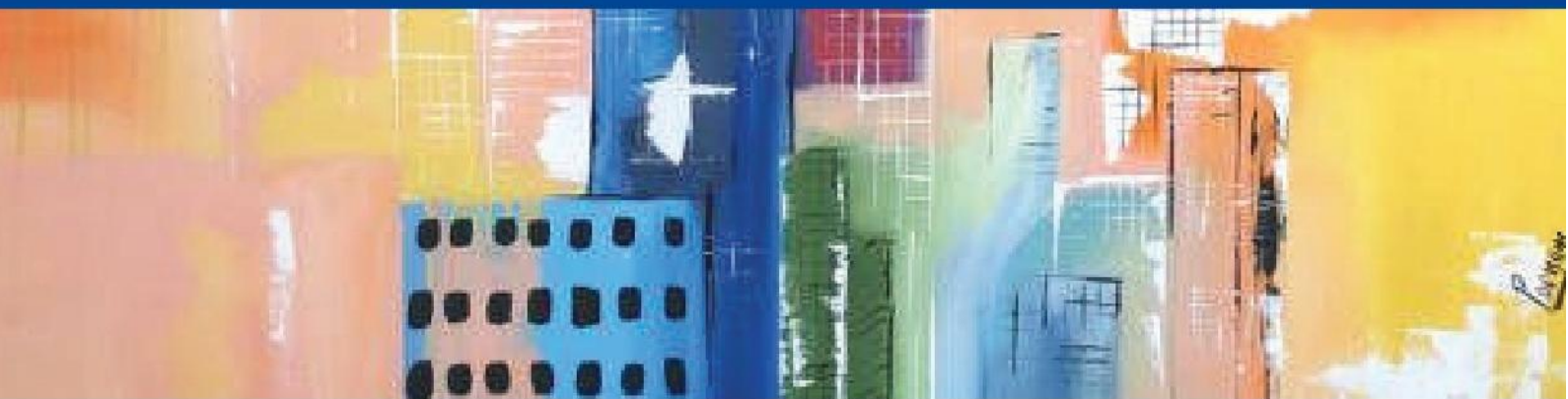


WHAT MAKES A HEALTHY CITY?



White Paper



Bhopal– a Healthy City

- Imagining, creating and establishing Bhopal as a healthy city
 - How does it look and what will it take
 - Converting opportunity to a possibility
- Cleanest city to a healthy city – making the journey happen.

Almost half of Indians will be living in cities in the near future, stretching the resources within a limited geographical area. The complex landscape of urban India with its multiplicity of stakeholders will have to work together if we are to ensure the health, wellbeing and quality of life of half our population. The recent pandemic has highlighted the challenges faced by urban populations and has demonstrated an urgent need for multi-sectoral actions and approaches.

India has in the past decade focussed on urban transformation through programmes such as the National Urban Health Mission, Swachh Bharat Mission, National Urban Livelihood Mission and Smart Cities Mission. While each have contributed to the development of the urban areas, it is imperative to leverage the intersectionality of our efforts to create people-centric and community led models of healthy cities.



Introduction	3
Indian Healthy Cities Framework	4
Urban Health in India	6
Bhopal City – Status of Health	9
Healthy Cities Framework for India/Bhopal	16
HEALTHY CITIES – ORIGIN, EVOLUTION AND FRAMEWORKS	21
Linkages between Smart and Healthy Cities	32
Healthy Cities: Developed versus Developing Countries	33
Healthy Cities in India	34



Introduction

India is urbanizing at an unprecedented pace. The 2011 census showed 31.6% Indians living in cities; that is 377.1 million people.¹ By 2030, India's urban population is projected to be around 590 million, which will be 40% of the total population. Consequently, changes to cope with this rapid growth are impacting the health of urban residents in complex ways: migration, climate change, transitioning disease burden, unhealthy built environments, and inadequate urban systems including health care.

Increasing urbanization demands that there is a concerted commitment to establish healthy cities across the country. “Healthy Cities” has been WHO's longest health promotion initiative, having started in 1986 after the Ottawa Charter. In recent years there has also been an increasing recognition of the strong link between SDG 3 (Good Health for All) and SDG 11 (Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable). Healthy City planning thus aims to promote implementation of strategies for improving urban health and solving environmental problems through local government action and community participation.²

Bhopal- a Smart City to a Healthy City: Bhopal is the capital city of Madhya Pradesh located in the heart of the state. Bhopal is the second most populous city and the largest city in Madhya Pradesh by area. Bhopal has been selected as one of the 100 cities to be developed in the “Smart City” initiative. The Department of Health and Family Welfare, Government of Madhya Pradesh is keen to demonstrate that it is possible for cities to deliver “Health for All” by coordinating inputs from the different sectors that impact health and thus was chosen to be modelled as a “healthy city”.

Bhopal can leverage multi-sectoral actions to become a Healthy City: Bhopal, Census 2011 shows that Bhopal has a total population of 1,798,218, of which 26.68% reside in slums. It is evident from the data of NFHS - 5 that Bhopal has done well in many parameters, specifically in improved drinking water source, and institutional births. However, there remain many areas of concern in the various aspects of health of the population and health services provision³. By coordinating inputs from the sectors that impact health, Bhopal has the potential to develop a model for a ‘Healthy City’.

What will it take for Bhopal: This white paper developed by the Bhopal Healthy City project incorporates global examples and local perspectives garnered through multi-sectoral consultations to inform the efforts to establish Bhopal as a healthy city. The paper seeks to build the concept of “Healthy City” through examples of various initiatives across the world and puts it in the context of India and a city like Bhopal. It traverses the determinants of health across sectors like water, sanitation, food, environment and individual & family health concerns and earmarks the key considerations required for modelling Bhopal as a healthy city. The paper also explores various mechanisms and levers required as an implementation strategy to develop a healthy city.

Smart city to a Health city – Bhopal, let us make the journey happen

¹ Government of India, Ministry of Urban Development, Urban Growth-Urban Scenario.

² Nakajima, H. (1996). World Health Day 1996: Healthy cities for better life. World Health, 49(1), 3.

³ http://rchiips.org/nfhs/NFHS-5_FCTS/MP/Bhopal.pdf

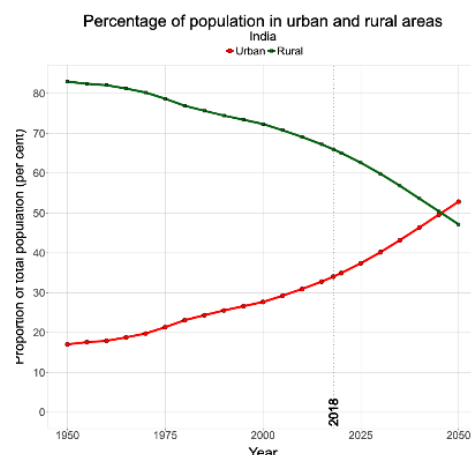


Indian Healthy Cities Framework

Urban living can offer increased proximity to health services, but many urban dwellers still experience difficulty accessing basic care and may live in environments that adversely affect their health.

Urban dwellers experience increased risk of contracting communicable diseases and the risk of non-communicable diseases (NCDs) also increases in urban areas due to barriers to healthy living. Beyond the risk of NCDs, urbanization has a significant impact on the social determinants of health, defined as those things outside the control of individuals that affect daily living conditions, and ultimately health outcomes. Housing, energy, education, transport, green/recreational spaces, and social protection have been identified by the World Health Organization (WHO) as just a few of the sectors that influence one's health.

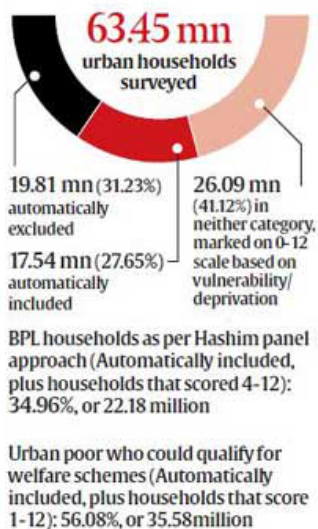
Given that India's urban population is expected to grow from 377 million to 915 million in 2050 (UNs' prognosis in 2011), there is a need to plan now to develop innovative strategies to address predicted and emerging challenges⁴.



Urban population in our country has increased at an annual rate of 2.7% during the last decade and it is estimated that by 2031, there would be about 600 million people living in urban India. The fast pace of urbanization has come to stay with an increasing proportion of urban poor and vulnerable with health indicators much worse than their rural counterparts. Proportion of urban population is projected to increase from 31% (2011) to 46% (2030).

SECC FINDINGS

Socio-Economic and Caste Census data for urban India



Almost 35% of urban households live below the poverty line (BPL), according to data from the first Social Economic and Caste Census (SECC). An analysis of the numbers and methodology, however, shows that up to 56% of households could qualify to be included in the broader category of 'urban poor'. Of the 63 million households surveyed in 4,041 cities and towns, the panel's BPL definition entitles 22m (about 110m people) to benefits from welfare schemes. Including all urban poor would take the number to 35.53m households, or 177m individuals.

⁴ <https://population.un.org/wup/Country-Profiles/>



Proportion of the poor in the urban areas ranges from 13.7% (Tendulkar estimate 2005) to 34.96% (Hashim Estimate 2012). Doing away with BPL, and extending entitlements meant for the 'poor' to anyone facing one or more kinds of deprivation, takes the proportion of urban poor to 56% (Hashim Estimate). There is no consensus on how to define urban poverty and the Tendulkar methodology continues to be applied for targeting urban poor for development programs with the exception of some programs. Based on the intricacies involved in understanding urban poverty, the housing and poverty alleviation ministry in India has decided that the urban poor will now be identified on the basis of social, economic and occupational vulnerabilities.

An attempt has been made to analyse data for the EAG states as they suffer from the worst maternal and child health indicators (detailed in the ensuing section). Applying the estimates from the Tendulkar and Hashim committees provides the following distribution of the urban poor among the EAG states.

