter, therefore, is health expenditure, which is presented by the sources of finance, financing schemes, functions and providers of healthcare facilities. Following are details of the various components of the total Health Expenditure of the State:

1. *Revenue Expenditure*: This includes:

    a. Household out-of-pocket expenditure on outpatient and inpatient (medicines, doctor fees, bed charges, diagnostic, preventive and rehabilitative services, traditional systems of medicine (AYUSH), ambulance and allied services, health enhancing drugs/products (such as vitamins with/without prescription) at public/private health facilities and pharmacies;

    b. All Government health expenditure, including budgets for health facilities, procurement of drugs and consumables, health programmes, disease control, family welfare and reproductive child health programmes, national nutrition mission, immunisation, antenatal care, delivery, postnatal care, and abortion; and

    a. Health administration, health insurance, and medical benefits to employees by government/private entities.

2. *Capital Expenditure*: This includes:

    a. Expenditure on buildings and construction excluding minor repairs; and

    b. Medical education, research, and pre-service training.

The expenses incurred by the financing agents and healthcare providers are broadly classified into:

1. Public health expenditure; and
2. Private health expenditure.

V.1. Public Health Expenditure

Public expenditure on health in the State includes expenditure incurred by the State Government, the Central Government, and the local bodies. Within the State government, the major expenditure on healthcare is incurred by the Department of Health and Family Welfare (DoHFW). The details of expenditure incurred by DoHFW were obtained from the Detail Demand for Grants (DDG) submitted by the line department to the Department of Finance.

Besides, within the State Government, other than the DoHFW, there are several other departments that spend on the healthcare of the employees, their dependents, or the general population, mostly in the form of medical reimbursements. In order to obtain these expenditures incurred by other departments on healthcare, the Detailed Demand of Grants (DDGs) of all the departments are carefully scrutinised to identify the heads under which health expenditure is incurred.

A DDG for a financial year presents the total provisions required for a service, including revenue and capital expenditure, grants, and loans relating to that service. The DDG for a particular year provides item-wise details of government expenditure for three consecutive years, that is, Budget estimates (BE) for that year, Revised Estimates (RE) for the previous year, and Actual Expenditure for the year preceding the previous year. Hence, for this study, the DDG for 2019-20 has been referred to, which provides actual expenses for 2017-18, the reference year of the HSA.

Each DDG is divided into sectors like Education, Health, Finance, and so on), which may in some cases be further divided into sub-sectors under the primary sectors of (Education, Sports, Culture under Education; Medical and Family Welfare under Health, and so on). The main unit of classification in accounts is the major head, which is further divided into a sub-major head. Each sub-major head is then divided into minor heads, each of which has a number of subordinate heads, generally known as sub-heads. The sub-heads are further divided into detailed heads and object heads. The major heads generally correspond to 'functions' of Government while minor heads identify the programme undertaken to achieve the objectives of the function represented by the major head.

In order to prepare the tables and accounts for the HSA, depicting the health expenditure by Financing Schemes, Revenue of Healthcare Financing Schemes, Healthcare Providers and Healthcare Functions, all the budget heads were mapped with the SHA-2011 classification. However, all the budget heads do not necessarily correspond with the SHA classification on a one-to-one basis, and therefore, necessitate apportioning of their values into more than one categories. For example, "Establishment of Hospitals and Dispensaries" corresponds with two healthcare functions, that is, Inpatient Curative Care and Outpatient Curative Care; and also with two healthcare providers, that is, General Hospitals and Ambulatory Healthcare Systems.

The total public health expenditure or the expenditure on Medical and Family Welfare by the DoHFW of the State, for 2017-18, stood at Rs. 1,505 crore. This constitutes the revenue and capital accounts under the following two major heads:

1. Medical and Public Health; and
2. Family Welfare.

With a total of Rs. 1,441 crore, Medical and Public Health accounted for 93 per cent of the total public health expenditure, in 2017-18. Most of the expenditure was incurred on the revenue account, which comprised of 95.7 per cent of the total health expenditure. Table V.1 presents the expenditure figures incurred by the State government's DoHFW on these heads, by revenue and capital accounts.

TABLE V.1: PUBLIC HEALTH EXPENDITURE BY DOHFW

		2017-18
Revenue		(Rs. crore)
2210	Medical and Public Health	1335.4
2211	Family Welfare	105.8
	Total Revenue Account	1441.2
Capital		
4210	Capital Outlay on Medical and Public Health	63.9
4211	Capital Outlay on Family Welfare	-
	Total Capital Account	63.9
Total		1505.1

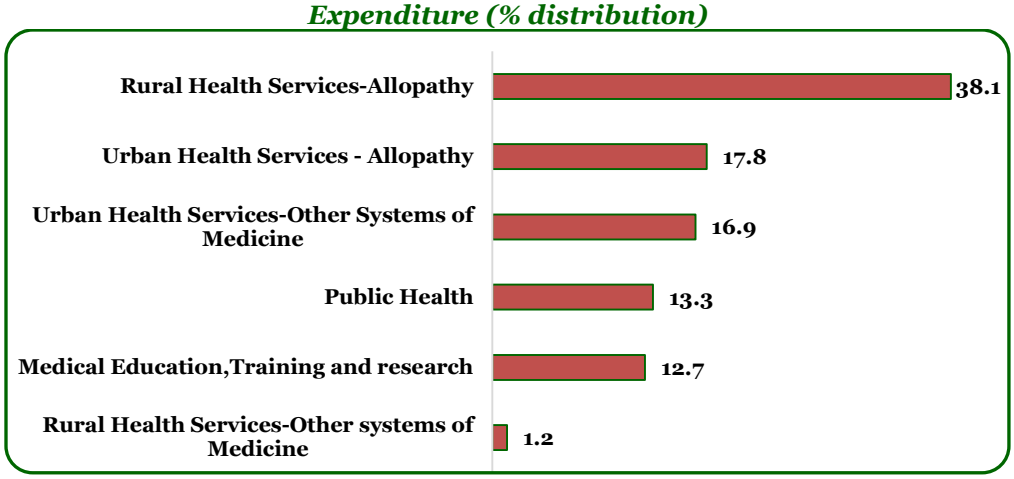
Source: Detailed Demand for Grants, Department of Health and Family Welfare, Government of Uttarakhand.

The sub-major heads of Revenue Account of Medical and Public Health in 2017-18 were as follows:

1. Urban Health Services—Allopathy;
2. Urban Health Services—Ayurveda and Homeopathy;
3. Rural Health Services—Allopathy;
4. Rural Health Services—Ayurveda and Homeopathy;
5. Medical Education, Training and Research; and
6. Public Health.

Among these heads, the maximum allocation was towards State Rural Health Services—Allopathy, which accounted for 38.1 per cent of the total current expenditure of DoHFW (Figure V.1). This was followed by Urban Health Services accounting for nearly half of the corresponding rural figures. On the other hand, other systems of medicine, including Ayurvedic and Homeopathy, accounted for 19.0 per cent of the total expenditure, of which over 93 per cent was incurred on Urban Health Services while the remaining was incurred on Rural Health Services (Figure V.1).

Figure V.1: Composition of Revenue Account of DoHFW Medical and Public Health Expenditure (% distribution)



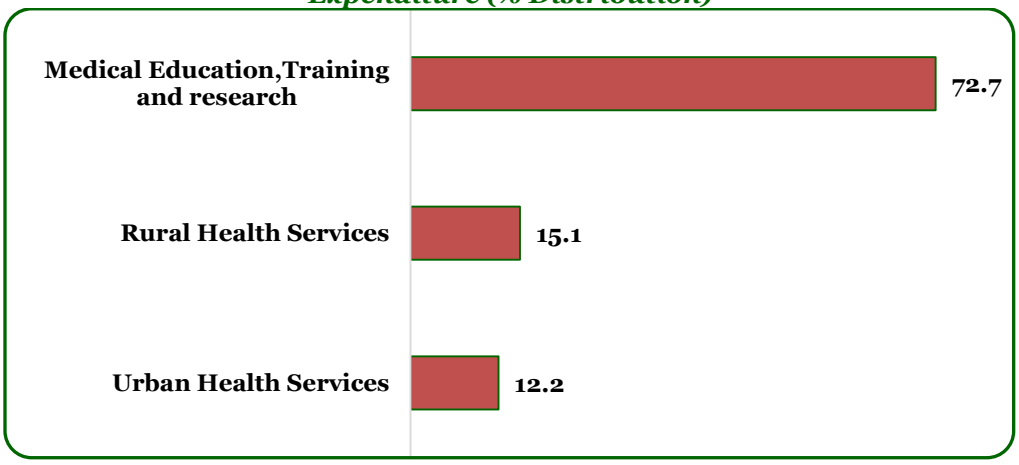
Source: Detailed Demand for Grants, Department of Health and Family Welfare, Government of Uttarakhand.

The sub-major heads of the Capital Account of Medical and Public Health are as follows:

1. Urban Health Services;
2. Rural Health Services; and
3. Medical Education, Training and Research.

The percentage distribution of budget allocation towards these heads is presented in Figure V.2.

Figure V.2: Composition of Capital Account of DoHFW Medical and Public Health Expenditure (% Distribution)



Source: Detailed Demand for Grants, Department of Health and Family Welfare, Government of Uttarakhand.

As per SHA-2011, it is important to maintain a distinction between the current expenditure and capital expenditure. While the Budget has separate Revenue (or current) and Capital Outlay Account, according to the SHA classification, some of the heads within the Revenue Account also

qualify for classification under capital expenditure or capital formation. Following are the expenditure items that fall outside the boundary of current expenditure and are included in capital formation:

1. Machinery and equipment are capital goods. Besides, materials used over more than one production period are also classified as capital (equipment and related), for example, tools which can be used repeatedly.
2. Infrastructure-related, like major renovations, reconstruction or enlargement of fixed assets are capital expenditures.
3. Provision of education and training of health personnel, including the administration, inspection or support of institutions providing education and training of health personnel unless the training is an on-the-job training, which is included in current health expenditures.
4. Research and development programmes directed towards the protection and improvement of human health also constitute a part of the capital account.

The budget line items of the Revenue Account that have been classified as Capital Formation in the case of Uttarakhand are delineated in Table V.2.

TABLE V. 2: BUDGET LINE ITEMS CLASSIFIED UNDER CAPITAL FORMATION

Major Head (Code)	Sub-Major Head	Minor Head	Sub- Minor Head	Description Sub-Minor Head
2210	01	200	06	Arrangement of telemedicine system
2210	02	101	011	Assistance to Ayurvedic University
2210	05	105	01	CSS
2210	05	105	04	Medical college
2210	05	105	05	Nursing and paramedical education
2210	05	105	09	Directorate of Medical Education
2210	05	105	10	Medical Education University
2210	06	003	03	Divisional Health and Family Welfare Training Centre
2210	06	003	04	State TB Training and Demonstration Centre
2210	06	104	01	CSS - Strengthening of State Drug Regulatory System
2211	003		01	CSS - Rural Sub-centres [Family Welfare been opened]
2211	101		01	CSS - Training of Supporting Health Nurse, Nurse, Midwife and Health Inspector

Source: Detailed Demand for Grants, Department of Health and Family Welfare, Government of Uttarakhand.

Further, the expenditure incurred by the local government on healthcare is also taken into the account of public health expenditure, and this is also divided into current and capital expenditure. Over and above the expenditure incurred by the DoHFW and the local government, the expenditures of other State government departments, primarily on "Medical Reimbursement" and "Medical Facilities", are included in the Current Public Health Expenditure.

Table V.3 summarises the different heads of Public Health Expenditure.

TABLE V.3: TOTAL PUBLIC HEALTH EXPENDITURE OF THE STATE

Heads	Expenditure (Rs. crore)
DoHFW Revenue Account (2210 + 2211)	*1441.2*
- Current Expenditure	1143.7
- Capital Formation	297.5
DoHFW Capital Account (4210 + 4211)	*63.9*
Local Government Health Expenditure	*9.7*
- Current Expenditure	8.0
- Capital Formation	1.7
Other State Departments	*36.2*
- Medical Reimbursements	35.9
- Medical Facilities	0.4
Central Sector Schemes (Current Expenditure)	*143.1*
Total Public Health Expenditure	*1694.17*
- Current Expenditure	1331.02
- Capital Formation	363.1

Source: Detailed Demand for Grants, Department of Health and Family Welfare, Government of Uttarakhand.

Central sector schemes are those whose financial contribution flows directly from the centre to the institution of the States. AIIMS Rishikesh is one such institution whose current health expenditure amounted to Rs. 143.1 crores, and forms a part of the Central sector schemes. Hence, the Total Public Current Health Expenditure amounted to Rs. 1,331.02 crore and the Total Public Health Capital Expenditure stood at Rs. 363.1 crore for Uttarakhand, for 2017-18. The following sections present details of the Public Current Health Expenditure by the four dimensions of the Health Satellite Account, that is, by sources of finance, financing schemes, functions, and providers of healthcare facilities.

V.1.1. Public Health Current Expenditure by Healthcare Financing Schemes

This section presents the public healthcare current expenditure of the State by healthcare financing schemes. Each of the budget line items of expenditure has been classified into the Healthcare Financing Schemes, described in the previous chapter. The classification is based on the SHA-2011 framework.