Table 01: Urban Poor in EAG states (2011 census)

EAG States	Urban population (in lakhs)	Proportion of urban pop. (%)	Estimate of urban poor (in lakhs)	
			Tendulkar (2005)	Hashim (2012)
Bihar	117	11.3	37.8	65.5
Chattisgarh	59	23.2	15.2	33.0
Jharkhand	79	24	20.2	44.2
Madhya Pradesh	200	27.6	43.1	112.0
Odisha	69	16.6	12.4	38.6
Rajasthan	170	24.8	18.7	95.2
Uttar Pradesh	444	22.2	118.8	248.6
Uttarakhand	30	30.5	3.4	16.8
West Bengal	290	31.8	43.8	162.4

In India, the higher incidence of poverty in small and medium-size towns has indeed been noticed and has been documented in several studies, notably Dubey, Gangopadhyay, and Wadhwa (2001); Kundu and Sarangi (2005); and Himanshu (2008). Small and Medium-Size Towns Contain about 70% of India's urban population and, because they are poorer, an even larger proportion of India's urban poor, about 85%⁵. Another interesting analysis from World Bank's India Poverty report (2008) is that poverty in a town is higher the farther the town is from a large city. The report further finds that not only would poverty reduction in small towns target most of India's urban poor, but evidence indicates that it would have a larger, spillover effect on rural poverty⁶. According to the Global Multidimensional Poverty Index report 2021, India ranks 66 out of 109 countries⁷.

Nearly one-fifth of the urban population and by some estimates a quarter lives in slums. Slums are overcrowded, often polluted and lack basic civic amenities such as clean drinking water, sanitation and health facilities. Not all urban poor live in

⁵ Urban Poverty Report 2009; UNDP India

⁶ Judy L Baker; Urban Poverty – a Global View; World Bank Group, Urban Papers 2008

⁷ UNDP and OPHI (2021). Global Multidimensional Poverty Index 2021 – Unmasking disparities by ethnicity, caste and gender. United Nations Development Programme and Oxford Poverty and Human Development Initiative.



slums and slum dwellers in urban areas are not necessarily poor. However, slums do present a marginalized living condition. A study on living conditions in eight cities found that poverty was more prevalent in slum areas than in non-slum areas⁸.

Nearly 63% of the urban slum population lives in recognized and identified slums. Nearly 61% of the slum households are in cities other than the 46 million-plus cities. The states which report the highest and lowest number of slum households are presented in the table.

Table 02: Ranking of states on proportion of slum households (slum census 2011)

Top States	Proportion of Slum HHs to Urban HHs (%)	Bottom States	Proportion of Slum HHs to Urban HHs (%)
Andhra Pradesh	35.7	Chandigarh	9.7
Chhattisgarh	31.9	Gujarat	6.7
Madhya Pradesh	28.3	Jharkhand	5.3
Odisha	23.1	Assam	4.8
West Bengal	21.9	Kerala	1.5

As per the census 2011, about 90% of the households had access to electricity and another 65.3 to treated drinking water sources. However, only half (56.7%) had a source of drinking water within the premises. Two thirds (66%) of the households had a latrine facility within the premises. However, two thirds of the households had open or no drainage systems for wastewater disposal. About half the slum households (51%) were using LPG as the cooking fuel. About 11% of the slum households do not have any of the assets recorded by the census (TV, radio, computer, phone, mobile phone and vehicles).

Urban Health in India

The National Urban Health Mission was launched in 2013 to address the health disparities in urban India. However, a successful model for service delivery of primary care in urban areas has remained elusive. There is scope for successful cities to develop and validate their own models of urban health care services to become role models for other cities.

Urban Health Systems: India is committed to achieving Health For All. To increase access to and strengthen delivery of primary care, the government is setting up a network of Health and Wellness Centres under the National Health Policy, 2017. These Health and Wellness Centres, while envisaged for urban areas as urban PHCs, are yet to be fully operationalized. Cities have distinct opportunities and challenges to ensure the health of the population. Since most determinants of health are outside the health sector, the urban areas provide an

⁸ Kamla Gupta, Fred Arnold, H. Lungdim; Health and Living Conditions in Eight Indian Cities; National Family Health Survey (NFHS-3) India, 2005-06, Ministry of Health and Family Welfare Government of India



opportunity to focus on them due to the density of their service area and the availability of resources. These include water, air quality, food, sanitation, education, housing and the quality of urban planning. Any attempt at improving health (and not treating the sick alone) will need to address these determinants through a multi-stakeholder approach. Financial protection for the poor and near-poor is a key concern, given that a major part of total health expenditures is paid out-of-pocket, which can lead to their further impoverishment. In India, Out-of-pocket expenses account for about 62.6% of total health expenditure - one of the highest in the world.⁹

Coordination and convergence. Health in the urban context is affected by multiple physical and social environmental factors, and access to health care services. For example, the prevalence of some diseases (e.g., diarrhea) is clearly correlated with water quality, sanitation and hygiene. Improving the health of the urban population and reducing rising urban health disparities requires that related determinants, within and beyond the immediate health sector, be addressed simultaneously and effectively. However, coordination mechanisms and organizational capacity are weak, resulting in a lack of convergence between health services and essential public health functions outside the health sector

Multiplicities of Stakeholders: India's urban health is governed by a complex mix of stakeholders including the Ministry of Health and Family Welfare, Urban Local Bodies, and respective state governments. That health is a state subject, and that urban areas are hubs of private healthcare delivery, an area that is very lightly regulated, adds two layers to the existing complexity. There are marked diversities in the organization of urban health delivery systems. The 74th Constitutional Amendment calls for complete integration of urban primary health care and other urban public health functions under a municipal health officer. In many states, however, health care services are handled by the state health department, and municipal health officers do not assume leadership of public health activities. Funding, functions, and functionaries are fragmented in existing institutional structures, undermining convergence around public health goals and effective disease outbreak response. The multiplicity of service providers has resulted in a weak referral system, with consequent overloading of tertiary hospitals and underutilized primary health facilities. There is a need to clarify functional roles and responsibilities at various levels to improve urban health coordination and governance, and to revive, support, and strengthen the public health capacity of ULBs, with a particular focus on critical aspects of public health and disease control.

Private sector engagement: Private health facilities provide about 80% of patient care in urban areas. They have immense potential to contribute to the achievement of public health goals. However, primary reliance on the private health sector for delivery of health services would face numerous challenges. For example, private investments largely neglect primary health care and preventive health services because of the lower profit margins. Additionally, in the absence of a strong regulatory environment, relying on the private sector raises issues of quality, accountability, and reliability. The dominance of the private sector in provision of urban healthcare provides challenges as well as unique opportunities

⁹ Sriram, S., Khan, M.M. Effect of health insurance program for the poor on out-of-pocket inpatient care cost in India: evidence from a nationally representative cross-sectional survey. BMC Health Serv Res 20, 839 (2020). <https://doi.org/10.1186/s12913-020-05692-7>.



to leverage private sector capacity in strengthening public provisioning of health services.

Urban health data: The urban population, unlike the rural population, is highly heterogeneous. Most published data are not disaggregated within urban areas, obscuring marked health disparities among the urban population. The informal or often illegal status of low-income urban clusters results in public authorities lacking a mandate to collect data on the urban poor. Strategies to identify and reach the most marginalized poor are inadequate, resulting in limited evidence- or community needs-based health planning. Most cities lack epidemiological data and adequate information on the urban poor and illegal settlement clusters.

Status of Urban Health: The health indicators of this segment of population are worse than those in rural areas. The National Health Policy (NHP) 2002 acknowledged the need to focus on urban population. The National Urban Health Mission (NUHM) was launched in 2013. The NHP-2017 covers this subject more extensively and emphasizes the need for moving from token interventions to on-scale assured interventions to organize primary health care and referral services and collaboration with other sectors.¹⁰ It includes advocacy for scaling up NUHM to cover the entire urban population, with focus on the poor and the vulnerable, in the next five years with sustained financing.

Urban population contributes to 65% of India's GDP which will jump to 70-75% in 2020¹¹. The GDP per capita income for urban (Rs 56,347 pa) is almost double that of rural (Rs 30,342). In spite of this stark difference in economies, the health and nutritional status of urban areas is as poor as that of rural areas; in fact, the status of urban poor is worse than rural poor. According to NFHS V, 30% of urban children under five years are stunted. The urban poor which is 26% of the total urban population has even worse health and nutrition outcomes as a result of lack of adequate services. Almost 36% of urban children miss full immunization; which is as high as 58% amongst the urban poor.

Table 03: Critical health indicators (NFHS V)

Indicators	Urban	Rural	Total
Children under 5 who are stunted	30.1	37.3	35.5
Children age 12-23 months fully vaccinated based on information from vaccination card only	83.3	84	83.8
Children under 3 breastfed within first hour of birth	44.7	40.7	41.8
Pregnant women 15-49 years anaemic	45.7	54.3	52.2
Children 6-59 months who are anaemic	64.2	68.3	67.1
Infant Mortality Rate	26.6	38.4	35.2

Barriers to achieving urban health: Key challenges to urban health are:

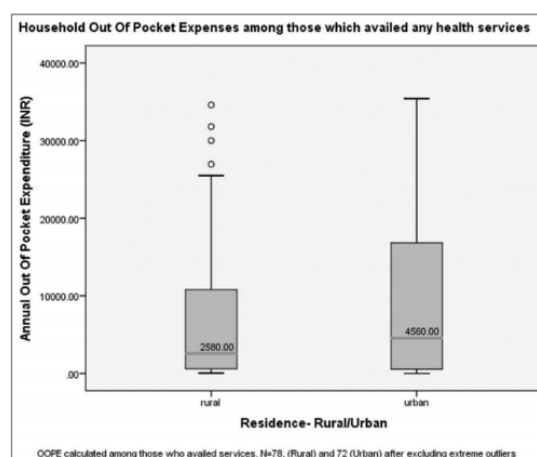
- Changing epidemiology with a rising tide of non-communicable diseases and community specific disease burden as per the wider determinants of health;

¹⁰ Ministry of Health and Family Welfare, Government of India. National Health Policy (Para 3.3); 2017. p. 7. Available from: <http://www.cdsc.nic.in/writereaddata/National-Health-Policy.pdf>.

¹¹ Barclays Bank PLC. Annual Report 2014



- Limited urban health governance to enable multisectoral responses and addressing needs of all segments;
- Underutilized primary health services and overburdened secondary and tertiary institutions;
- Prevention from a plurality of providers with services of questionable quality;
- Need for responding to public health emergencies viz. pandemics; and
- Provision of accessible, quality primary healthcare, with no or minimal out-of-pocket expenditure.



Poor health seeking behaviour leads to poor health and nutritional outcomes have been established by researchers and practitioners. Urban population, largely the poor, are marginalized because of the inadequacy in urban public health delivery systems to reach them on account of location, their place of work such as construction sites etc. In addition, ineffective outreach and weak referral systems limit their access. Migrant population's ability to navigate the complex landscape of a deeply fragmented health system has made them much more vulnerable to the ill-effects of health. Lack of economic resources and health insurance inhibits their access to the available private facilities.

There are diverse social determinants of health which uniquely impact the urban populations. The solution for a health city lies in a renewed approach, one which tackles the complex and complicated urban health scenario. The focus should be on- extending and strengthening the comprehensive primary care delivery – one which addresses preventive, promotive and curative services as well as social determinants of health through intersectoral actions. Unified approaches need to be supported by and coordinated with other non-health sectors such as Housing and Urban Development, Environment, Road transport, Education, Water and Sanitation among others.

Bhopal City – Status of Health

Bhopal is the second most populous and the largest city in Madhya Pradesh. It has been selected as one of the 100 cities to be developed in the “Smart City” initiative. The Department of Health and Family Welfare, Government of Madhya Pradesh is keen to demonstrate that it is possible for cities to deliver “Health for All” by coordinating inputs from the different sectors that impact health and thus was chosen to be modelled as a “healthy city”. Bhopal Census 2011 shows that Bhopal has a total population of 1,798,218, of which 26.68% reside in slums .

Health Sector and Services in Bhopal: The district of Bhopal has 66 Sub Centers, 52 Primary Health Centres (PHCs), 2 Community Health Centres (CHCs), 3 Sub Divisional Hospitals, 1 District Hospital and a flourishing private sector (Rural Health Statistics data,2020)¹². There are 8 Health and Wellness Centres-PHC

¹² <https://hmis.nhp.gov.in/downloadfile?filepath=publications/Rural-Health-Statistics/RHS%202019-20.pdf>



(HWCPH) in Bhopal. Speciality secondary care is also offered at private sector facilities. Bhopal has the highest number of (18) Civil Dispensaries in the state with the posting of 19 medical officers (SHRC, 2018)¹³. Primary care is available at 8 urban primary health centres (UPHCs) staffed by a mix of clinical providers, as well as through Anganwadi centres (Angawadi centres provide services for mothers and children) staffed by Anganwadi workers, auxiliary nurse midwives (ANMs), and accredited social health activists (ASHAs). All services in public facilities are mandated to be provided free of charge.

The Rural Health Statistics 2018-19 which provides data on health infrastructure and health manpower observed that there is a shortfalls in all posts at the UPHC level

- 16.7% of Doctors,
- 24.3% of Pharmacists,
- 50.9% of Lab Technicians,
- 22.2% of Staff nurses

In addition to the existing infrastructure, the state has proposed to introduce Sanjeevani clinics for every 20,000 population, to address the needs of the urban population more effectively, reducing catchment population, providing expanded range of services, promoting health wellness and digitizing the services provided for future exigencies. The catchment area of the Sanjeevani clinic shall be coterminous with the area of the ward and the ward boundaries shall demarcate the areas of Sanjeevani clinics. 88 such new clinics have been proposed in cognizance with the existing number of facilities including those of the state government. Bhopal will have 23 such clinics¹⁴. The clinics expect to provide comprehensive primary health care with 12 services as per the HWC guidelines and include a component of community engagement through community outreach workers. Linkages with higher facilities will be facilitated by the Referral app which has seamless linkages to the Ayushman Bharat programme to facilitate treatment at higher facilities.

There is a proliferation of private facilities and providers, with high demand across income levels. According to the Ministry of Health and Family Welfare, as of 2021 45 private hospitals in Bhopal are under Central Health Services Bhopal. Literature review found that over half of all urban MP residents used the private sector as their usual source of health care¹⁵. ASHAs and Anganwadi centres are hubs for promoting healthy behaviours and basic health care, and often provide food rations and nutrition services for vulnerable populations, particularly children under 5 years.

Health Protection: Nearly one-quarter (23%) of households in urban MP are covered by insurance schemes, with about half of those households covered by the state health insurance scheme¹⁶. Only about 5% of urban MP residents have private insurance, though another 7% received insurance through their

¹³ http://aigppa.mp.gov.in/uploads/project/Civil_Dispensaries.pdf

¹⁴ <https://timesofindia.indiatimes.com/city/bhopal/sanjeevani-clinics-booster-for-healthcare-in-state/articleshow/72420703.cms>

¹⁵ International Institute for Population Sciences. 2017. State Fact Sheet Madhya Pradesh. National Family Health Survey-4 Fact Sheets. Mumbai, India: Ministry of Health & Family Welfare, Deemed University.

¹⁶ International Institute for Population Sciences. 2017. State Fact Sheet Madhya Pradesh. National Family Health Survey-4 Fact Sheets. Mumbai, India: Ministry of Health & Family Welfare, Deemed University.



employers. A recent evaluation of *Rashtriya Swasthya Bima Yojana* (RSBY) insurance scheme found low utilization nationally by poor households, and the scheme appeared to provide no significant financial protection¹⁷.

Health Indicators for Bhopal: It is evident from the data in Table 04 that Bhopal has done well in many parameters, specifically in improved drinking water source, sanitation, and institutional births¹⁸. However, there remain many areas of concern in the various aspects of health of the population and health services provision.

Table 04: NFHS V Data for Bhopal

Category	Indicator	Bhopal	MP
Household Profile	Population living in households with an improved drinking-water source (%)	96.7	89.0
Household Profile	Population living in households using improved sanitation facility (%)	79.6	65.1
Household Profile	Households using clean fuel for cooking (%)	83.6	40.1
Social Welfare	Households with any usual member covered by a health scheme or health insurance (%)	50.7	38.1
Family Planning	Female Sterilization	46.4	51.9
Family Planning	Male Sterilization	0.6	0.7
Maternal and Child Health	Mothers who had at least 4 antenatal care visits (%)	64.6	57.5
Maternal and Child Health	Average out of pocket expenditure per delivery in public health facility (Rs.)	3,176	1,619
Delivery Care	Institutional births (%)	98.3	90.7
	Institutional Births at a Public Facility	67.7	
Child Immunization	Children age 12-23 months fully immunized (%)	62.3	77.1
Nutritional Status	Children under 5 years who are wasted (weight-for-height) (%)	20.6	19.0
Nutritional Status	Children age 6-59 months who are anaemic (%)	68.5	72.7
Nutritional Status	Women who are overweight or obese (BMI \geq 25.0 kg/m ²) (%)	31.5	16.6
Nutritional Status	Men who are overweight or obese (BMI \geq 25.0 kg/m ²) (%)	21.4	15.6

¹⁷ Karan, Anup, Winnie Yip, and Ajay Mahal. 2017. "Extending Health Insurance to the Poor in India: An Impact Evaluation of Rashtriya Swasthya Bima Yojana on out of Pocket Spending for Health care." *Social Science & Medicine* 181 (May): 83–92.

¹⁸ International Institute for Population Sciences. NFHS 5: District Factsheet Bhopal, 439. New Delhi: Ministry of Health and Family Welfare; 2021.



Bhopal has done well in many of the indicators listed above such as improved drinking water sources and institutional births. Certain indicators such as sanitation, the number of institutional births at a public facility and the average out of pocket expenditure per delivery in a public health facility are some aspects that could be improved.

Health Promotion in Bhopal Schools: Adolescence has also been identified as a critical time frame for changing health behaviours and instilling healthy habits. In addition, schools and teachers play a critical role in their community, and can be leaders in establishing healthy behaviours beyond school walls. To promote a healthy lifestyle among students, the School Health Programme, an initiative by the Ministry of Human Resource Development Department and Ayushman Bharat has been initiated. The promotion activities will be implemented in all the government and government aided schools in the country. A comparative study conducted to assess health services provided in schools of Bhopal indicates that schools lack services related to the health of children and there is need to improve the condition in both government and private sector schools (Jamra and Saxena, 2014)¹⁹.

Social Determinants of Health in Bhopal:

The city has been adjudged the second cleanest city in India for the years 2017 and 2018 (Swachh Sarvekshana survey, 2017, 2018). The Bhopal Municipal Corporation (BMC)²⁰ is one of the few municipalities in the country that has implemented the system of house-to-house solid waste collection. About 900 tonnes of solid waste is generated in the city each day (57.83% biodegradable, 30.95% nonbiodegradable and 11.22% inert). The source-segregated dry and wet waste is collected through door to door collection with 100% efficiency using 250 mini trucks and 1800 rag pickers. The solid waste management department of BMC has a work force of 4000+ employees engaged for street sweeping (BMC, 2018)²¹. Apart from employing source segregation and door to door collection practices, the BMC is promoting decentralised solutions like home-composting across the city to further strengthen its waste management system. About 275 tonnes of waste is being treated by the centralised composting centre at Bhanpur and 25 tonnes of waste is treated via decentralised methods. In terms of wet waste processing and disposal, Bhopal has a biogas plant installed (Bitten Market), with a capacity of 5 ton per day and produces 300 cu MTR biogas and 450 units of electricity with generator capacity 50 Kva per day. Under Centre's Smart City Mission, the BMC also uses GPS-based tracking technologies to ensure segregation and collection of waste where a total of 2,000 public bins have been installed in the market and commercial areas of the city and about 150 of them have smart sensors²². BMC have in place a compliance and monitoring system against littering and fine upto Rs. 1500 per event imposed against the same.