Health care financing schemes are the main types of financial arrangements through which people obtain health care services. A financing scheme may raise its revenue from several sources and it can be operated by more than one financial agent. As far as the States are concerned, they are largely independent in matters relating to the delivery of healthcare to the people (Source:

National Health Accounts – Guideline for India-2016). Each State has developed its own system of healthcare delivery, independent of the Central Government. However, the States receive funds from the Central Government and also implement some of the latter's programmes. Some examples of health care financing schemes, at the State level, include government schemes (Central, State and local), social insurance, voluntary insurance, and direct out-of-pocket payments to buy health care services.

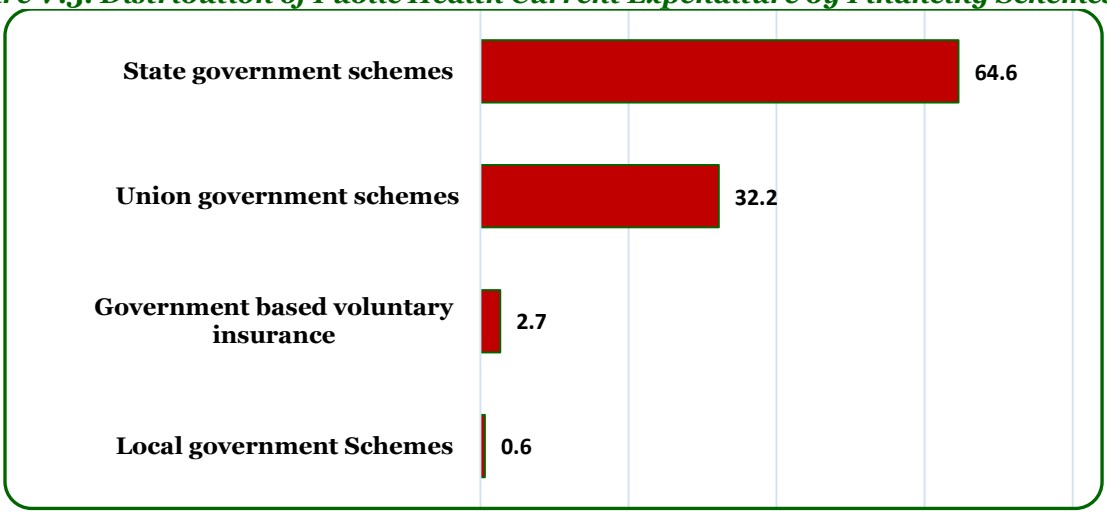
Table V.4 presents the Public Expenditure by Financing Schemes and Figure V.3 presents its percentage distribution.

TABLE V. 4: PUBLIC HEALTH CURRENT EXPENDITURE BY FINANCING SCHEMES

SHA Code	Classification Financing Schemes (HF)	Expenditure (Rs. crore)
(HF 1.1.1)	Union Government Schemes	428.3
(HF 1.1.2.1)	State Government Schemes	859.3
(HF 1.1.2.2)	Local Government Schemes	8.0
(HF 2.1.1.2)	Government-based Voluntary Insurance	35.4
	Total	1,331.03

Source: NCAER computation.

Figure V.3: Distribution of Public Health Current Expenditure by Financing Schemes (%)



Source: NCAER computation.

Key Findings:

- Of the total public health expenditure of Rs. 1,331.03 crore, the State government's share was the highest, at 64.6 per cent, during 2017-18.

- The Union Government contributed 32.2 per cent of the total whereas the local government accounted for just 0.6 per cent of the total expenditure.
- The share of government-based voluntary insurance schemes in the total public expenditure stood at 2.7 per cent of the total.

V.1.2. Public Health Current Expenditure by Revenues of Financing Schemes

In order to present the public health expenditure across revenues of financing schemes, each of the budget line items of expenditure has been classified into the following categories, based on the SHA-2011 framework:

- Internal transfers and grants—Union Government;
- Internal transfers and grants—State Government;
- Internal transfers and grants—Local government; and
- Voluntary pre-payment from individuals/households.

The revenues of financing schemes include the revenue sources for each financing scheme mentioned in the previous section. These indicate how the funds are mobilised under different schemes. The sources of revenue are government budgets, the household's contributions to social security or direct payments of households for health services. Hence, the health accounts not only aim at understanding the health expenditure but also analyse the revenue-raising mechanism, providing details of the origin of funds, destination of fund flows, and the nature of these flows.

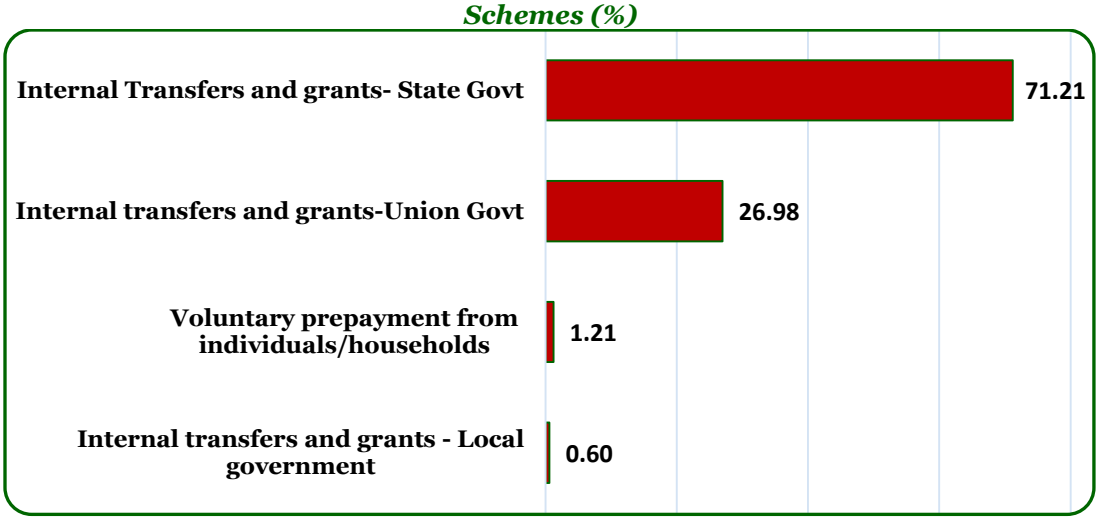
Following the SHA 2011 manual and based on data availability, the classification of revenues of health care financing schemes used for the state Health Satellite Account is provided in Table V.5, which also presents the Public Expenditure by Revenues of Financing Schemes. Figure V.4 presents their percentage distribution.

TABLE V.5: PUBLIC HEALTH CURRENT EXPENDITURE BY REVENUES OF FINANCING SCHEMES

SHA CODE	Classification of Revenues of Financing Schemes (FS)	Expenditure (in Rs. crores)
(FS 1.1.1)	Internal transfers and grants—Union Government	359.0
(FS 1.1.2)	Internal transfers and grants—State Government	947.8
(FS 1.1.3)	Internal transfers and grants—Local government	8.0
(FS 5.1)	Voluntary prepayment from individuals/households	16.2
	Total expenditure	1,331.03

Source: NCAER computation.

Figure V.4: Distribution of Public Health Current Expenditure by Revenues of Financing Schemes (%)



Source: NCAER computation.

Key Findings:

- Of the total public health expenditure of Rs. 1,331.03 crore, most of the revenue was sourced from the State government's Internal Transfers and Grants, which accounts for 71.2 per cent of the total expenditure.

- This is followed by transfers from the Union government on, say, the establishment of Central Drug Stores; 100 per cent Centrally-sponsored schemes like the National Blindness Prevention Programmes; or 90 per cent Centrally-sponsored schemes like the Rashtriya Swasthya Yojana, 10 per cent of which is allocated under State government transfers.

- Besides these, there are government-sponsored insurance schemes, which are other sources of revenue (see Box 1). These include the U-Health Card scheme, the Mukhyamantri Swasthya Bima Yojana, and Centrally-sponsored National Health Insurance schemes. Based on the scheme guidelines, the expenditures incurred on these schemes are allocated to Internal Transfers of the Union Government, State Government, and voluntary pre-payment by individuals or households towards these government insurance schemes. The expenditure is equally divided among these source categories if the break-up is not available.

- Hence, the derived value of voluntary pre-payment by individuals/households is estimated to be 1.2 per cent of the total public health expenditure.

Health Insurance Schemes in Uttarakhand

U-Health Card Scheme:

The U-Health Card is a scheme implemented by the Government of Uttarakhand for its employees and pensioners. Under this scheme, cashless medical facility is provided to Uttarakhand government employees and pensioners and their dependents on admission in empanelled private hospitals. The State government employees are required to contribute to this scheme, and hence, the expenditure incurred under this scheme is equally divided among internal transfers from the state and voluntary pre-payment for individuals.

Atal Ayushman Yojana

The Atal Ayushman Yojana is a State government scheme, which takes forward the Central scheme of Ayushman Bharat, to cover many more families under the scheme, allowing them to avail of the benefit of health insurance. Ayushman Bharat is a flagship scheme of the Government of India, which was launched to achieve the vision of Universal Health Coverage (UHC). It aims at providing health insurance cover of Rs. 5,00,000 per family per year for secondary and tertiary care hospitalisation to poor and vulnerable families. As per the Government of India scheme, only 5,00,000 families of the State were to get benefits of free treatment for serious illnesses. To expand its coverage, the State government launched "Atal Ayushman Bharat", aiming to cover all 23,00,000 families in the State. Since the scheme was initiated in 2018, it is not covered in the Health Satellite Account, 2017-18.

Mukhyamantri Swasthya Bima Yojana

The Mukhyamantri Swasthya Bima Yojana (MSBY), or the "Chief Minister Health Insurance Scheme", is a government-run health insurance scheme for households identified by the Government of Uttarakhand. The MSBY scheme was launched on April 1, 2015. It provides cashless health benefits for hospitalisation in empanelled public and private hospitals. It covers all the eligible families of Uttarakhand, who do not have a Government employee, pensioner or an income tax-payer as a member. Each beneficiary family is entitled to health insurance of Rs. 50,000/- per year. The beneficiary has to pay Rs. 30 as a card cost.

V.1.3. Public Health Current Expenditure by Healthcare Functions

The system of health accounts (SHA 2011) defines health care functions as groups of health care goods and services that are consumed by households. The main purpose of these services is to improve, maintain, and prevent the deterioration of the health status of the person, and mitigate the consequences of ill-health by utilising proper medical, nursing, and paramedical knowledge, which may include modern medicine and traditional, complementary, and alternative medicine. These health care functions can be consumed at the individual level or collectively. Collective services are aimed at the entire population and include services such as monitoring and evaluation

of specific disease control programmes, and governance and administrative services that improve the efficiency of the overall health system, which in turn, benefits all health care recipients.

Other than the major healthcare functions, the classification also includes the following two Reporting Items:

- HC.RI.1 indicates the expenditure under the line item related to Total Pharmaceutical Expenditures (TPE). This code is useful for summing up all the pharmaceutical expenditures from various data sources in this section and elsewhere.

- HC.RI.2 indicates that the expenditure under the line item is related to Traditional Alternative Complementary Medicine (TCAM). This code is useful for summing up all the expenditures incurred on TCAM from various data sources in this section and elsewhere. The purpose of reporting TCAM separately is its policy relevance due either to its cultural importance or its high growth rate. Mainstreaming of AYUSH has been prominent under both government health expenditures and social health insurance schemes, which enhances its importance in the Indian context, more so now after the establishment of a separate Union Ministry for AYUSH.

Expenditures reported in the Budget document, when mapped against the SHA 2011 classifications, result in multiple revenue sources, healthcare providers, and healthcare functions. This necessitates apportioning of given line item's expenditures or splitting them among the related classification codes. Arriving at proportions of these splits is called 'development of allocation keys'. Such splits can be arrived at under any of the classifications from the existing data sources, say, the NSS 75th Round Survey on "Household Consumption on Health: 2017-18". For example, the budgetary allocation towards hospitals, dispensaries, or clinics is a mix of allocation towards inpatient and outpatient curative care. This is because, in general, hospitals, dispensaries, or clinics are providers of both inpatient and outpatient healthcare, as also of preventive care and medical goods. Hence, in such cases of multiple mapping, allocation ratios have been used to apportion the expenditure into different healthcare functions. The NSS survey data has been used to arrive at the allocation ratios as delineated in Table V.6.

TABLE V. 6: ALLOCATION RATIOS FOR HEALTHCARE FUNCTIONS

Healthcare Functions	Allocation Ratios	
Inpatient Curative Care	0.5309	1.0000
Outpatient Curative Care	0.4691	
Preventive Care	0.1457	1.0000
Outpatient Care	0.8543	
Home-based Curative Care	0.3223	1.0000
Preventive Care	0.6777	

Source: NCAER computation.

In cases where NSS data, being a household survey, is unable to provide the allocation ratios, the value of the expenditure has been equally distributed across the mapped healthcare functions. For example, the healthcare insurance schemes correspond to the combination of two healthcare functions, that is, Inpatient Curative Care (HC.1.1) and Governance and Health System and Financing Administration (HC.7).