19

<https://www.semanticscholar.org/paper/A-COMPARATIVE-STUDY-OF-BASIC-HEALTH-SERVICES-IN-AND-Jamra-Bankwar/eaaff0795492df9b6bb2ff30d631b32786ee7748>

²⁰The BMC is responsible for all the main utility services to the population of Bhopal including maintenance, construction and operation of drinking water supply; sewerage and solid waste collection, treatment and disposal; road service and construction, town planning etc.

²¹ https://cdn.cseindia.org/docs/photogallery/slideshows/02_20171212_BHOPAL_SBM_PPT.pdf

²² <https://swachhindia.ndtv.com/waste-management-in-indias-second-cleanest-city-bhopal-20155/>



Apart from this, plastic waste from the city is being successfully processed at plastic waste collection centres set up on a PPP model. Each center covers 25 wards/villages (3 lakh population) and employs around 50 people and generates a profit of Rs.1000 per day (BMC 2018)²³.

Further, Bhopal demonstrated a successful robust waste management model in the country by reclaiming 37 acres of land (at Bhanpur Khanti) that was once a dumpsite for the entire city for over 30 years containing over 750,000 tonnes of legacy waste²⁴. In partnership with Saurashtra Enviro Projects Pvt Ltd, BMC undertook processing of MSW using bioremediation and biocapping techniques. Out of the 37 acres of land, 21 acres was to be recovered through biomining and the remaining 16 acres was decided to be capped. The treatment of leachate and gases that emerge from the dumpsite was carefully done during biocapping.

City also generates 485 Million Tonnes per year of bio-medical waste from 383 health care facilities, which is being collected by a common facility known as Bhopal Incinerator Pvt. Ltd. functioning since January 2003 in Govindpura Industrial Area. The facility has 02 incinerators (100 Kg/hr & 50 Kg/hr) 02 Autoclave, 03 shredders and 11 Waste Collection vehicles.²⁵

It is not only waste management that Bhopal is excelling in, the city is also striving to achieve total sanitation through innovative projects like “She Lounge”. The She lounge houses a female utility shop, rest room, ATM, Water dispenser, washroom with sanitary napkin vending machine and incinerator, baby changing corner etc. There are about 15 such She lounges and about 295 public and community toilets operational across the city²⁶. About 82 percent of households have latrine facilities within the premises in the city area²⁷.

In terms of waste water generation, the city generates around 252 Million Litres per day (MLD) of wastewater out of which about 80 MLD (32%) is being treated in 07 Sewage Treatment Plants (STPs) located in various parts of the city. The BMC area has about 210 Km of non-contiguous underground sewers in different catchments, and covers about 28-30% of the city population. In the remaining areas of the city, large sections of the population discharge wastewater into open drains²⁸. There are about 10 places in the city that environmentalists have identified to establish STPs where sewage enters lakes directly. Currently, upper and Lower Lake, Motia Lake, Siddique Hasan Lake, Munshi Hussain Khan Lake are main water bodies that receive sewage, which remains mostly untreated due to inefficient plants²⁹.

According to the Central ground water board, Bhopal district has two main drainages namely Parwati river & its tributaries and Betwa river & its tributaries;

²³ https://cdn.cseindia.org/docs/photogallery/slideshows/02_20171212_BHOPAL_SBM_PPT.pdf

²⁴

<https://www.downtoearth.org.in/video/waste/cleanest-cities-of-india-bhopal-reclaimed-37-acres-of-wasteland-by-clearing-legacy-waste-81654#:~:text=Bhopal%20has%20reclaimed%2037%20acres,750%2C000%20tonnes%20of%20legacy%20waste.>

²⁵ <https://cpcb.nic.in/displaypdf.php?id=em9iaG9wYWwvRW52X1N0YXR1c19SZXBvcnRftVBfYW5kX0Job3BhbF8yMDE2LnBkZg==>

²⁶ https://cdn.cseindia.org/docs/photogallery/slideshows/02_20171212_BHOPAL_SBM_PPT.pdf

²⁷ Tables of Houses, Household Amenities and Assets, Census of India, 2011

²⁸ http://www.indiaenvironmentportal.org.in/files/Bhopal%20CDP_Final%20.pdf

²⁹ <https://numerical.co.in/numerons/collection/59dba544250a41f81b6ef76c>



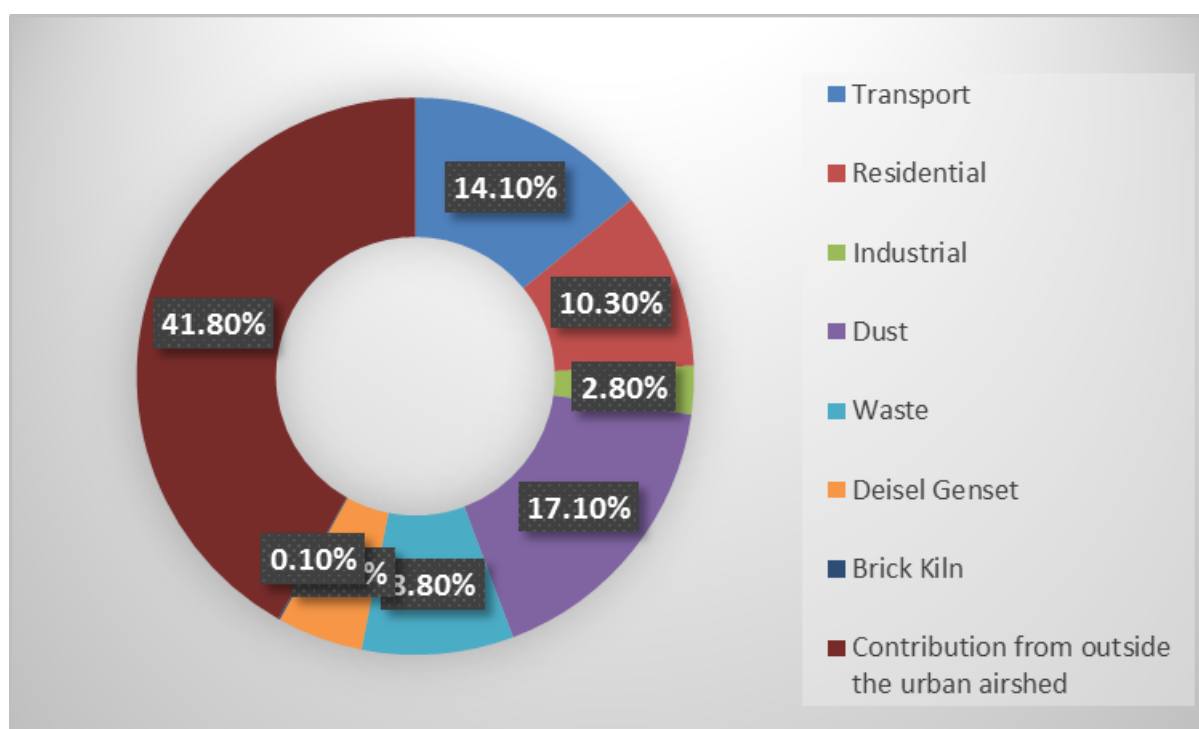
there are about 14221 dugwells, tube wells 11260 and 34 ponds and 30 canals³⁰. The municipal corporation has also been running awareness campaigns around water bodies to educate people to keep them clean.

³⁰ http://cgwb.gov.in/District_Profile/MP/Bhopal.pdf



Air quality in Bhopal:

Figure 01: PM_{2.5} concentration : source-wise percentage share in 2015³¹



Overall air quality index in Bhopal is 156, which is unhealthy for sensitive groups³². The level of PM_{2.5} is 64.5 µg/m³. The major sources of air pollution in Bhopal are medium scale industries covering the manufacture of electrical goods, medicinal products, cotton, chemicals, jewellery, flour milling, weaving, painting, matches and wax manufacturing and sporting equipment³³. The city also houses coal-fired power plant boilers and other heavy machinery industries like Bharat Heavy Electricals Limited (BHEL) and Hindustan Electro Graphite (HEG), Lupin Laboratories, and Eicher tractors. The HEG is the largest graphite electrode plant in the world. Several measures have been taken in Bhopal to improve air quality since 2014. Few examples include replacement of fossil fuel/biomass with the LPG gas in the domestic sector to control the biomass emissions from domestic sources; total control on the burning of agriculture residues in the farms located on the outskirts of the city; total control on the burning of MSW at the dumping site located at Bhanpura Khanty; all air polluting industries from the industrial area operating in the city have been shifted / closed etc.

The Ministry of Environment, Forest and Climate Change (MoEFCC) launched a nationwide action plan called the National Clean Air Programme (NCAP) in 2019 with an objective to reduce PM 2.5 pollution by 20%–30% by 2024, as compared to

³¹Guttikunda, Sarath K., K.A. Nishadh, and Puja Jawahar. 2019. "Air Pollution Knowledge Assessments (APnA) for 20 Indian Cities." *Urban Climate* 27 (March): 124–41. <https://doi.org/10.1016/j.uclim.2018.11.005>.

³² <https://www.iqair.com/india/madhya-pradesh/bhopal>

³³ <https://www.iqair.com/india/madhya-pradesh/bhopal>



2017, in cities (NCAP, 2019). The NCAP lists the preparation and implementation of air quality management plans by cities that do not meet the National Ambient Air Quality Standards (NAAQS) - called non-attainment cities - as a primary mitigation measure to reduce PM_{2.5} levels. The NCAP identified 132 such non-attainment cities – which have particulate matter levels that exceed the annual standards. Bhopal has been identified as a non-attainment city where NCAP provides an overall framework for developing air quality management (AQM) plans, with guidance on policies across a range of sectors. There are about 35 actions in the areas of vehicles, road dust, construction activities, biomass/garbage burning, industries etc are proposed to be implemented in the city so as to attain the air quality of Bhopal City as per the prescribed standards³⁴.

Availability of Water: The water utility is also managed by the BMC. The city gets its drinking water supply mostly from surface water sources namely Upper Lake and Kolar reservoir. Besides, more than 400 tube wells and a few large diameter dug wells and hand pumps also meet the requirement. In addition, unaccounted privately owned dug wells and borewells installed in individual households, housing colonies, industries and business complexes also cater the requirement. A quantity of approx 241 MLD (108 MLD from Upper Lake + 133 MLD from Kolar Dam) is released from surface water sources and 22 MLD is available from groundwater sources. After accounting for distribution and generation losses the net water supply of 210 MLD is available from surface water sources. The total water supply available from both sources is 232 MLD against water demand of 350 MLD. Thus, the present water supply falls short of about 120 MLD³⁵. Details of water supply, sources and demand are given in table 5. Under the Smart City Project, effort is being made to provide universal access to water and sanitation through uncovered areas & newly added areas.

Table: 05 Details of water supply, demand and source in Bhopal city

Demand and supply	
Total water demand	350 MLD
Total water supplied	232 MLD
Actual supply (after deducting leakage losses)	210 MLD
Water supply short	120 MLD
% of households with access to tap water (from treated source) within Premises	78.58
Source	
Water sourced from surface sources	241- 108 MLD from Upper Lake + 133 MLD from Kolar

³⁴ http://www.mppcb.mp.gov.in/proc/Action%20Plan2019/Action_Plan_Non_attainment_Bhopal.pdf

³⁵ http://environmentclearance.nic.in/writereaddata/FormB/TOR/Toposheet/18_Nov_2019_173727280C3WPHJ96DSRbhopal.pdf



	Dam
Water sourced from groundwater sources	22 MLD

Source: District survey report, Bhopal, Undated)

Key developmental partners and programs in Bhopal

There are as many as 200 civil society organizations registered in Bhopal and working in the areas of health, water, human rights, agriculture and environment. However, only a few of them work in most of the thematic areas. There are major civil society organizations based in Bhopal who are working on the five thematic areas identified for the Bhopal Healthy City Initiative and can be leveraged. In terms of subject experts which the NGOs engage with, most of them are doctors with specializations in Family Planning, TB, etc. since the majority of the organizations are working for aspects identified under the “Individual and Family” pillar. Many of the agencies have worked or are working as an implementation partner with different programs of NHM. Some support the Bhopal Municipal Corporation in the *Swachhata Abhiyaan* and the Smart City program. The areas of work in which not much presence of civil society organizations in Bhopal is noticed are Food and Nutrition security, WASH and Environment initiatives. Even the large NGOs have a limited number of projects and have diversified livelihoods as the Government is actively seeking private partnerships in that sector.

Sections below lists various programmes and implementing partners under five thematic areas.

Health

- IPAS supported Family Planning services includes comprehensive contraceptive and abortion care
- USAID funded “SHOP PLUS - Medlife” is an e-pharmacy initiative that delivers Tuberculosis medicine.
- “Strengthening healthcare system for common cancers in the state of Madhya Pradesh ” by CHAI focussed on improving access, building capacities and management of supply chain.
- WISH Foundation and Legal Education and Health services”s technical support provides health support, policy advocacy, and scaling up innovations to meet the quality assurance standards of urban PHCs under “Sanjeevani Clinics” programme³⁶
- Sanjeevani Service Society led Aanchal Pathshaala Programme for Slum Dwellers in 4 slums of Bhopal city. This is a child protection programme with a special focus health and education³⁷
- Madhya Pradesh Voluntary Health Association led advocacy forum for Tobacco Control
- UNICEF, UNDP and UNFPA led technical assistance for strengthening the **RMNCH+A** services
- GIZ led technical assistance for strengthening PMJAY
- Some of the past private sector health programmes include Sightsavers’ inclusive eye health programme in Bhopal, implementation of Health

³⁶ <https://wishfoundationindia.org/partner-with-us/>

³⁷ <https://www.sanjeevanisociety.com/info.php?show=663>



Management Information System (HMIS) by AVNI Health Foundation, Family Planning Association of India Bhopal Branch s health camps etc

Water and Sanitation

- UNICEF support to the WASH program through departments such as ICDS, Education besides Health
- The INSIGHTS platform created by India Sanitation Coalition in collaboration with TARU Leading Edge, & IRC has organised dialogues in the areas of Behavioural sciences, Skilling in Sanitation, Faecal Sludge and Septage Management and Malnutrition and Sanitation in Bhopal.³⁸

Environment

- The Smart City Project and Action Plan for Non-Attainment City, Bhopal have focussed on reduction of air, land and water pollution, waste management housing, increasing walkable spaces; preserving and developing open spaces – parks, playgrounds, and recreational spaces in order to enhance the quality of life of citizens, reduce the urban heat effects in areas and generally promote eco-balance³⁹.
- Past projects in the context of a healthy environment include Samman Bhopal by Jan Vikas Society, Climate Change and Environment Action Plans (CCEAP) for Bhopal ;

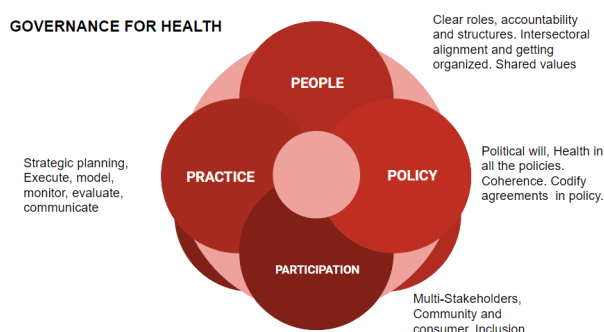
Food

- UNICEF ongoing support to the POSHAN Abhiyaan programme of department of woman and child development
- Vikas Samvad (VSS) - Bhopal based research organisation led health and nutritional interventions in 5 slums targeting 2640 households composed of 11270 population of the city (Started in 2020)

Healthy Cities Framework for India/Bhopal

Governance for health implies that “health” is featured in all governance activities, going beyond the health sector and creating better conditions for health.

The review of global experiences clearly indicates that political commitment, intersectoral collaboration and community involvement are among the key success factors in strengthening health systems and improving the health status of the population. Review of the Indian context reveals



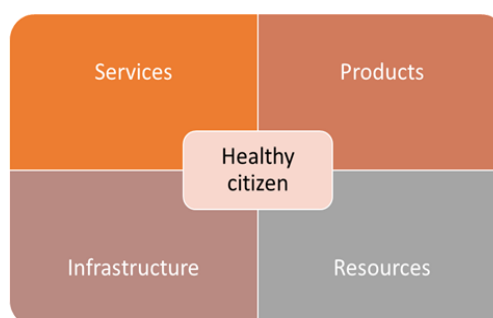
³⁸ <https://www.indiasanitationcoalition.org/our-initiatives/insights.html>

³⁹ http://www.mppcb.mp.gov.in/proc/Action%20Plan2019/Action_Plan_Non_attainment_Bhopal.pdf



common challenges across Indian cities include, limited coverage of quality health services; inadequate health financing; shortage and inequitable distribution of health workforce; weak health management, particularly at the city level. The need of the hour is to strengthen comprehensive preventive promotive packages, essential curative packages based on epidemiology and community requirements, seamless referral to higher facilities and financial protection for health emergencies.

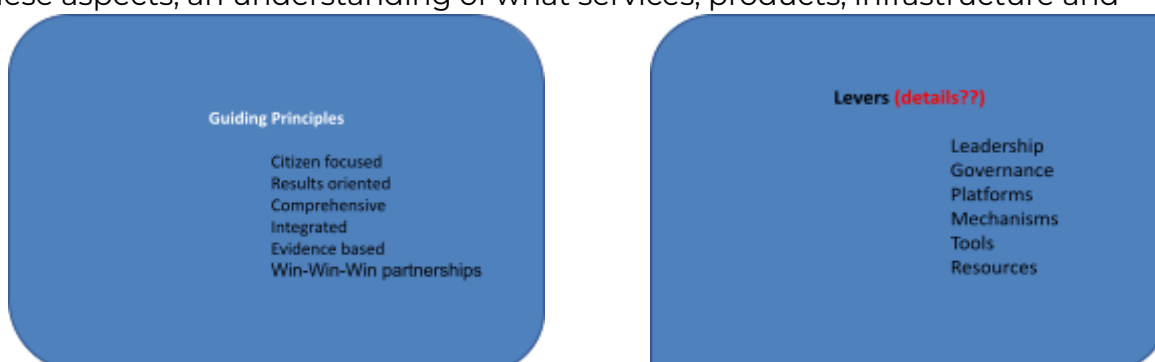
The Department of Health and Family Welfare in Madhya Pradesh is committed to demonstrating that it is possible for cities to deliver “Health for All” by coordinating inputs from the sectors that impact health. Following a concurrence among the departments to work together to make Bhopal a ‘Healthy City’, a series of consultations will be held in Bhopal. These meetings will be attended by representatives from the Department of Health, not-for-profit sector, and the private sector. Clarity on what services, products, infrastructure, and resources will be needed at the city, community, and individual/family level and what will be feasible to provide; emerged from these consultations.



It was evident that for this vision to succeed, multiple departments and government entities as well as several private and not-for-profit entities would need to play different roles. Sector strategies to achieve ‘Healthy City’ status would need to be integrated into one shared plan, implemented by different sectors but unified by a city-wide integration unit for project management at Bhopal. Based on the proceedings, the Bhopal Healthy City vision was categorized into five themes -

- a. Healthy water (quantity, quality)
- b. Healthy food (source, processing/cooking, storage, nutrition)
- c. Healthy sanitation (toilets, sewage treatment, recycle, reuse, safe disposal)
- d. Healthy environment (air, soil, public spaces, law environment)
- e. Healthy individual & family (health services, safety)

The themes traverse the determinants of health across sectors and earmark the key considerations required for modelling Bhopal as a healthy city. Within each of these aspects, an understanding of what services, products, infrastructure and



resources will be needed at the city, community and individual/family level needs to be developed. Operationalizing the Healthy City Vision will require articulation of an implementation strategy to develop a healthy city.