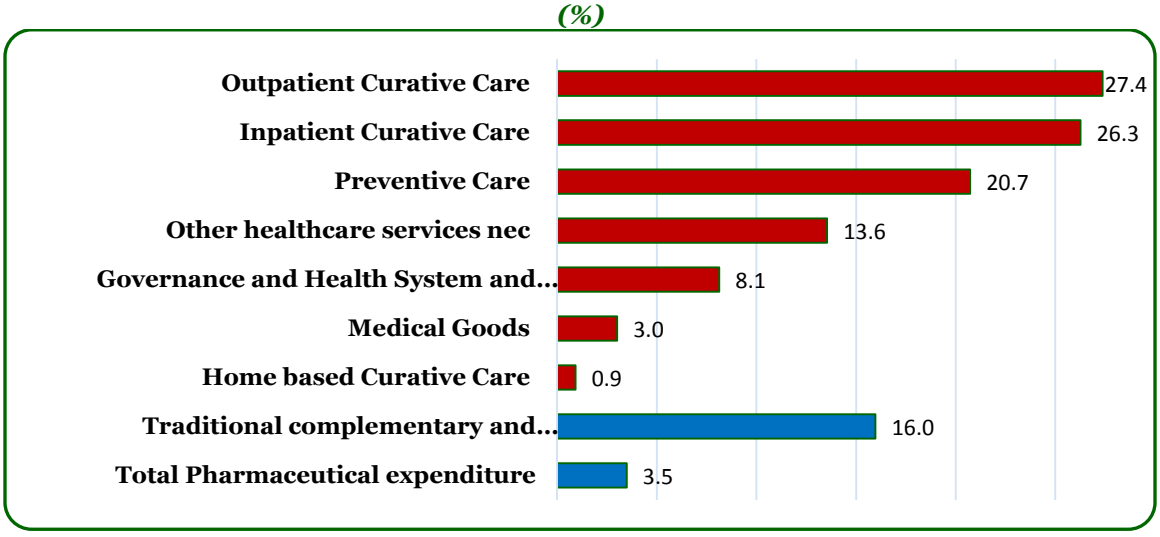
As done for financing schemes and revenues of schemes, each line item of the budget is mapped with the healthcare functions. The public health expenditure classified according to the healthcare functions is presented in Table V.7. Figure V.5 presents the percentage distribution of the same.

TABLE V.7: PUBLIC HEALTH CURRENT EXPENDITURE BY HEALTHCARE FUNCTIONS

SHA CODE	Classification of Health Care Functions (HC)	Expenditure (in Rs. crore)
(HC.1.1.)	Inpatient Curative Care	349.5
(HC 1.3)	Outpatient Curative Care	364.4
(HC 1.4)	Home-based Curative Care	12.3
(HC 5)	Medical Goods	40.2
(HC 6)	Preventive Care	275.9
(HC 7)	Governance and Health System and Financing Administration	108.4
(HC 9)	Other Healthcare Services (nec)	180.4
	Total	1,331.0
(HC.RI.1)	Total Pharmaceutical Expenditure	46.5
(HC.RI.2)	Traditional Complementary and Alternative Medicine (TCAM)	212.6

Source: NCAER computation.

Figure V.5: Distribution of Public Health Current Expenditure by Healthcare Functions (%)



Source: NCAER computation.

Key Findings:

- Table V.7 reveals that outpatient curative care accounted for the highest share, of 27.4 per cent, in public health spending. Inpatient care, at 26.3 per cent, accounted for the second-highest public expenditure in the State, further followed by preventive care, at 20.7 per cent of the total.
- The Reporting Item, "Traditional, Complementary and Alternative Medicines" contributed to 16 per cent of the total public expenditure while the "Total Pharmaceutical Expenditure" accounted for 3.5 per cent of the total public spending.
- Significantly, other health care services accounted for 13.6 per cent of the total public health expenditure, followed by Governance and Health Systems and Finance Administration expenditure, at 8.1 per cent, and medical goods, at 3.0 per cent of the total.
- Home-based curative care accounted for 0.9 per cent of the total public expenditure. This includes expenditure incurred on paying honorariums and annual promotion to part-time midwives and ASHAs. It also includes half of the annual incentives paid to ASHAs, with the other half being allocated for preventive care (HC.6).

V.1.4. Public Health Current Expenditure by Healthcare Providers

Health care providers are the final recipients of health care funds and include organisations that are involved in the provision of health care as one of their primary activities or one of their activities, in general. According to the SHA 2011, health care providers can be divided into primary and secondary providers. Primary health care providers are those providers whose principal activity is to deliver health care goods and services.

Some examples of primary providers include general and specialist physicians, emergency and ambulance services, hospitals, health centres, laboratories, nursing care facilities, and pharmacies. Secondary providers of health care services include providers of health care system financing and administration and households.

Like health care functions, some of the budget line items are mapped with multiple healthcare providers. Such values of expenditures are also apportioned using the allocation ratios, as obtained from the NSS 75th Round of the survey. These allocation ratios are presented in Table V.8.

TABLE V.8: ALLOCATION RATIOS FOR HEALTHCARE PROVIDERS

Health Care Providers	Allocation Ratios	
General Hospital–Government	0.9734	1.0000
Ambulatory Healthcare Centres	0.0266	
General Hospital–Government	0.4933	1.0000
Providers of Preventive Care	0.2534	
Providers of Healthcare System Administration and Financing	0.2534	

Source: NCAER computation.

In cases where NSS data, being a household survey, is unable to provide the allocation ratios, the value of the expenditure is distributed equally across the mapped healthcare providers. For example, the establishment of mother and child welfare corresponds to the combination of two healthcare providers, that is, Providers of Preventive Care (HP.6) and Providers of Healthcare System Administration and Financing (HP.7). The value of expenditure for this line item is equally distributed across HP.6 and HP.7.

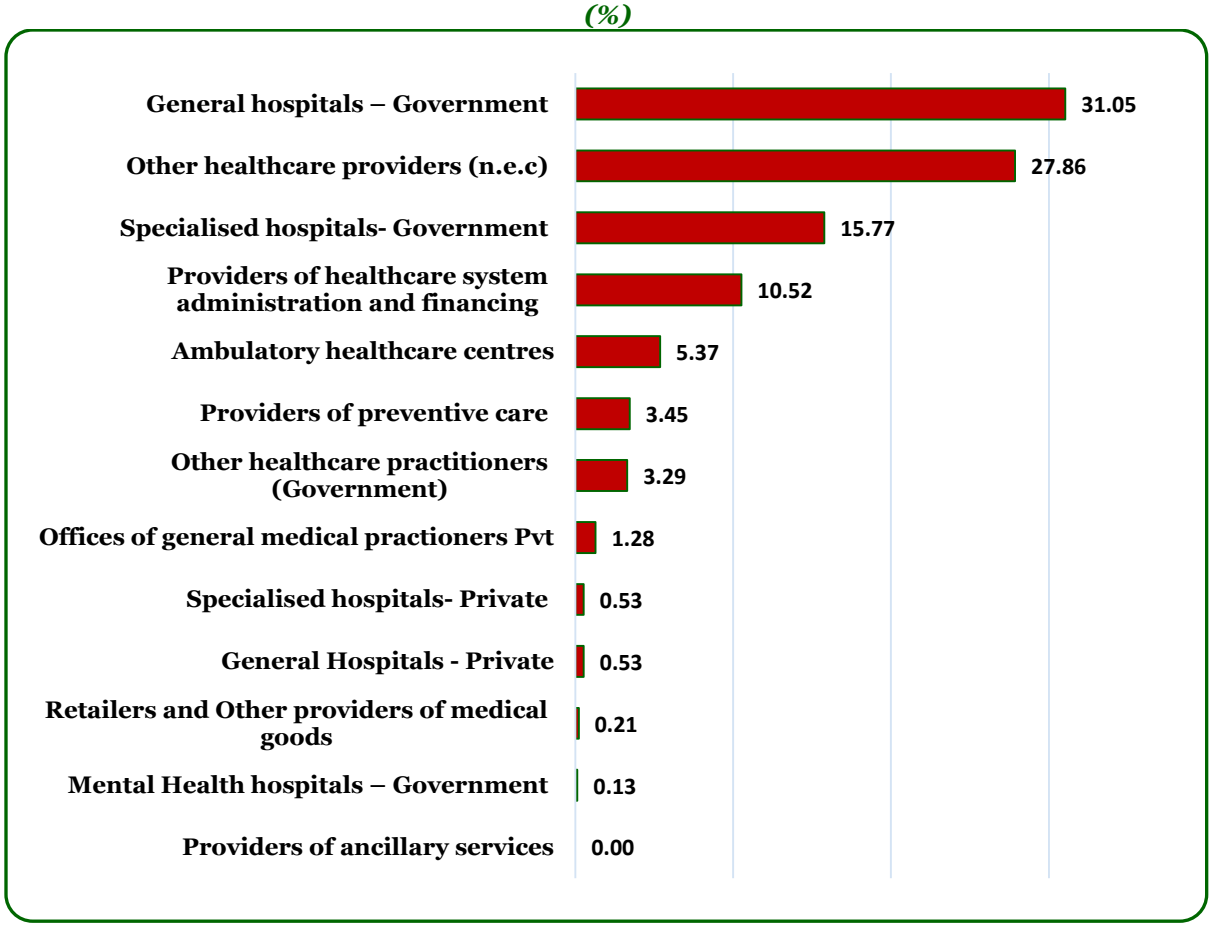
Each line item of the budget is mapped with the healthcare providers. The public health expenditure, classified in accordance with the healthcare providers, is presented in Table V.9. Figure V.6 presents the percentage distribution of the same.

TABLE V. 9: PUBLIC HEALTH CURRENT EXPENDITURE BY HEALTHCARE PROVIDERS

SHA CODE	Classification of Health Care Providers (HP)	Expenditure (in Rs. crore)
(HP.1.1.1)	General Hospitals—Government	413.3
(HP.1.1.2)	General Hospitals—Private	7.1
(HP 1.2.1)	Mental Health Hospitals—Government	1.7
(HP 1.3.1)	Specialised Hospitals—Government	209.9
(HP.1.3.2)	Specialised Hospitals—Private	7.1
(HP 3.1)	Offices of General Medical Practitioners—Private	17.1
(HP 3.3)	Other Healthcare Practitioners (Government)	43.8
(HP 3.4)	Ambulatory Healthcare Centres	71.5
(HP 4)	Providers of Ancillary Services	0.0
(HP 5)	Retailers and Other Providers of Medical Goods	2.8
(HP 6)	Providers of Preventive Care	45.9
(HP7)	Providers of Healthcare System Administration and Financing	140.1
(HP 10)	Other Healthcare Providers Not Elsewhere Classified	370.9
	Total Public Expenditure	1,331.0

Source: NCAER computation.

Figure V.6: Distribution of Public Health Current Expenditure by Healthcare Providers (%)



Source: NCAER computation.

Key Findings:

- The highest public spending was incurred on public hospitals, which accounted for about 31.05 per cent of the total public expenditure.

- Other health care providers, including health providers within the boundaries of autonomous universities, research institutions, and international organisations, accounted for about 27.86 per cent of the total public expenditure, followed by public specialised hospitals that received an allocation of 15.77 per cent of the total public expenditure.

- The total public expenditure incurred on providers of the health care system, administration, and financing accounted for 10.52 per cent of the total, followed by Ambulatory health care services, at 5.37 per cent, providers of preventive care, at 3.45 per cent, and other government health care practitioners, at 3.29 per cent of the total.

- Offices of private general medical practitioners are estimated to incur a share of 1.28 per cent of the total public expenditure. Lastly, some of the budget expenditure is allocated to private hospitals too, as an assistance or grant. About 0.53 per cent of the total public expenditure is received by both private general hospitals and specialised private hospitals. Providers of medical goods accounted for a share of 0.2 per cent of the total public expenditure in the State.

V.1.5. Total Public Health Expenditure by Factors of Provision

Factors of provision are the valued inputs that are used in the provision of health care. These include a mixture of factors of production–land, capital, materials and supplies, and externally produced services. They also include both health and non-health specific inputs that are needed to generate health care services. Some of the common factors of provision laid out by the SHA 2011 are:

- Personnel involved in health care, IT, repairs and maintenance, security, and other services;
- Capital consumed, which includes the use of buildings, vehicles, and medical and office equipment;
- Medical materials and supplies such as serum, syringes, pharmaceuticals, cotton, wound dressings as well as non-medical goods such as electricity, water, stationery, and cleaning supplies;
- Externally purchased services, which include laboratory and imaging services, patient transportation, renal analysis, dialysis, and any outsourced support services such as food preparation for patients, cleaning, washing, security and garden services, repair and maintenance, and other administrative services

As mentioned in the previous sections, for classifying the budget expenditure by healthcare financing schemes, revenues of financing schemes, healthcare functions and healthcare providers, mapping is done with each line item of the budget major, sub-major, minor, and sub-minor heads. However, for classifying the budget expenditure by factors of provision, each object head under each sub-minor head is mapped with the different factors of provision. The object code is the sixth tier of the six-tier coding system of a DDG.