BHOPAL City Health Plan: This is a pan-city, multi-agency and well-defined plan that is available for at least 90% of the residents of the city. It is citizen-centric, quality assured and consistent. It follows the continuum of care from prevention to treatment and care and includes mechanisms for coordinating care across the city - through partnerships with different organisations- public and private. It is holistic and addresses determinants of health. It is not limited to a few neighbourhoods or communities; or implemented by only some stakeholders. It is not a catalogue of activities by separate departments but a synchronization and amplification of collective actions.



1. Roadmap design –
 - a. Outlining the concept of a ‘healthy’ city, and developing a framework delineating the parameters, indicators and sectors involved
 - b. Discerning the key characteristics and functioning of the urban services delivery network across sectors impacting health and their guiding policies (international, national, and state level)
 - c. Understanding the current urban environment of Bhopal including demography, health, and nutrition data; disease patterns, health seeking behavior of the urban population and social determinants of health
 - d. Analyzing the existing urban primary health care network under the six health systems building blocks (service delivery, health workforce, information, medical products, vaccines and technologies, financing and leadership/governance) and the private sector; exploring the linkages and potential synergies between them. The analyses would be comprehensive, focusing on factors that affect the acceptability, accessibility, affordability, and accountability of the primary health care delivery system
 - e. Understanding the profile of the stakeholders, their position as relating to policy formulation and the capacity of the system to implement the policies -
 - at health system level including both public and private sectors
 - at the community level including individuals and not-for-profit entities/self-help groups
 - across sectors (water, food, sanitation, environment, safety) including public and private sectors
 - f. Reviewing the current intervention strategies under NUHM regarding service provision especially to the marginalized and vulnerable groups, assessing their performance and identifying gaps
 - g. Examining other contributory factors and Indian city design leading to better health of its residents, linking it with the National Urban Missions on AMRUT and Smart Cities
 - h. Exploring pathways for intra and intersectoral coordination among various government departments and non-government entities; and identifying potential partnerships
 - i. Identifying design options and recommending strategies for developing protocols and strengthening program interventions (including M&E mechanisms) to build a healthy city

1. Governance Mechanism -
 - a. Constituting a Task force and developing its Terms of Reference
 - b. Convening the first meeting of the Task Force
 - c. Facilitating regular meetings of the Task Force for anchoring the development and roll out of the Roadmap development
 - d. Creating ownership and leadership for the Roadmap

1. Finance Mechanism
 - a. Costing the Roadmap through discussions with the Task Force and Government of Madhya Pradesh
 - b. Supporting resource mobilization



- c. Fundraising by identifying potential funders from the pool of stakeholders and establishing regular engagement and accountability through workshops to enable and secure commitments



Table 06: Stakeholders to be engaged for each aspect of Bhopal Healthy City

Healthy Food	Healthy Water	Healthy Sanitation	Healthy Environment	Healthy Family and Individual
<ul style="list-style-type: none"> • Pollution Control Board • Irrigation Dept • Cost of crop/vegetables - local administration • Department of Horticulture and Food Processing • Food Civil Supplies & Consumer Protection - ensure availability of essential commodities and check malpractices in supply and trade of food grains distribute material at concessional rates to the identified families under the Targeted Public Distribution System as per eligibility, to procure food grains at the support price to the farmers to get the right price for their produce and to protect the interests of the consumers. • Food and Drugs Administration is an independent Department- to provide 	<ul style="list-style-type: none"> • PHE and Irrigation Depts • Municipal corporation • Local bodies • Water Pollution Board • NGOs - Nagrath Charitable Trust • Health Dept • Local bodies - RWAs • MPEB • Media • Education Dept • Water Tanker Associations • RO Water plants • Transport Department and other departments where water supply is done. • Cleaning of Water Tanks • Rain Water Harvesting organisations - will make it 	<ul style="list-style-type: none"> • PWD • Urban Affairs • Municipal Corporation • Scientist • Academicians • NGOs - manual scavenging • City planners • Construction department • SUSANA -India • Pvt. construction companies • Chapter - India Sanitation Coalition • Slum board • Swachh Bharat Abhiyan • Pvt. waste management/Septage • Dept. of Water and Sanitation • Hospital Authorities, Dept of Health • Private Tech companies • Landowners • Behavioural economist/scientist • STPs (managed by PCB) 	<ul style="list-style-type: none"> • Pollution Board • Urban Development • Municipal Corporation • Public Works Department • NGOs • Organic Farming market • PHE • District functionaries • Community Leaders • Elected leaders • Industry associations • Livelihood Mission Department • IEC dept/NGOs • Health Dept (esp. Communicable department) • Police Dept. • Judiciary • Legal Aid Cells • SLA and DLSA • Radio - private channels • Women's rights groups • Motor Vehicles 	<ul style="list-style-type: none"> • Labelling of junk food • Education Dept • Health Dept • Police • Food and Drug Dept • NGOs • Companies • Collectorate • Media - advertising agencies • Protein powders - licensing of products? • Enforcement - inspection • Youth organisations • Family communication - promote? • TV companies/cable agencies • Zoning of schools so that junk food • Parks and playground • 1:1 family follow-up - door to door where necessary • Local treatment provision • Sharing of problems - in local context - community support • Lions, Rotary, Innerwheel • APL-PMJAY • Preventive and Social Medicine/community medicine



<p>safe, efficient & quality drugs/food/cosmetics & medical devices- to the public.</p> <ul style="list-style-type: none"> • Punishment - law and judiciary • FSSAI • Restaurant Associations • Association of food producers • Namkeen industry association • Labelling for packed 	<p>compulsory</p> <p>Association of cleaning tanks</p> <p>Eco-Visarjan Group led by Pahal (Praveen)</p> <p>Central Ground Water Board</p> <p>National water development agency</p>		<p>Department</p> <ul style="list-style-type: none"> • WCD • RTO • Parks - Municipals • Forest Dept • Horticulture Dept • Railways • Defence • Airports • Transport dept 	
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--



HEALTHY CITIES – ORIGIN, EVOLUTION AND FRAMEWORKS

Origin of the Healthy City Concept

“Many would be surprised to learn that the greatest contribution to the health of the nation over the past 150 years was made, not by doctors or hospitals, but by local governments. Our lack of appreciation of the role of our cities in establishing the health of the nation is largely due to the fact that so little has been written about them”. - Jesse Parfitt, author of A History of Health in Oxford from 1770 To 1974

The healthy city concept is thus firmly rooted in an understanding of the historical importance of local governments in establishing the conditions of health, and a firm belief that they can - and must – play a leading role in health promotion.

The Healthy Cities initiative was conceived with the goal of placing health high on the social and political agenda of cities by promoting health, equity and sustainable development through innovation and multisectoral change.⁴⁰ Its creation was based on recognition of the importance of action at the local, urban level and of the key role of local governments. It thrives at the cutting edge of public health, and this is one of the factors that contributed to its success. Healthy Cities and local governments have gained new attention and significant prominence in the context of the implementation of the Sustainable Development Goals (SDGs) and health promotion agendas, as well as during development of the World Health Organization (WHO) Thirteenth general programme of work 2019–2023 (GPW13). Healthy Cities is a strategic vehicle for health development and well-being in urban settings, and actions taken at the city level have a crosscutting relevance to the majority of technical areas of WHO’s work.

The Healthy Cities concept emerged in the 1980s on the basis of a new public health movement, the Ottawa Charter, 1986 and WHO’s “Health for All” (HFA) strategy launched in 1978 at Alma Ata. The principles of HFA and the strategic guidance of the Ottawa Charter provide the framework for the WHO Healthy Cities initiatives. The Canadian Healthy Cities project (now called the Healthy Communities) and the WHO European Healthy Cities Project initiated in 1986 were the forerunners of this concept. These pioneering projects were built on the pillars of primary health care and health promotion, which included challenging communities to develop projects that reduce inequalities in health status and access to services, and to develop healthy public policies at the local level through a multisectoral approach and increased community participation in health decision making.

⁴⁰ Tsouros AD. Twenty-seven years of the WHO European Healthy Cities movement: a sustainable movement for change and innovation at the local level. Health Promotion International. 2015;30(S1):i3–i7.



The concept involves focusing on the whole community, with its strengths and problems, rather than being established under the rubric of categorical problems such as tobacco, hypertension, cancer, or child abuse. It is not confined to one or more health problems, but “is intended to build health into the decision-making processes of local governments, community organizations and businesses, to develop a broad range of strategies to address the broad social, environmental and economic determinants of health” and to change the “community culture by incorporating health”⁴¹.

Since then, Healthy Cities have spread rapidly across Europe and other parts of the world. The programme is a long-term international development initiative that aims to place health high on the agendas of decision makers and to promote comprehensive local strategies for health protection and sustainable development.⁴² WHO established “Healthy Cities” as the theme for World Health Day, in 1996.

More recently, the onset of the COVID-19 pandemic, demonstrates the indisputable requirement for the dynamic Healthy Cities concept: the response to emerging health crises. The high population density, informal settlement settings, casual employment, presence of low-income migrants and refugees, as well as inadequate access to sanitation, all magnify cities’ vulnerability. This underlines the need for Healthy Cities to initiate long-term urban resilience to health risks and crises.

Consequently, WHO’s strategy for the five-year period, 2019-2023⁴³ recognizes the crucial role of municipal governments in promoting this approach and recommends that the healthy city goals include themes such as, social determinants of health, healthy environments, Universal Health Coverage (UHC), health literacy, disease prevention, urban planning, green policies, community empowerment and public health services.

Healthy Cities has been WHO’s longest health promotion initiative. There is an increasing recognition of the strong link between SDG 3 (Good Health for All) and SDG 11 (Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable).

Defining Health Cities

The most widely used definition of a healthy city originates from the two founders of the concept *Hancock and Duhl*⁴⁴. *“A healthy city is one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and developing to their maximum potential.”*

⁴¹ Hancock T. 1993. The evolution, impact and significance of the healthy cities/ healthy communities movement. J. Public Hdrh Policy 14518

⁴²World Health Organization. (2018, June 26). Types of Healthy Settings. https://www.who.int/healthy_settings/types/cities/en/

⁴³ The Thirteenth General Programme of Work (GPW 13) defines WHO’s strategy for the five-year period, 2019-2023. It focuses on measurable impacts on people’s health at the country level.

⁴⁴World Health Organization. (n.d.). Healthy Cities. Health Promotion. Retrieved August 25, 2020, from <https://www.who.int/healthpromotion/healthy-cities/en/#:~:text=Definition,developing%20to%20their%20maximum%20potential.%E2%80%9D>



It must be noted that a healthy city is defined by a process, not an outcome.

- A healthy city is not one that has achieved a particular health status.
- It is conscious of health and striving to improve it. Thus, any city can be a healthy city, regardless of its current health status.
- The requirements are: a commitment to health and a process and structure to achieve it.

According to the definition articulated by WHO in 1991, “A healthy city is not one which has achieved a particular health status, but is one which is conscious of health and striving to improve it”.⁴⁵

Health City Checklist

What a healthy city strives to provide:

- A clean, safe physical environment of high quality (including housing quality);
- An ecosystem that is stable now and sustainable in the long term;
- A strong, mutually supportive and non-exploitive community;
- A high degree of participation and control by the public over the decisions affecting their lives, health and wellbeing;
- The meeting of basic needs (for food, water, shelter, income, safety and work) for all the city's people;
- Access to a wide variety of experiences and resources, with the chance for a wide variety of contact, interactions and communication;
- A diverse, vital and innovative city economy;
- The encouragement of connectedness with the past, with the cultural and biological heritage of city dwellers and with other groups and individuals;
- A form that is compatible with and enhances the preceding characteristics;
- An optimum level of appropriate public health and sick care services accessible to all; and
- High health status (high levels of positive health and low levels of disease).

The “Zagreb Declaration for Healthy Cities, 2008” defines it as a city for all its citizens: inclusive, supportive, sensitive and responsive to their diverse needs and expectations. It provides conditions and opportunities; and a physical and built environment that supports health and well-being; safety and social interaction; accessibility and mobility; and a sense of pride and cultural identity.⁴⁶

Reararticulating the concept in the context of sustainable development, in 2020 WHO states that, “A healthy city is one that puts health, social well-being, equity and sustainable development at the centre of local policies, strategies and programmes. The key core values of a health city are right to health and well-being, peace, social justice, gender equality, solidarity, social inclusion and sustainable development. These are guided by the principles of health for all, universal health coverage, intersectoral governance for health, health-in-all-policies, community participation, social cohesion and innovation”⁴⁷

Healthy City Frameworks: Key Concepts, Approaches and Methods



Cities provide a unique opportunity - the aggregation of a large population, the existence of a range of public and private services to mention a few. It also poses serious challenges including rapid growth outpacing services, overcrowding in some

3 health in urban planning policies.

lanning-policies

Healthy Cities: Health and health equity in all local policies. In the Zagreb I local policies.

3 approach to a rapidly changing world. World Health Organization.



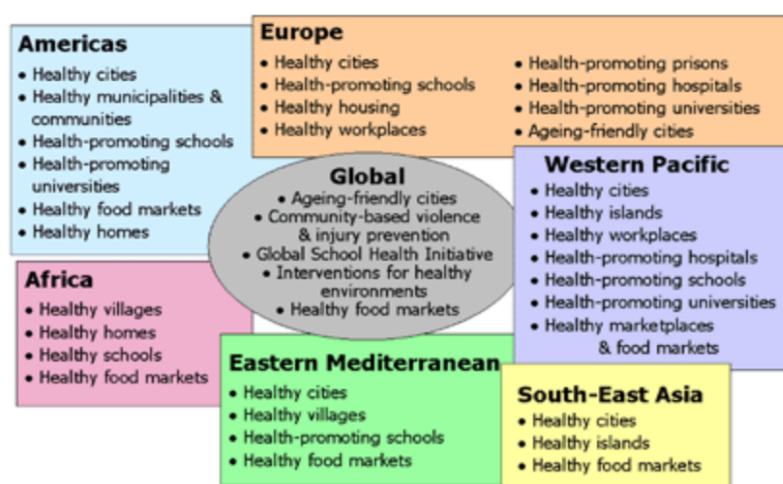
areas and a fluid population. Health indicators generally are getting worse in urban areas compared to rural areas. The health of citizens is not determined by health services alone.

This is well captured by the framework proposed by Hancock in 1993. Healthy city is seen as an amalgamation of a liveable, viable and sustainable environment; an equitable, prosperous economy; a community that is convivial (lively); and health being achieved as an outcome.

The WHO under its Healthy Cities project in Europe proposed a vision that is classified under **six Ps** - **People, Participation, Prosperity, Planet, Place and Peace**.⁴⁸ It envisioned a health city as one where people are prioritized to achieve equity; places are created to promote health and well-being; prosperity is achieved through participative governance and thus inclusive societies are promoting the health of people and the planet.



Based on the context of the global geography and social constituency, a 'healthy setting'⁴⁹ has paved the way for various interpretations and approaches to health within a city. Some examples include the WHO's framework for age-friendly cities, and the child-friendly cities framework proposed by UNICEF. The Healthy Settings approach and regional activities as implemented by the WHO in the different regions are presented in the Figure.⁵⁰



The healthy city approach is the largest of the healthy setting approach.

⁴⁸World Health Organisation. (n.d.). Healthy Cities Vision. Urban Health. Retrieved August 23, 2020, from <https://www.euro.who.int/en/health-topics/environment-and-health/urban-health/who-european-healthy-cities-network/healthy-cities-vision>

⁴⁹ "The place or social context in which people engage in daily activities in which environmental, organizational, and personal factors interact to affect health and wellbeing."

⁵⁰World Health Organization. (2019, February 21). Regional activities. https://www.who.int/healthy_settings/regional/en/



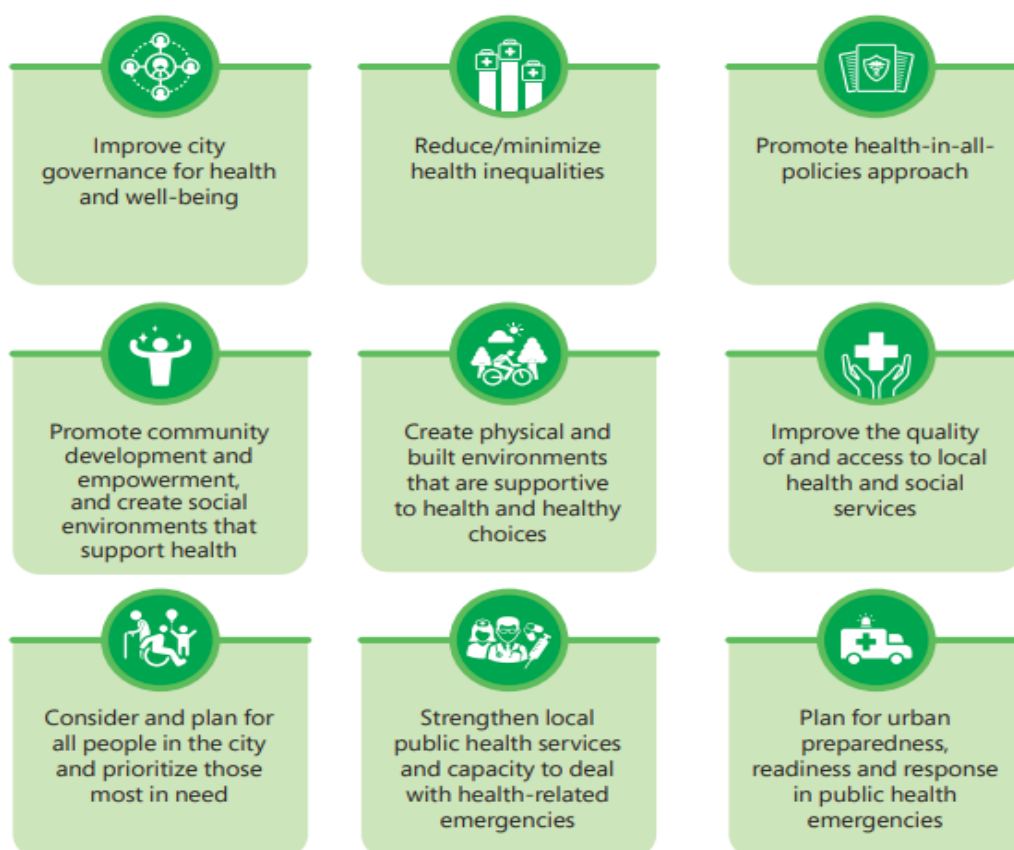
The approach seeks to put health high on the political and social agenda of cities. It recognizes the determinants of health and the need to work in collaboration across public, private, voluntary and community sector organizations. This way of working and thinking includes involving local people in decision-making, requires political commitment and organizational and community development, and recognizes the process to be as important as the outcomes and to build a strong movement for public health at the local level. Successful implementation of this approach requires innovative action addressing all aspects of health and living conditions, and extensive networking between cities across any country.