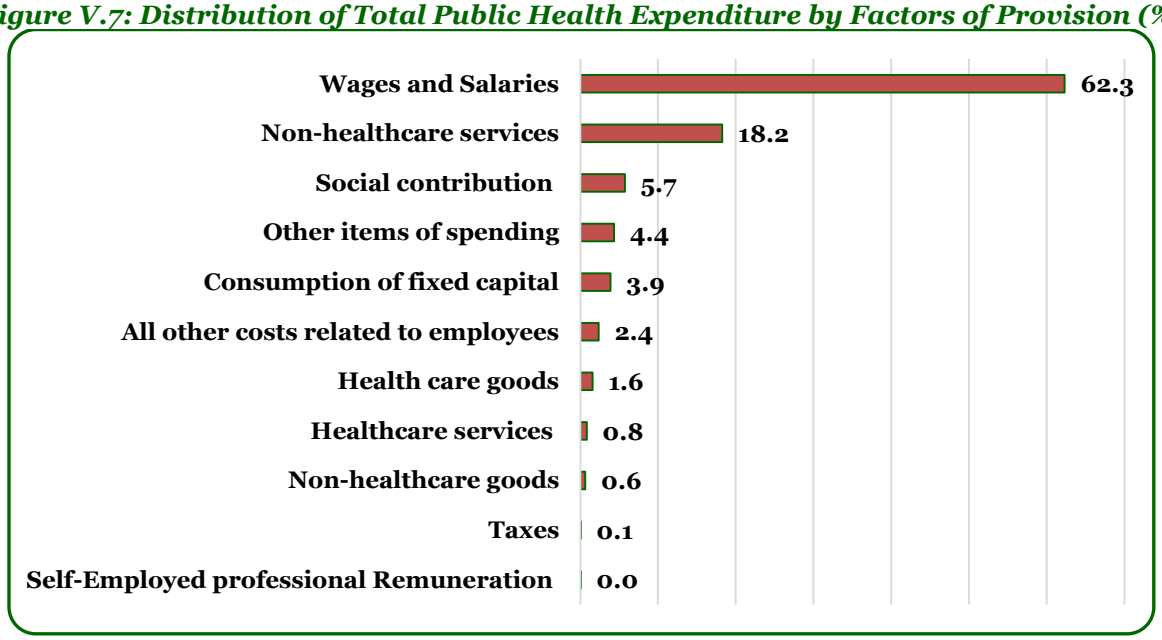
The public health expenditure classified according to the factors of provision is presented in Table V.10. Figure V.7 presents the percentage distribution of the same. It may be noted that since the factors of provision comprise both labour and capital costs, the total public expenditure depicted in Table V.10 is a combination of both current and capital expenditure, that is, Rs. 1,695 crore.

TABLE V.10: TOTAL PUBLIC HEALTH EXPENDITURE BY FACTORS OF PROVISION

SHA Code	Factors of Health Care Provision	Expenditure (in Rs. crore)
FP.1	Compensation of Employees	1,193.2
FP.1.1	Wages and Salaries	1056.0
FP.1.2	Social contribution	97.1
FP.1.3	All other costs related to employees	40.1
FP.2	Self-employed professional remuneration	0.7
FP.3	Material and Supplies	360.7
FP.3.1	Healthcare services	14.0
FP.3.2	Health care goods	26.6
FP.3.3	Non-healthcare services	309.1
FP.3.4	Non-healthcare goods	10.9
FP.4	Consumption of fixed capital	65.7
FP.5	Other items of spending on inputs	74.8
FP.5.1	Taxes	0.9
FP.5.2	Other items of spending	73.8
Total	Total (FP 1+FP2 +FP3 +FP 4 +FP5)	1,695.0

Source: NCAER computation.

Figure V.7: Distribution of Total Public Health Expenditure by Factors of Provision (%)



Source: NCAER computation.

Key Findings:

- In terms of public health expenditure by factors of provision, employee remuneration (comprising wages and salaries, social contribution, and other allowances or other costs

related to employees) emerged as the largest input in health care service provisioning in Uttarakhand, accounting for a total of 70.4 per cent of the total public health expenditure.

- Among the constituents of staff remuneration, salaries accounted for 62.3 per cent of the total public health expenditure, social contributions accounted for 5.7 per cent, and other costs related to employees accounted for 2.4 per cent of the total.

- Non-health care services accounted for the second largest share, after wages and salaries, at about 18.2 per cent of the total public health expenditure. Non-healthcare services included office expenses, maintenance of vehicles, payment for consultancy, publication, advertisement, guest expenses, and food expenses, among others.

- Other items of spending contributed 4.4 per cent of the total public health expenditure. This factor of provision included minor works, other expenditure not elsewhere classified, and medical facilities.
- Fixed capital accounted for 3.9 per cent of the total public health expenditure. This included capital expenditure for the creation of assets and major works involving construction and expansion.

- Health care goods, like hospital equipment, medicines and chemicals, and materials and supplies constituted only 1.6 per cent of the total public health expenditure. Health care services and non-health care goods together constituted just 1.4 per cent of the total.

V.2. Private Health Expenditure

Private health expenditure is the expenditure incurred by private households on healthcare goods and services. This expenditure is incurred either through direct out-of-pocket expenditure or indirectly through pre-payments as health insurance contributions and premium.

Out-of-pocket expenditure (OOPE) refers to the payments made by an individual or a household at the point of service directly, where the cost of the health good or service is either not covered under any social protection or insurance scheme or is partially covered. OOPE includes expenditure on healthcare functions like inpatient care, outpatient care, family planning, immunisation, drugs, diagnostics, medical non-durables, and therapeutic appliances from various healthcare providers.

The following data sources have been used to estimate the private health OOPE:

- Household Social Consumption: Health, a household survey conducted by the National Sample Survey Office (NSSO), during 2017-18, as part of the 75th Round of its surveys. The survey was aimed at generating basic quantitative information on the health sector. It

captures the details of household expenditure on various heads of healthcare goods and services.

- Household Consumption Expenditure Survey, a household survey conducted by NSSO, during 2011-12, as part of the 68th Round of its surveys. The survey collected details of household expenditure on all items of expenditure. This study takes into account the values of expenditure of the healthcare goods and services which were not covered under NSSO's 75th Round. These include family planning devices and therapeutic appliances like contact lenses, hearing aids, and orthopaedic equipment.

- National Family Health Survey (NFHS), a household survey conducted by the Ministry of Health and Family Welfare, in its fourth round during 2015-16. The survey is national and state representative, and provides details on health parameters and also captures healthcare expenditure. This study takes into account the values of expenditure incurred on family planning services or on sterilisation, adopted by men and women.

- While the reference year for the NSS 75th Round is 2017-18, which is also the reference year for this study, the other two data sources, that is, the NSS 68th Round (2011-12) and NFHS-V (2015-16), have to be extrapolated for 2017-18. For the population adjustment, the per person health expenditure obtained from these sources has been applied on the estimated population for 2017-18. The State-level population estimates or projections are obtained from the "Population Projections for India and States, 2011-2036", Report of the Technical Group on Population Projections, National Commission on Population.

- Further, the values of expenditure are price-adjusted using the retail inflation of health services for the state of Uttarakhand. Retail inflation is the inflation based on the Consumer Price Index.

- For indirect household health expenditure through pre-payments of health insurance schemes and premium, the data has been sourced from the Insurance Regulatory and Development Authority (IRDA), which provides the State-wise Gross Direct premium paid by individuals.

The National Health Accounts–Guideline for India identifies the boundaries for OOPE. These have also been considered for the present study. According to these boundaries:

- The OOPE on inpatient and outpatient healthcare, medicines, doctors' fees, diagnostics, bed charges, surgeries, patient's transportation and ambulance, and other therapies have been included.

- Medicines/ancillary services that are purchased or availed of independently without prescription from health professionals in the case of self-prescriptions or self-diagnosis such as over-the-counter medicines, are also included as health expenditures.

- Loss of household income has been considered outside the boundary of health.

- Other miscellaneous expenditures incurred by the relatives or friends of the patient like transport cost, food expenditures, lodging charges, and wage/labour costs have not been considered as household health expenditure.

The expenditure line items which have been considered for estimating the private health expenditure, including OOPE and indirect expenditure through pre-payments for health insurance schemes or premium, are given in Table V.11.

TABLE V.11: EXPENDITURE LINE ITEMS FOR PRIVATE HEALTH EXPENDITURE

Code	Expenditure Line Items
Out-of-pocket Expenditure	
HH01	Inpatient Care
HH02	Outpatient Care
HH03	Over-the-counter Medicines
HH04	Laboratory and Imaging Services (Diagnostics)
HH05	Patient's Transportation
HH06	Prenatal Care
HH07	Postnatal Care
HH08	Family Planning
HH09	Therapeutic Appliances and Other Medical Goods
HH10	Immunisation
HH11	Vitamins and Minerals
	Delivery at Home
Gross Direct Premium	
Private Insurance	Other Primary Coverage Schemes (Individual Voluntary Health Insurance)

Source: NCAER compilation

The expenditure on "Delivery at Home" is not part of the SHA-2011 classification, but given its prominence, it has also been added to OOPE.

The following points need to be noted while estimating the OOPE from the NSS surveys:

- Some of the households also reported medical reimbursements on expenditure by employer or insurance firms. These were estimated and subtracted from the total medical expenditure.

- The values of expenditure for inpatient care have been collected for the 365-day reference period, in the NSS survey. These are taken as it is. However, for expenditure on out-patient care, the reference period is 15 days. These are annualised, as given in NHA-Guidelines of India, by deriving the per-day expenditure and multiplying it by 365.

- Further, since the NSS population is an under-estimation, the values are population-adjusted by multiplying the per-capita OOPE by the estimated population for the State for the year 2017-18.

V.2.1. Private Health Current Expenditure by Healthcare Financing Schemes

The entire OOPE is classified under the health financing scheme, HF.3.3, that is, All Households' out-of-pocket payments. This is the direct expenditure incurred by households. The indirect expenditure through pre-payments for health insurance schemes or premiums (referred to as Individual Voluntary Health Insurance–Premiums or Reimbursements) is classified under HF.2.1.1.3, that is, other primary coverage schemes.

Table V.12 presents the mapping of household expenditure line items with the healthcare financing schemes.

TABLE V.12: EXPENDITURE LINE ITEMS MAPPING WITH HEALTHCARE FINANCING SCHEMES

Code	Expenditure Line Items	SHA Code	Financing Schemes
Out-of-pocket Expenditure			
HH01	Inpatient Care	HF.3.3	Household OOP
HH02	Outpatient Care	HF.3.3	Household OOP
HH03	Over-the-Counter Medicines	HF.3.3	Household OOP
HH04	Laboratory and Imaging Services	HF.3.3	Household OOP
HH05	Patient's Transportation	HF.3.3	Household OOP
HH06	Pre-natal Care	HF.3.3	Household OOP
HH07	Post-natal Care	HF.3.3	Household OOP
HH08	Family Planning	HF.3.3	Household OOP
HH09	Therapeutic Appliances and Other Medical Goods	HF.3.3	Household OOP
HH10	Immunisation	HF.3.3	Household OOP
HH11	Vitamins and Minerals	HF.3.3	Household OOP
	Delivery at Home	HF.3.3	Household OOP
Gross Direct Premium			
Private	Individual voluntary health insurance	HF.2.1.1.3	Other primary coverage schemes

Source: NCAER compilation using NHA Guidelines for India

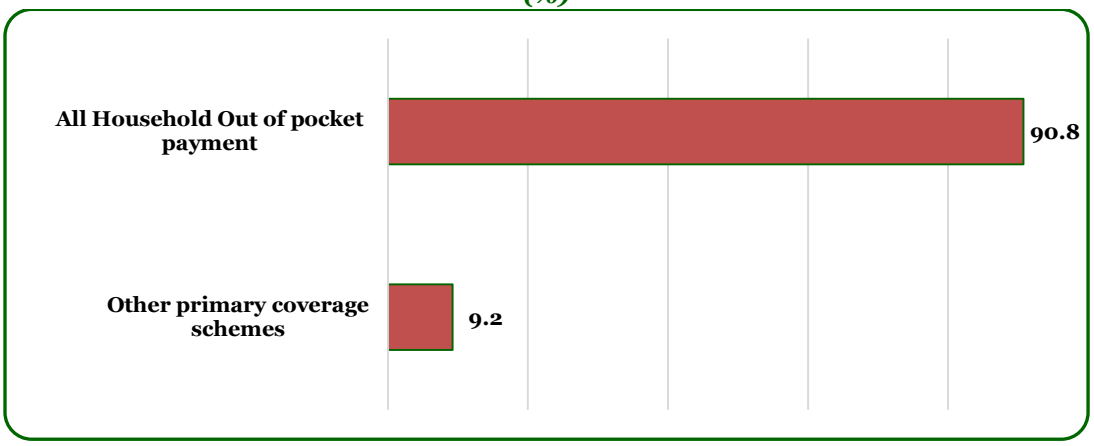
The value of private health expenditure classified by healthcare financing schemes is presented in Table V.13 and the corresponding percentage distribution is given in Figure V.8.

TABLE V.13: PRIVATE HEALTH EXPENDITURE BY HEALTHCARE FINANCING SCHEMES

SHA CODE	Classification Financing Schemes (HF)	Expenditure (In crores)
HF 3.3	All Household Out of pocket payment	1088.1
HF 2.1.1.3	Other primary coverage schemes	113.5
	Total	1201.6

Source: NCAER computation.

Figure V.8: Distribution of Private Health Expenditure by Healthcare Financing Schemes (%)



Source: NCAER computation.

Key Findings:

- The total value of private health expenditure incurred by the households as their OOPE is estimated at Rs. 1,088.1 crore. This signifies the direct payment made by households for healthcare goods and services.

- Other primary coverage schemes or pre-payment for health insurance schemes and premiums by households amounts to Rs. 113.5 crore, as per State-wise data on the premium paid, published by IRDA.

- Of the total private health expenditure of Rs. 1,201.6 crore in Uttarakhand for 2017-18, 90.8 per cent was on account of OOPE, or the direct payment by households. The remaining 9.2 per cent was spent indirectly through health insurance policy premiums.

- The expenditure incurred on healthcare goods and services was just 1.5 per cent of the total Private Final Consumption Expenditure of the State, estimated at Rs. 80,629 crore.

V.2.2. Private Health Current Expenditure by Revenue of Healthcare Financing Schemes

With respect to the revenues of healthcare financing schemes, the entire OOPE is classified under FS.6.1 or 'Other Revenues from Households (not elsewhere classified, n.e.c). The indirect household expenditure or insurance payment is classified under FS.5.1 or Voluntary pre-payment from individuals or households.

Table V.14 presents the mapping of household expenditure line items with the revenues of healthcare financing schemes.

TABLE V.14: EXPENDITURE LINE ITEMS MAPPING WITH REVENUES OF HEALTHCARE FINANCING SCHEMES

Code	Expenditure Line Items	SHA Code	Revenues of Healthcare Financing Schemes
Out-of-pocket Expenditure			
HH01	Inpatient Care	FS.6.1	Other Revenues from Households (nec)
HH02	Outpatient Care	FS.6.1	Other Revenues from Households (nec)
HH03	Over-the-counter Medicines	FS.6.1	Other Revenues from Households (nec)
HH04	Laboratory and Imaging Services (Diagnostics)	FS.6.1	Other Revenues from Households (nec)
HH05	Patient's Transportation	FS.6.1	Other Revenues from Households (nec)
HH06	Pre-natal Care	FS.6.1	Other Revenues from Households (nec)
HH07	Post-natal Care	FS.6.1	Other Revenues from Households (nec)
HH08	Family Planning	FS.6.1	Other Revenues from Households (nec)
HH09	Therapeutic Appliances and Other Medical Goods	FS.6.1	Other Revenues from Households (nec)
HH10	Immunisation	FS.6.1	Other Revenues from Households (nec)
HH11	Vitamins and Minerals	FS.6.1	Other Revenues from Households (nec)
	Delivery at Home	FS.6.1	Other Revenues from Households (nec)
Gross Direct Premium			
Private Insurance	Individual Voluntary Health Insurance	FS.5.1	Voluntary Pre-payment from Individuals/Households

Source: NCAER mapping using NHA Guidelines for India

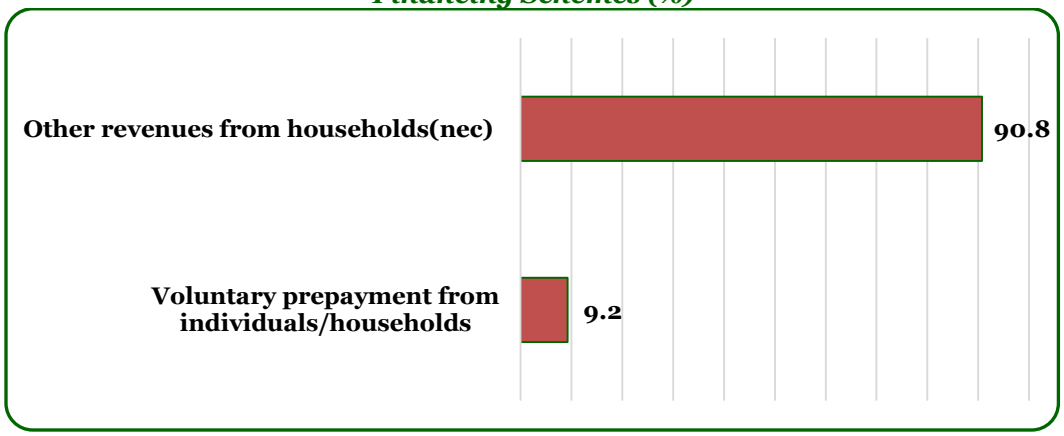
The value of private health expenditure classified by revenues of financing schemes is presented in Table V.15 and the corresponding percentage distribution is given in Figure V.9.

TABLE V.15: PRIVATE HEALTH EXPENDITURE BY REVENUES OF HEALTHCARE FINANCING SCHEMES

SHA Code	Classification Financing Schemes (HF)	Expenditure (in Rs. crores)
FS 6.1	Other Revenues from Households (nec)	1,088.1
FS 5.1	Voluntary Pre-payment from Individuals/Households (FS 5.1)	113.5
	Total	1,201.6

Source: NCAER computation.

Figure V.9: Distribution of Private Health Expenditure by Revenues of Healthcare Financing Schemes (%)



Source: NCAER computation.

V.2.3. *Private Health Current Expenditure by Healthcare Functions*

The functional classification of private healthcare expenditure is based on the SHA-2011 framework. As mentioned earlier, the values of expenditure incurred by households on healthcare goods and services, obtained from various sources, relate to the expenditure on hospitalisation and non-hospitalisation treatment. These have been classified into inpatient and curative care, respectively. The hospitalisation cost or the expenses on inpatient care includes the package as well as non-package components. The following points need to be noted to classify the household OOPE with the Healthcare Functions:

- The items that are included in the non-package component are Doctor's or surgeon's fee, medicines, diagnostic tests, and bed charges, excluding the total amount reimbursed by the medical insurance company/employer. Also, other medical expenses (such as attendant charges, physiotherapy, personal medical appliances, blood, oxygen etc.) are also included as part of inpatient curative care.

- Classification of OOP expenditures under rehabilitative, long-term care, and day care has not been done in the absence of suitable data and the absence of a suitable method for apportioning the available data.

- The expenditure incurred during the preceding 15 days, not as an in-patient cost of the medical institution, is classified as outpatient curative care. This amounts to the sum of the expenditure incurred on doctor's or surgeon's fee, medicines (AYUSH and others), diagnostic tests, and other medical expenses, such as attendant charges, physiotherapy, personal medical appliances, blood, and oxygen, among others.

- Almost all line items also incorporate the expenditure incurred on various elements such as Total Pharmaceutical Expenditure (TPE) as well as Traditional, Complementary and Alternative Medicines (TCAM) expenditure, both of which are separately classified under 'Reporting Items'. These Reporting Items are important from the policy perspective. The TPE includes the expenses incurred on the treatment of members as inpatient, outpatient, and the expenses incurred on over the counter medicines. TCAM expenditure or the medical expenses on Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) includes the total medical expenditures when the nature of treatment was AYUSH from the inpatient, outpatient, ante-natal, and post-natal treatment.

- While there is an overlapping of TPE and TCAM with the other functions across many expenditure line items, these have not been allocated using any allocation ratios. Instead, the entire value of the expenditure is classified under these reporting items. Hence, these are placed separately in the classification by functions, though these are included in other line items.

- The Expenditure on Preventive Care (HC.6) includes expenditures incurred under Immunization Programmes (HC.6.2) and Healthy Condition Monitoring Programmes (HC.6.4). Expenditure on immunisation is classified under HC.6.2. Pre-natal and post-natal care are classified under HC.6.4.

Table V.16 presents the mapping of household expenditure line items with the revenues of healthcare functions.

TABLE V.16: EXPENDITURE LINE ITEMS MAPPING WITH HEALTHCARE FUNCTIONS

Code	Expenditure Line Items	Healthcare Functions and Their Codes
Out-of-pocket Expenditure		
HH01	Inpatient Care	Inpatient curative care(HC 1.1), Total Pharmaceutical Expenditure (HC RI.1), TCAM (HC RI.2)
HH02	Outpatient Care	Outpatient Curative Care (HC 1.3), Total Pharmaceutical expenditure(HC RI.1), TCAM (HC RI.2)
HH03	Over-the-counter Medicines	All Pharmaceuticals and Other Medical Non-durable Goods (HC 5.1.4), Total Pharmaceutical Expenditure (HC RI.1), TCAM (HC RI.2)
HH04	Laboratory and Imaging Services (Diagnostics)	Laboratory and Imaging Services (HC 4.4)
HH05	Patient's Transportation	Patient Transportation(HC 4.3)
HH06	Pre-natal Care	Healthy Condition Monitoring Programmes (HC 6.4), Total Pharmaceutical Expenditure (HC RI.1), TCAM (HC RI.2)
HH07	Post-natal Care	Healthy Condition Monitoring Programmes (HC 6.4), Total Pharmaceutical Expenditure (HC RI.1), TCAM (HC RI.2)
HH08	Family Planning	All Therapeutic Appliances and Other Medical Goods (HC 5.2.4)
HH09	Therapeutic Appliances and Other Medical Goods	All Therapeutic Appliances and Other Medical Goods (HC 5.2.4)
HH10	Immunisation	Immunisation Programmes (HC 6.2)
HH11	Vitamins and Minerals	All Pharmaceuticals and Other Medical Non-durable Goods (HC 5.1.4)
	Delivery at Home	Home-based Curative Care (HC 1.4)
Gross Direct premium		
Private Insurance	Individual voluntary health insurance	Inpatient curative care(HC 1.1), Providers of healthcare system administration and financing(HC 7), Total pharmaceutical expenditure (HC.RI.1)

The overlapping of functions is seen in the case of the Individual Voluntary Health Insurance. The multiple functions against this line item are HC.1.1 and HC.7. The expenditure is allocated into these two functions in equal halves.

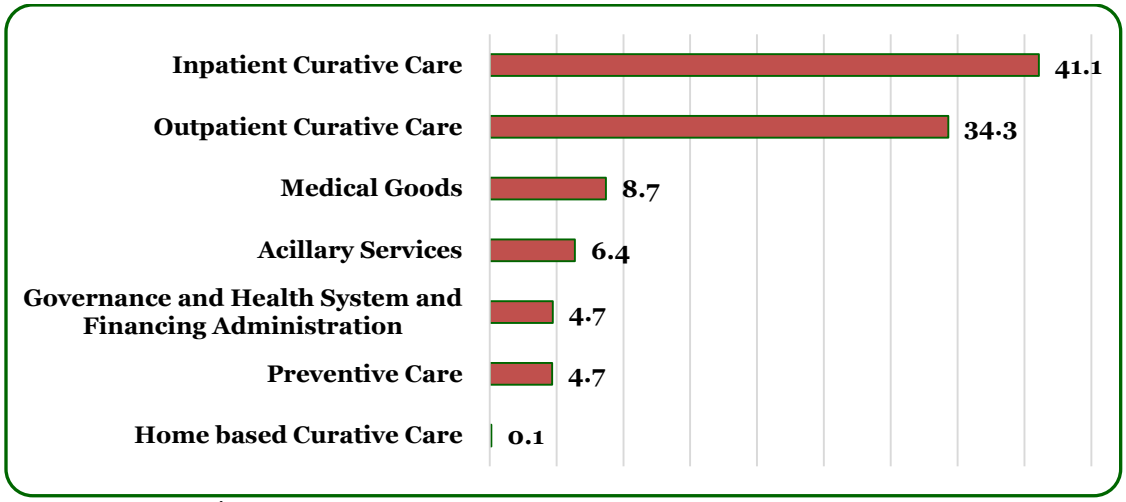
The value of private health expenditure classified by healthcare functions is presented in Table V.17 and the percentage distribution is given in Figure V.10.

TABLE V.17: PRIVATE HEALTH EXPENDITURE BY HEALTHCARE FUNCTIONS

SHA CODE	Classification of Health Care Functions (HC)	Expenditure (in Rs. crore)
(HC.1.1.)	Inpatient Curative Care	493.6
(HC 1.3)	Outpatient Curative Care	412.1
(HC 1.4)	Home-based Curative Care	1.6
(HC 4)	Ancillary Services	76.7
(HC 5)	Medical Goods	104.5
(HC 6)	Preventive Care	56.3
(HC 7)	Governance and Health System and Financing Administration	56.8
(HC 9)	Other Healthcare Services (nec)	0.0
	Total Private Health Expenditure	1,201.6
(HC.RI.1)	Total Pharmaceutical Expenditure	1,090.2
(HC.RI.2)	Traditional Complementary and Alternative Medicine (TCAM)	976.7

Source: NCAER computation.

Figure V.10: Distribution of Private Health Expenditure by Healthcare Functions (%)



Source: NCAER computation.

Key Findings:

- Inpatient curative care accounted for the highest share of total private spending, at 41.1 per cent of the total private expenditure, followed closely by outpatient curative care, which accounted for 34.3 per cent of the total private health expenditure.

- Further, expenditure on medical goods had a share of 8.7 per cent of the total private expenditure. Ancillary services captured 6.4 per cent of the total private spending.

- Preventive care services accounted for 4.7 per cent of the total private spending while home-based curative care had a share of 0.1 per cent of the total private expenditure. Another important health care provider was governance and health system and financing administration, which had a share of 4.7 per cent in the total private expenditure.

- The reporting item, TPE, constituted 91.7 per cent of the total private health expenditure whereas TCAM constituted 81.3 per cent of the same.

V.2.4. *Private Health Current Expenditure by Healthcare Providers*

The private healthcare expenditure is classified by healthcare providers on the basis of the information collected in NSS survey on the "level of care" as the following categories:

- Government or public hospital (including Health Sub-centre/Primary Health Centre/Community Health Centre, etc.);
- Charitable/Trust/NGO-run hospital or private hospital;
- Private doctor/clinic; and
- Informal health care provider.

Table V.18 presents the mapping of household expenditure line items with the healthcare providers.

TABLE V. 18: EXPENDITURE LINE ITEMS MAPPING WITH HEALTHCARE FUNCTIONS

Code	Expenditure Line Items	Healthcare Providers and Their Codes
Out-of-Pocket Expenditure		
HH01	Inpatient Care	General Hospitals-government (HP 1.1.1), General Hospitals-Pvt (HP1.1.2), Medical and diagnostic Laboratories(HP4.2), Pharmacies (HP 5.1)
HH02	Outpatient Care	General Hospitals-government (HP 1.1.1), General Hospitals-Pvt (HP1.1.2), Offices of general medical practitioners Pvt-(HP 3.1.1), Medical and diagnostic Laboratories (HP4.2),Pharmacies (HP 5.1),Other healthcare providers n.e.c (HP 10)
HH03	Over-the-counter	Pharmacies (HP 5.1)
HH04	Laboratory and Imaging	Medical and Diagnostic Laboratories(HP 4.2)
HH05	Patient's transportation	Providers of Patient Transportation and Emergency Rescue (HP 4.1)
HH06	Prenatal Care	Medical and Diagnostic Laboratories (HP 4.2), Pharmacies (HP 5.1), Providers of Preventive Care (HP 6)
HH07	Postnatal Care	Medical and Diagnostic Laboratories (HP 4.2), Pharmacies (HP 5.1), Providers of Preventive Care (HP 6)
HH08	Family Planning	Retail Sellers and Other Suppliers of Durable Medical Goods and Medical Appliances (HP 5.2)
HH09	Therapeutic Appliances and Other Medical Goods	Retail Sellers and Other Suppliers of Durable Medical Goods and Medical Appliances (HP.5.2)
HH10	Immunisation	Providers of Preventive Care (HP 6)
HH11	Vitamins and Minerals	Pharmacies (HP 5.1)
	Delivery at Home	Other Healthcare Providers Not Elsewhere Classified (n.e.c) (HP 10)
Gross Direct Premium		
Private Insurance	Individual Voluntary Health Insurance	General Hospitals—Government (HP.1.1.1), General Hospitals—Private (HP.1.1.2), Specialised Hospitals (Other than Mental Health Hospitals)—Government (HP.1.3.1), Specialised Hospitals (Other than Mental Health Hospitals)—Private (HP.1.3.2), Providers of Healthcare System Administration and Financing (HP.7)

Source: NCAER computation

There are instances of multiple providers being classified against single expenditure line-items. In these cases, the expenditure is apportioned by each healthcare provider using the allocation ratios. These allocation ratios are derived from the NSS survey data by estimating the proportion of expenditure incurred by each provider in the combination of providers, as required. The allocation ratios, needed for classifying the expenditure line-items by healthcare providers, are presented in Table V.19.

TABLE V.19: ALLOCATION RATIOS FOR HEALTHCARE PROVIDERS

Healthcare Providers	Allocation Ratios	
Inpatient:		
General Hospital–Government	0.0187	1.0000
General Hospital–Private	0.4568	
Medical and Diagnostic Laboratories	0.1787	
Pharmacies	0.3458	
Outpatient:		
General Hospital–Government	0.0322	1.0000
General Hospital–Private	0.0702	
Offices of General Medical Practitioners–Private	0.1400	
Medical and Diagnostic Laboratories	0.1157	
Pharmacies	0.6363	
Other Healthcare Providers n.e.c	0.0056	
Pre-natal Care		
Medical and Diagnostic Laboratories	0.1453	1.0000
Pharmacies	0.7991	
Providers of Preventive Care	0.0556	
Post-natal Care		
Medical and Diagnostic Laboratories	0.1453	1.0000
Pharmacies	0.7991	
Providers of Preventive Care	0.0556	

Source: NCAER computation.

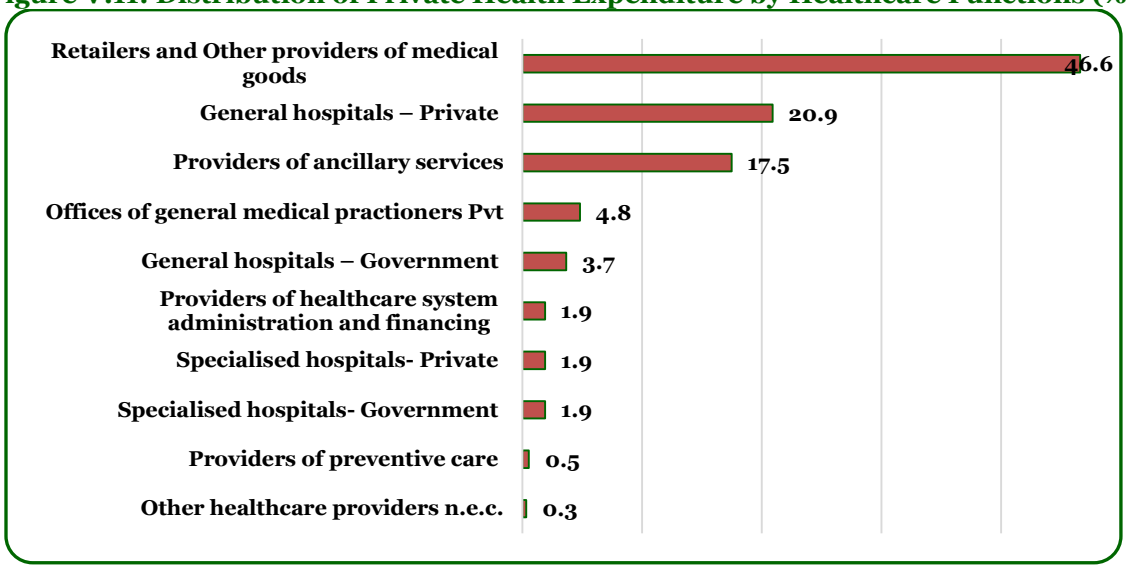
The value of private health expenditure classified by healthcare functions is presented in Table V.20 and the percentage distribution is given in Figure V.11.

TABLE V.20: PRIVATE HEALTH EXPENDITURE BY HEALTHCARE PROVIDERS

SHA CODE	Classification of Health Care Providers (HP)	Expenditure (in Rs. crore)
(HP.1.1.1)	General Hospitals—Government	44.1
(HP 1.1.2)	General Hospitals—Private	251.2
(HP 1.3.1)	Specialised Hospitals—Government	22.7
(HP 1.3.2)	Specialised Hospitals—Private	22.7
(HP 3.1.1)	Offices of General Medical Practitioners—Private	57.7
(HP 4)	Providers of Ancillary Services	210.1
(HP 5)	Retailers and Other Providers of Medical Goods	559.9
(HP 6)	Providers of Preventive Care	6.5
(HP7)	Providers of Healthcare System Administration and Financing	22.7
(HP 10)	Other Healthcare Providers Not Elsewhere Classified (n.e.c)	3.9
	Total	1,201.6

Source: NCAER computation.

Figure V.11: Distribution of Private Health Expenditure by Healthcare Functions (%)



Source: NCAER computation.

Key Findings:

- Of the total private health expenditure of Rs. 1,201.6 crore, retailers and other providers of medical goods constituted the largest share of 46.6 per cent, followed by private general hospitals with a share of 20.9 per cent.
- Providers of ancillary services accounted for about 17.5 per cent of the total private spending while 4.8 per cent of the total private expenditure was incurred on private offices of general medical practitioners.
- Each of the remaining healthcare providers account for less than 5 percent of total private health expenditure, together constituting about 10.2 percent. These include Public general hospitals (with the share of 3.7 per cent), Public and Private Specialized hospitals (1.9 per cent each), Governance and health system and finance administration (1.9 percent), providers of preventive care (0.5 per cent) and other health care providers (0.3 per cent).

V.2.5. Total Private Health Current Expenditure by Factors of Provision

The data on factors of provision in the private healthcare units were collected through a sample survey conducted in the State. The broad objectives of the survey were to collect information on:

- Ownership status of the healthcare unit;
- Functional classification of health care system prevailing in the State;
- Number of employees – Specialists and other medical and paramedical staff; contractual and regular; and by different job-roles;

- Details of expenditure incurred by the healthcare units on different activities, including compensation to staff; healthcare functions; ancillary items; utility charges; regular maintenance charges; and capital expenditures; and
- Information about the funding of health care through different sources.

The survey was conducted over a period of two months between 20 December 2019 and 20 February 2020. The information collected was for the reference year 2017-18.

The state of Uttarakhand is divided into two administrative regions, namely, Garhwal and Kumaon. Of the total of thirteen districts in the State, seven are a part of the Garhwal region whereas the other six fall in the Kumaon region. After consultation with the State authorities, two districts from each of these two regions were selected in order to cover the variations across the State. The districts covered in the survey were Dehradun, Haridwar, Nainital, and Pithoragarh.

The selection of healthcare units from these selected districts, was done on the basis of Census (2011) data regarding the number of healthcare units located in these districts. For the purpose of the study, the sample needed to be representative of all types of healthcare providers, as classified in the Census. The different types of healthcare providers included:

1. Community Health Centre;
2. Primary Health Centre;
3. Primary Health Sub-centre/Dispensary;
4. Maternity and Child Welfare Centre, Maternity Home, Family Welfare Centre;
5. T.B. Hospital/Clinic;
6. Government Hospital (Allopathic);
7. Government Hospital (Other than Allopathic);
8. Mobile Health Clinic/Medical Mobile Units;
9. Doctor in a Private Clinic with MBBS Degree;
10. Doctor in a Private Clinic with Other Degree;
11. Doctor in a Private Clinic with No Proper Degree;
12. Private Hospital/Nursing Home (Allopathic);
13. Private Hospital (Other than Allopathic);
14. Charitable Hospital;
15. Medicine Shop/Medical Equipments Store;
16. Pathology Laboratory, Diagnostics Centre;
17. Patient Transportation Services; and
18. Mental Health Hospital.

The sample size for each district was selected in such a way as to take care of the following points:

- For each type of healthcare unit, the sample was selected from both rural and urban areas.
- The sample from both these areas was representative of both government and private units.

- A minimum of 1 and a maximum of 8 units (based on their proportion seen in Census data) were selected from these government and private categories in both rural and urban areas, for each level of education.
- In some cases pertaining to these types of healthcare units, there was no unit in the districts, due to which no sample units were allocated to that category.

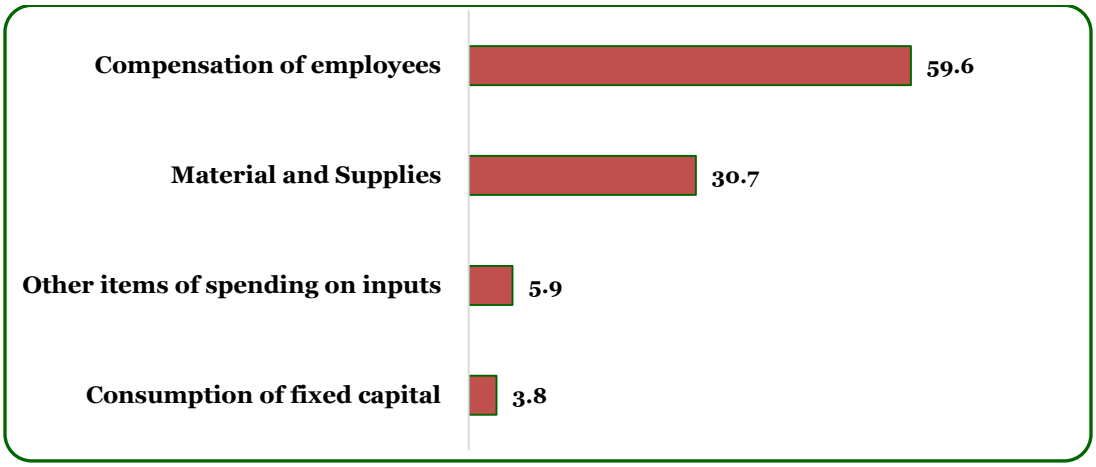
Taking all these into account, the sample size for each district worked out to be 84. Hence, a total of 336 healthcare units were targeted to be surveyed from the four selected districts of the State.

However, the field investigators found it difficult to obtain the authentic financial data from some of the healthcare units. This required thorough back-checking and further attempts to obtain the data, either through re-visits of the households or through phone calls. This exercise could not be completed and the survey had to be stalled due to the lockdown imposed following the COVID-19 pandemic.

Instead of the proposed 336 units, the final usable data came from 274 units, of which 90 and 184 units, or 32.8 per cent and 67.2 per cent fo the total un its, were from rural and urban areas, respectively.

The survey collected the details of expenditure incurred by the healthcare units on different activities, including compensation to staff; healthcare functions; ancillary items; utility charges; regular maintenance charges; and capital expenditures. In order to estimate the values of expenditure by the factors of provision, the sample estimates had to be blown up for the population. This can ideally be done by multiplying the per-employee cost with the total number of employees in the healthcare sector, by the different types of providers. However, the population estimates have not been derived in the absence of such data for the State. Meanwhile, the percentage distribution of private health expenditure by the major factors of provision, based on sample estimates, is presented in Figure V.12.

Figure V.12: Distribution of Private Health Expenditure by Factors of Provision



Source: NCAER computation.

V.3. Total Health Expenditure

The total healthcare expenditure in the *sta*te, taking together public and private, is estimated at Rs. 2,895.7 crore. The State Gross Domestic Product for 2017-18 was Rs. 2,22,836 crore. Health expenditure, therefore, amounts to just 1.30 per cent of the GSDP. With an estimated population of 1.1 crore for 2017-18, the per capita health expenditure in the State works out to be only Rs. 2,628.7.

The values of key indicators of health expenditure are presented in Table V.21.

TABLE V.21: TOTAL HEALTH EXPENDITURE IN THE STATE

	Indicators	Expenditure (in Rs. crore)
1	Current Health Expenditure—Public	1,331.0
2	Capital Health Expenditure—Public	363.1
3	Private Household Expenditure	1,201.6
4	Current expenditure on health (1 + 3)	2,532.6
5	Health Insurance Expenditure—Private	113.5
6	Health Insurance Expenditure—Public	35.4
7	Total Health Insurance Expenditure (5 + 6)	148.9
8	Total Public Health Expenditure (1 + 2)	1,694.2
9	Total Health Expenditure (3 + 8)	2,895.7

Source: NCAER computation.

Key Findings:

- The State's total health expenditure is estimated at Rs. 2,895.7 crore, of which public expenditure constitutes 58.5 per cent and private households (incurring out-of-pocket expenditure and voluntary pre-payments for insurance schemes) account for the remaining 41.5 per cent. The higher the proportion of public expenditure, the lesser is the dependence of the household on out-of-pocket expenditure. At the same time, the higher the proportion of private expenditure, the higher is the extent of financial protection available for households towards healthcare payments.

- The total current health expenditure, at Rs. 2 532.6 crore, refers to only recurrent expenditure incurred on healthcare, or the net of all capital expenditure. This indicates the operational expenditure, which impacts the health outcome of the State. The current health expenditure works out as 87.5 per cent of the total health expenditure of the State.

- Public Health insurance expenditure refers to the finances allocated by the government towards payment of premiums for health insurance schemes or reimbursements of the health expenditure incurred by government employees. At, Rs. 35.4 crore, public health insurance expenditure accounts for just 1.2 per cent of the total health expenditure.

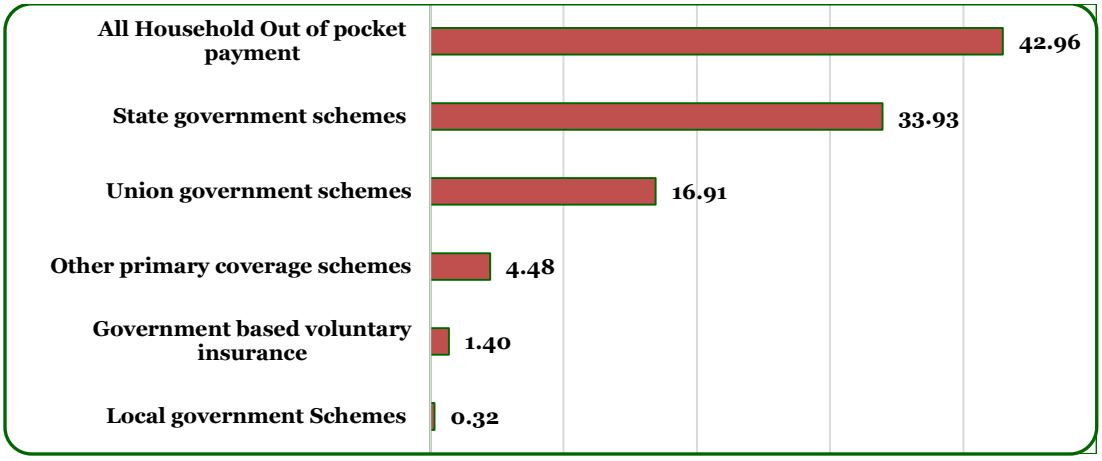
- In contrast, private health insurance expenditure is higher at 3.9 per cent of the total health expenditure. This indicates the higher intent of households to opt for voluntary pre-payment plans.

- Of the total general government expenditure for the year 2017-18, at Rs. 42,725.5 crore, expenditure on healthcare stood at just 3.96 per cent. This is in sharp contrast with the proportion that the government spends on education, which is 19.9 per cent of the total general government expenditure.

- Public expenditure on AYUSH (Ayurveda, Yoga, Naturopathy, Unani, Siddha, and Homeopathy) or TCAM accounts for 12.5 per cent of the total public expenditure.

- The percentage distribution of Total Health Expenditure by Healthcare Financing Schemes (Figure V.13) reveals that 42.96 per cent of the total expenditure is on account of out-of-pocket expenditure incurred by households. State government schemes account for another 33.93 per cent while Union Government schemes account for 16.9 per cent of the total health expenditure in the State.

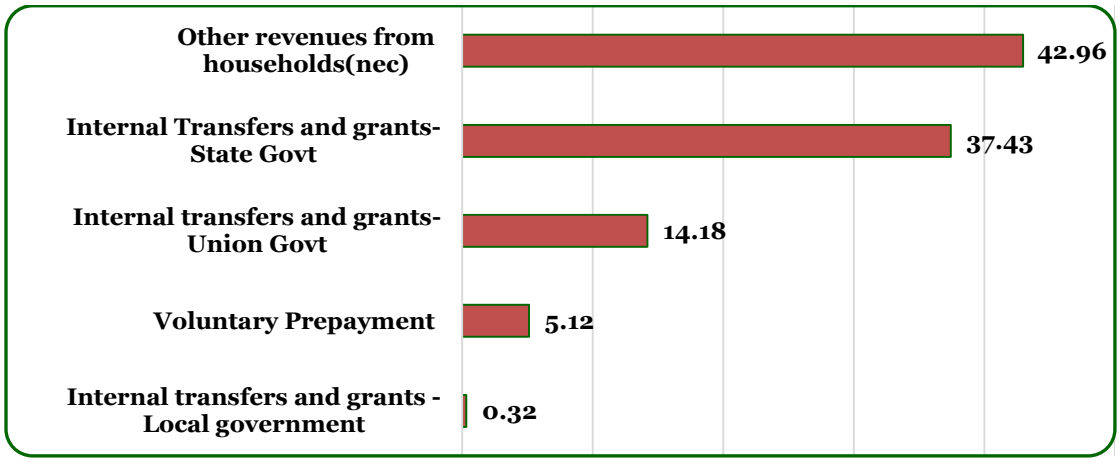
Figure V.13: Total Health Expenditure by Healthcare Financing Schemes



Source: NCAER computation.

- The percentage distribution of Total Health Expenditure by Revenues of Healthcare Financing Schemes (Figure V.14) reveals that 42.96 per cent of the total expenditure is on account of revenues from households. The State government's share is 37.43 per cent while the Union Government spends about 14.18 per cent through various grants and schemes.

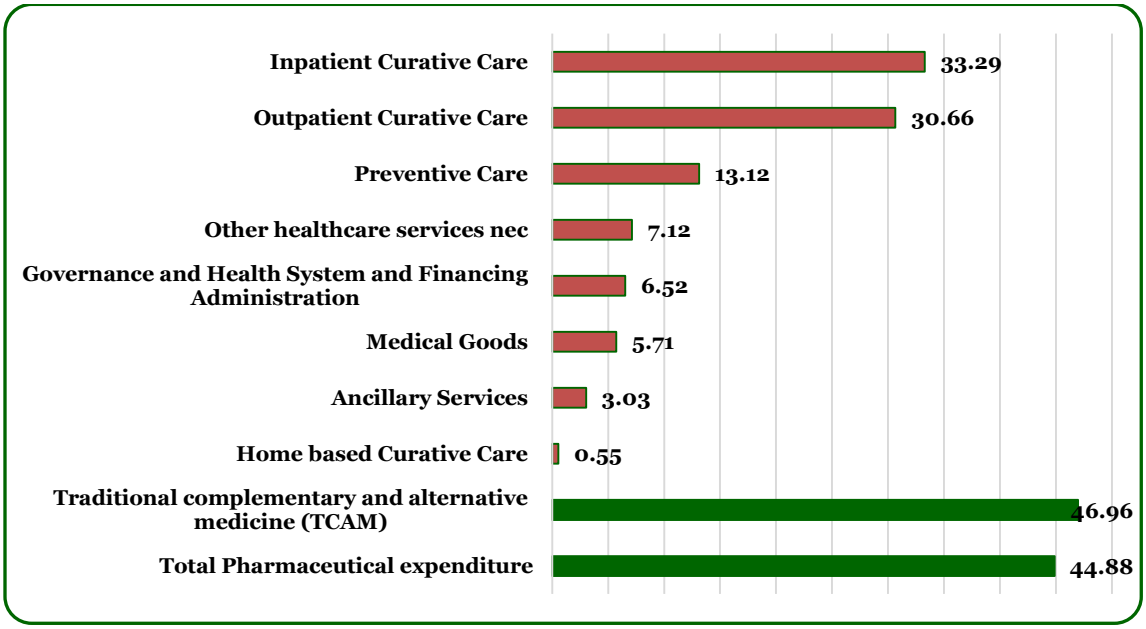
Figure V. 14: Total Health Expenditure by Revenues of Healthcare Financing Schemes



Source: NCAER computation.

- Further, the percentage distribution of Total Health Expenditure by Healthcare Functions (Figure V.15) shows that 33.29 per cent of the total health expenditure is incurred on in-patient curative care, while a close second, at 30.7 per cent, is incurred on out-patient curative care. Preventive care accounts for 13.12 per cent. Total expenditure on pharmaceuticals, primarily referring to over-the-counter expenses, accounts for 44.88 per cent of the total health expenditure and almost 47 per cent of the total expenditure is incurred on non-allopathic or TCAM treatment.

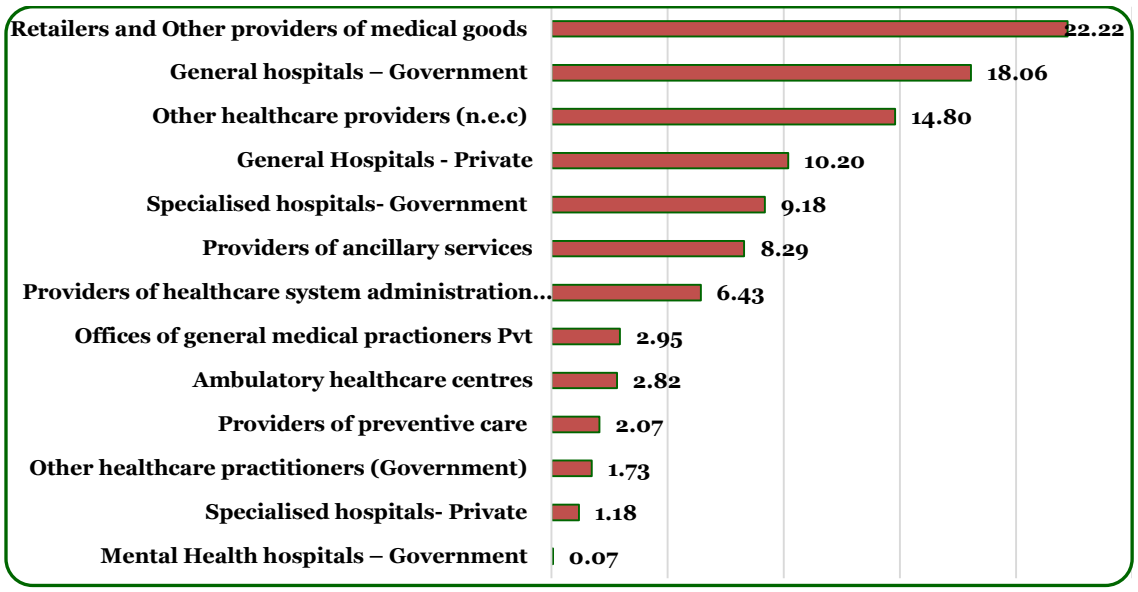
Figure V. 15: Total Health Expenditure by Healthcare Functions



Source: NCAER computation.

- Lastly, the percentage distribution of the Total Health Expenditure by Healthcare Providers (Figure V.16) shows that the largest healthcare providers receiving the healthcare revenues are "retailers and other providers of medical goods". These account for 22.22 per cent of the total expenditure. General public hospitals account for 18.06 per cent while other health care providers account for 14.8 per cent of the total.

Figure V.16: Total Health Expenditure by Revenues of Healthcare Providers



Source: NCAER computation.

VI. Health Satellite Account Matrices

TABLE VI.1: CURRENT HEALTH EXPENDITURES (2017-18) BY HEALTHCARE PROVIDERS AND HEALTHCARE FINANCING SCHEMES (HP X HF MATRIX)

Expenditure (in Rs. Crores)

Healthcare Financing Schemes			HF.1 Government Schemes and Contributory Healthcare Financing Schemes			HF. 2 Voluntary Healthcare Payment Schemes		HF 3 Household Out-of-Pocket Payment	
	NHA Code		HF.1.1.1	HF.1.1.2.1.	HF.1.1.2.2	HF.2.1.1.2	HF.2.1.1.3	HF.3.3	All HF
Health care providers		NHA Code Description	Union government schemes	State government schemes	Local government schemes	Government based voluntary insurance	Other primary coverage schemes	All Household out-of-pocket payment	Total
HP.1 Hospitals	HP.1.1.1	General hospitals—Government	23.0	383.3	0.0	7.1	22.7	22.0	457.4
	HP.1.1.2	General hospitals—Private	0.0	0.0	0.0	7.1	22.7	228.5	258.3
	HP.1.2.1	Mental Health hospitals—Government	0.0	1.7	0.0	0.0	0.0	0.0	1.7
	HP. 1.3.1	Specialised hospitals (Other than mental health hospitals)—Government	0.0	202.8	0.0	7.1	22.7	0.0	232.6
	HP. 1.3.2	Specialised hospitals (Other than mental health hospitals)—Private	0.0	0.0	0.0	7.1	22.7	0.0	29.8
HP.3 Provided of ambulatory healthcare	HP.3.1.1	Office of general medical practitioners—Private	0.0	17.1	0.0	0.0	0.0	57.7	74.8
	HP.3.3	Other health care practitioners—(Government)	0.0	43.8	0.0	0.0	0.0	0.0	43.8
	HP.3.4.	Ambulatory health care centres	3.8	67.7	0.0	0.0	0.0	0.0	71.5
HP.4 Providers of ancillary services			0.0	0.0	0.0	0.0	0.0	210.0	210.0
HP. 5 Retailers and other providers of medical goods			0.z	2.8	0.0	0.0	0.0	559.9	562.7
HP 6 Providers of preventive care			38.7	7.2	0.0	0.0	0.0	6.7	52.4
HP. 7 Providers of health care system administration and financing			59.6	65.4	8.0	7.1	22.7	0.0	59.6
HP. 10 Other health care providers not elsewhere classified (n.e.c)			303.3	67.5	0.0	0.0	0.0	4.0	374.9
All HP (Total)			428.3	859.3	8.0	35.4	113.5	1114.5	2532.5

Soirce: NCAER compilation

TABLE VI.2: CURRENT HEALTH EXPENDITURES (2017-18) BY HEALTHCARE FUNCTIONS AND HEALTHCARE FINANCING SCHEMES (HC X HF MATRIX)

Expenditure (in Rs. Crores)

Healthcare Financing Schemes			HF.1 Government Schemes and Contributory Healthcare Financing Schemes			HF. 2 Voluntary Healthcare Payment Schemes		HF 3 Household Out-of-Pocket Payment	
	NHA Codes		HF.1.1.1	HF.1.1.2 .1.	HF.1.1.2 .2	HF.2.1.1 .2	HF.2.1.1 .3	HF.3.3	All HF
HC 1 Curative care	Health care functions	NHA Code Description	Union government schemes	State government schemes	Local government schemes	Government based voluntary insurance	Other primary coverage schemes	All Household out-of-pocket payment	Total
	(HC.1.1.)	Inpatient Curative Care	0.2	331.6	0.0	17.7	56.8	436.9	843.1
	(HC 1.3)	Outpatient Curative Care	4.0	360.3	0.0	0.0	0.0	412.1	776.5
	(HC 1.4)	Home based Curative Care	12.3	0.0	0.0	0.0	0.0	1.7	14.0
	(HC 2)	Rehabilitative Care	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(HC 3)	Long-term Care (Health)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HC 4	Ancillary Services	0.0	0.0	0.0	0.0	0.0	76.7	76.7
	HC 5	Medical Goods	0.0	40.2	0.0	0.0	0.0	104.5	144.7
	HC 6	Preventive Care	239.7	36.3	0.0	0.0	0.0	56.3	332.2
	HC 7	Governance and Health System and Financing Administration	29.0	53.7	8.0	17.7	56.8	0.0	165.1
	HC 9	Other Healthcare Services nec	143.1	37.3	0.0	0.0	0.0	0.0	180.4
	All HC	Total	428.3	859.3	8.0	35.4	113.5	1088.1	2532.5

Soirce: NCAER compilation

TABLE VI.3: CURRENT HEALTH EXPENDITURES (2017-18) BY HEALTHCARE FINANCING SCHEMES AND REVENUES OF HEALTHCARE FINANCING SCHEMES (HF X FS MATRIX)

Expenditure (In crores)

NHA Codes		Revenues of health care financing schemes	FS.1 Transfers from government domestic revenues (allocated to health purposes)			FS.2 Transfers distributed by governmen t from foreign origin		FS.3 Social Insurance contributions			FS.5 Voluntary Pre-payment		FS.6 Other domestic revenues n.e.c.			FS.7 Dire ct forei gn tran s -fers	
			FS. 1.1.1	FS. 1.1.2	FS. 1.1.3	FS.2.1	FS.2.2	FS.3.1	FS.3.2	FS.3.4	FS.5.1	FS.5.2	FS.6.1	FS.6.2	FS.6.3	FS.7.1.4	All FS
Healthcare Financing		NHA Code Description	Internal transfers and Grants-Union govt	Internal transfers and grants – State Govt	Internal transfers and grants -Local Govt	Transfers distributed from foreign origin	Transfers distributed by foreign origin	Social insurance emplovers	Social insurance emplovers	Other social insurance	Voluntary prepayment from Households	Voluntary prepayment from employers	Other revenues from households n.e.c	Other revenues from corporations	Other revenues from NPISH	All direct foreign financial	
HF.1 Government schemes & compulsory contributory healthcare financing	HF.1.1.1.1	Union government schemes	355.9	72.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	428.31
	HF.1.1.2.1.	State government schemes	0.0	859.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	859.33
	HF.1.1.2.2.	Local Bodies schemes	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.97
HF. 2 Voluntary Healthcare payment schemes	HF.2.1.1.2	Government based voluntary insurance	3.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0	0.0	0.0	0.0	0.0	35.36
	HF.2.1.1.3	Other primary coverage schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	113.5	0.0	0.0	0.0	0.0	0.0	113.5
HF.3 Household out of pocket	HF. 3.3	All Household out-of-pocket payment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1088.1	0.0	0.0	0.0	1088.1
	All HF		359.0	947.8	8.0	0.0	0.0	0.0	0.0	0.0	129.7	0.0	1088.1	0.0	0.0	0.0	2532.5

Soirce: NCAER compilation

Annexures

TABLE A1: LIFE EXPECTANCY AT BIRTH AGGREGATED BY SEX (IN YEARS)

Districts	Male	Female
Pithoragarh	69.5	74.9
Almora	69.2	75.0
Rudraprayag	69.0	74.8
Chamoli	69.9	74.4
Uttarakhand	68.8	74.3
Nainital	68.3	74.1
Bageshwar	68.3	73.9
Champawat	68.0	73.7
Udham Singh Nagar	67.9	73.5
Dehradun	67.9	73.5
Pauri Garhwal	67.7	73.0
Uttarkashi	67.5	73.1
Tehri Garhwal	66.1	71.4
Haridwar	65.4	70.1

Source: DES Uttarakhand, 2018.

TABLE A2: MAJOR HEALTH INDICATORS, 2015-16

States	IMR[1]	U5MR[2]	Institutional Births (%)	Immunisation (%)	Stunted (%)	Wasted (%)	Under-weight (%)
Uttarakhand	40	47	69	58	34	20	27
Himachal Pradesh	34	38	76	70	26	14	21
Tamil Nadu	20	27	99	70	27	20	24
Kerala	6	7	100	82	20	16	16
All India	41	50	79	62	38	21	36

Source: NFHS-4 Report (2015-16).
Note: [1] Infant Mortality Rate (per 1,000 live births); [2] Under-5 Mortality Rate (per 1,000 live births).

TABLE A3: HEALTH INSTITUTES/HOSPITALS IN UTTARAKHAND DISTRICT-WISE (IN NUMBERS)

Types of Hospital/Institutes	Almora	Bageshwar	Rudraprayag	Chamoli	Champawat	Dehradun	Haridwar	Nainital	Uttarkashi	Pithoragarh	Tehri Garhwal	Pauri Garhwal
1. District level hospital		1		1	1	0		5		1	2	
2. District women's hospital				5	0	0		2		1		
3. Primary Hospital			13	11	3			4		4	3	
4. Primary health care centre or hospital	24	15		6	6	17	29	18	12	17	23	39
5. Community health care centre	9	3	2	23	2	7	8	8	4	8	11	12
6. Government allopathy Hospital	58	14	27		10	24	28	44	20	33	29	72
7. Joint/women hospital					1	4		2		1	3	
8. *Tehsil*/District level post-natal hospital		3		2	0	3		3		1	2	
9. Health post		0			4	10					0	
10. TB Hospital/clinic	1	1	1	1	1	2	0	3	1	2	1	1
11. Leprosy hospital		3			0	1	0	0	1	1	1	1
12. Number of beds in government hospitals	712	188	290	448	222	1452	1415	1976	316	612	546	1634
13. Medical College (D)						1						
14. All India allopathic institute (D)						1						
Total (1+2+3+4+5+6+7+8+10+11+13+14)	92	40	43	49	24	60	65	89	38	69	75	125

Source: District Profile Reports for latest available years from Uttarakhand Health District Portal, GoI.

For Almora, Bageshwar, Chamoli, Haridwar, Dehradun, Pithoragarh, and Tehri Garhwal, the data is for 2017-18, whereas for all the other districts, the data is for the year 2016-17 except for Rudraprayag for which it is 2013-14. For Udham Singh Nagar, the data was not available.

TABLE A4: FAMILY WELFARE CENTRES IN UTTARAKHAND DISTRICT-WISE (IN NUMBERS)

	Types of Family Welfare Centres	Almora	Bageshwar	Rudraprayag	Chamoli	Champawat	Dehradun	Haridwar	Nainital	Uttarkashi	Pithoragarh	Tehri Garhwal	Pauri Garhwal
1	Mother-child welfare centre	12	3		8	2	164	13				6	37
2	Main centre		3		7	3	4		6		8	9	
3	Mother child welfare sub-centre	203	86	71	113	68	164	166	136	85	162	212	242
4	Total (1+2+3)	215	92	71	128	73	332	179	142	85	170	227	279

Source: District Profile Reports for latest available years from Uttarakhand Health District Portal, GOI

For Almora, Bageshwar, Chamoli, Haridwar, Dehradun, Pithoragarh, and Tehri Garhwal, the data is for 2017-18, whereas for all the other districts, the data is for the year 2016-17 except for Rudraprayag for which it is 2013-14. For Udham Singh Nagar, data was not available.

TABLE A5: AYUSH CENTRES IN UTTARAKHAND DISTRICT-WISE (IN NUMBERS)

	Types of AYUSH centres	Almora	Bageshwar	Rudraprayag	Chamoli	Champawat	Dehradun	Haridwar	Nainital	Uttarkashi	Pithoragarh	Tehri Garhwal	Pauri Garhwal
1	Ayurvedic hospital	108	18	33	62	25	54	25	36	52	59	71	59
2	Unani hospital	0	0		0	0	2	4	0	0		0	
3	Homeopathic hospital/ dispensary	12	6		9	5	19	14	14	9	11	16	9
4	Total(1+2+3)	120	24	33	71	30	75	43	50	61	70	87	68

Source: District Profile Reports for latest available years from Uttarakhand Health District Portal, GOI

For Almora, Bageshwar, Chamoli, Haridwar, Dehradun, Pithoragarh, and Tehri Garhwal, the data is for 2017-18, whereas for all the other districts, the data is for the year 2016-17 except for Rudraprayag for which it is for 2013-14. For Udham Singh Nagar, data was not available.

TABLE A6: CURRENT AVAILABILITY OF HEALTH PERSONNEL IN UTTARAKHAND, 2018

Cadre	Sanctioned	In Position	Vacant	Vacant Posts as a Share of Sanctioned Posts (%)
Allopathic doctors at PHCs	147	67	82	55.78
Surgeon at CHC	83	6	77	92.77
OBG at CHC	79	7	72	91.00
Physician at CHC	79	5	74	93.67
Paediatrician at PHC	80	14	66	82.50
Total specialists at CHC	321	32	289	91.00

Source: Uttarakhand Government, *Uttarakhand 2030 Vision Report*, 2018.

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NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH
NCAER India Centre, 11 Indraprastha Estate, New Delhi 110 002, India
Tel: +91-11-2345 2657, 6120 2698, Fax: +91-11-23370164
Email: info@ncaer.org www.ncaer.org