Healthy Cities is continuously enriched with the best available **concepts and methodologies** to address current and emerging public health challenges in urban settings. Their holistic use is essential for implementing the Healthy Cities agenda and for creating the preconditions for maximum impact and innovation. It is not only important what priorities a city wishes to address, but how it plans to address them. Key issues, concepts and methods that should be addressed and employed by Healthy Cities are:

- Explicit focus on both **health and well-being**.
- Emphasis on the right to health for all and **universal health coverage** (UHC).
- The **Sustainable Development Goals** (SDGs) and Healthy Cities (4, 5) go hand-in-hand, and they are mutually reinforcing.
- Addressing the **social determinants of health** (SDH) and health inequalities.
- An explicit grounding in **health promotion**, including creating supportive environments for health for all; investing in creating healthy places; and making the healthy choices the easy choices.
- Understanding the specificity of the **urban and built environment** and its positive and negative impacts on health and well-being.
- Applying the **life-course approach**, which supports good health and its social determinants, throughout the life-course, increases healthy life expectancy and yields important economic, societal and individual benefits.
- Promoting **population-based approaches** which improves the health status of the overall population.
- Promotes **health literacy**, surpassing the narrow concept of health education.
- Creating conditions for **community resilience**, the ability to anticipate risk, limit impact, and bounce back rapidly through survival, adaptability, evolution and growth in the face of hardships and emergencies.
- **Local level governance** for health and well-being which adopts an intersectoral and multisectoral approach to health development.

The eight critical areas that together form the **domain of actions** for Healthy Cities initiatives and movements are presented in Figure below.





Since its conceptualisation, various other institutions and organizations have proposed frameworks towards sustainable healthy development of cities. The recommended initiatives are aligned with the healthy city goals and in some cases, run parallel. The cross-cutting theme among strategies is urbanisation, the effects on the environment and potential methods to tackle specific challenges. The frameworks suggested by various organizations have been summarized in table 7:

Table 07: Examples of frameworks that address urban health: Focus areas

Frameworks	Details
Urban and Territorial Planning Un-Habitat	<ul style="list-style-type: none"> • Articulates the role of planning and design in prevention of diseases, health promotion and curative dimensions. • Emphasises relationship of spatial factors on public health • Views health as an input and an outcome of UTP. • Leverages UTP to promote leadership for transformation in environments.
Urban Health WHO-UN-Habitat	<ul style="list-style-type: none"> • Advances universal health coverage in cities • Addresses malnutrition • Leverages the urban advantage to tackle communicable diseases • Emphasizes reduction in health inequity for sustainable development • Focuses on designing healthier and sustainable cities
Learning Cities and the SDGs UNESCO	<ul style="list-style-type: none"> • Proffers a people-centred approach focussed on SDGs 4 and SDG 11 • Focuses on environmental sustainability - <i>Green and healthy learning cities</i>



	<ul style="list-style-type: none"> • Promotes individual empowerment through intercultural dialogue and social cohesion - <i>Equitable and inclusive learning cities</i> • Aims to create economic development and cultural diversity - <i>Employment and entrepreneurship in learning cities</i>
Sustainable Cities UNIDO	<ul style="list-style-type: none"> • Underlines the need for sustainable planning, investments and technologies to develop sustainable cities. • Drives the implementation of green technology innovations across the city • Establishes climate resilience in urban planning and management • Promotes urban inclusiveness through gender equity and low carbon industrialization • Forges partnerships with diverse actors and developing city networks to foster community engagement and a multi-disciplinary approach.
Child Friendly Cities Initiative UNICEF	<ul style="list-style-type: none"> • Uses the UN Convention on the Rights of the Child as a foundation. • Endorses municipal governments in recognising children's rights at the local level • Focuses on the 12 indicators of health outcomes and social determinants of health
Resilient Cities OECD	<ul style="list-style-type: none"> • Is based within the context that resilient cities have the ability to absorb, recover and prepare for future economic, environmental, social and institutional shocks; and promote sustainable development, well-being and inclusive growth. • Identifies four pillars of resilience which include: <ul style="list-style-type: none"> ◦ Economy that is thriving, incorporates innovations and provides skills, employment and education to its people ◦ Governance that is transparent, skilled and adopts strategic approaches to management of the city ◦ Environment that protects natural resources, provides basic infrastructure and creates diverse ecosystems ◦ Society that is cohesive, active, safe and healthy
Resilience Framework City Rockefeller Foundation	<ul style="list-style-type: none"> • Approaches the concept of resilience by articulating 12 goals which fall under four broad categories: the health and wellbeing of individuals (people); urban systems and services (place); economy and society (organisation); and, finally, leadership and strategy (knowledge). • Acknowledges that resilience results from individual and collective action at various levels, delivered by multiple stakeholders ranging from households to municipal government • Facilitates a common understanding of resilience amongst diverse stakeholders. • Helps identify where there are critical gaps, where action and investment to build resilience will be most effective, or where deeper analysis or understanding is required



To conclude each framework which highlights health as an agenda within the cities draws upon their envisaged goals; however, each framework emphasizes the need for multi-sectoral action, community engagement and sustainability. There is a dearth of literature on comparative analysis of the frameworks which makes it difficult to identify advantages and disadvantages of one framework over the other.

Global Experience and Lessons

The global experience from WHO's six regions and the lessons emanating from their implementation of the health cities initiative are presented in this section. Details of efforts made at the city levels are captured in Annexure

Examples of Health City Activities

In Teheran, the project has led to an upgrading of housing in low-income areas of the city.

In Lahore, the project has focused on improving environmental and sanitary conditions in crowded informal settlements, using a partnership between the city corporation, local residents and other agencies.

The project in Rio de Janeiro has mobilized human and financial resources to provide drainage of a neighbourhood, stopping the seasonal flooding of low-lying areas.

Healthy City Project partners in Chittagong, Bangladesh, have agreed on a programme of action covering seven main areas: slum improvement, literacy, water and sanitation, drainage and sewerage, health care and nutrition and town planning.

In Accra, training of municipal government staff responsible for environmental services in the city in concepts and practice of health education and promotion has been implemented, so they may undertake health promotion as part of their community level work.

In Johannesburg, the project has developed a comprehensive health and housing programme for townships in the vicinity of the city, with improvements already achieved in areas such as water, sanitation, solid waste management, neighbourhood safety etc.

African Region

The International Conference on Health and Environment in Africa in 1997, emphasized the Healthy Cities/ Villages approach as an umbrella concept at the local level to address health and environmental issues. Africa was facing a plethora of health challenges, and unhygienic and unsanitary conditions in cities. Overcrowding was leading to social and behavioural changes, family disintegration, homelessness and crime. Thus, there was an imperative to address these challenges through an approach that would take into account the environmental and socio-economic determinants of health.”⁵¹

Healthy city activities were first adopted by countries like Ethiopia, Mali and Zimbabwe. Many additional countries, such as Cameroon, Gabon, Mozambique and the United Republic of Tanzania have initiated pilots. Several countries have chosen to focus on specific environments and/or health issues. Zimbabwe, for example, focuses on housing, waste management and water supply.⁵²

⁵¹World Health Organization. (2002). Healthy cities initiative: Approaches and experience in the African region. In Healthy cities initiative: approaches and experience in the African Region (pp. 53-53).

⁵²World Health Organization. (2003). Healthy cities around the world: An overview of the healthy cities movement in the six WHO regions. In Healthy cities around the world: an overview of the healthy cities movement in the six WHO regions.



Togo, in western Africa, is an example of a city which engaged in the settings approach by introducing its flagship Healthy Markets project. The market of Sokodé in Togo was chosen due to the sanitary emergency and the increased cases of cholera due to the outbreak. The key components addressed under the project were food hygiene, physical conditions, consumer education, availability of water and sanitation and waste management.

Across Africa, progress has been made in preparing city health plans, at least for the capital cities, in all 46 countries. Almost all countries have in place elements of a Healthy Cities programme but, in the absence of formal networks, the Healthy Cities model has often been only partially implemented rather than forming a central component of government or city health planning.

Challenges being faced in implementing healthy city projects include:

- Need for strong advocacy to gain acceptance for the Healthy Cities approach.
- Difficulty in incorporating poverty reduction as a core agenda of the Healthy Cities projects, although widespread poverty and the need to promote economic and housing issues predominate the environmental and health issues.
- Need for additional financing and lack of mobilization of local resources due to availability of external financial resources.
- Competing initiatives such as Safer Cities and Sustainable Cities.
- Need for political will at local and national level to ensure effective intersectoral collaboration.

Eastern Mediterranean Region

The Eastern Mediterranean Region has one of the fastest rates of population growth in the world. The limited availability of safe water and adequate disposal of waste water are major issues. Solid waste management is the most pressing environmental concern in many secondary and some major cities in the Region. These problems are coupled with increasing levels of air pollution and a housing shortage.

The Healthy Cities programme was formally launched in 1990 in Cairo and since then has expanded to several countries in the Region, where it is at various levels and stages of implementation. It was launched in the Islamic Republic of Iran and expanded to Afghanistan, Bahrain, Iraq, Jordan, Oman, Pakistan, Saudi Arabia, Sudan and the United Arab Emirates, adapting to different cities' particular needs and interests. Healthy Cities in this Region are particularly focused on issues such as a clean and sustainable environment, the provision of preventive and curative health services to all, and targeting marginalised and impoverished populations.⁵³

Three interrelated approaches have been implemented in the region; they include Community-based initiatives (CBI), Healthy

The Healthy Cities Programme in the Islamic Republic of Iran: a role model

The Tehran Healthy Cities project was launched in March 1992 and became the cornerstone of the Healthy Cities concept in the Eastern Mediterranean Region of WHO. The project initiated a number of innovative themes and activities, which had a major impact on health and social sector. Following the establishment of the project, 55 cities in 22 provinces have initiated similar projects. National Healthy Cities projects have had very impressive results, and have led to the creation of some 60 000 women health volunteers, 5000 community schools and employment opportunities for unemployed young people.

⁵³Tsouros, A. (2009). City leadership for health and sustainable development: The World Health Network. Health Promotion International, 24(suppl_1), i4-i10.



Cities, and Urban Heart. Urban HEART (Urban Health Equity Assessment and Response Tool) combines research, partners' organizational data and community knowledge to assess urban equity, and seeks to assist decision-makers in identifying the relationship between the health determinants and well-being of the population in comparison with benchmark values at national level.

The initial challenges faced by the region to implement the healthy cities initiatives include:

- limitation of resources (financial, human and material);
- deficient technical capacities and supportive infrastructures;
- lack of good governance and absence of community development plans;
- insufficient political commitment and ownership;
- inappropriate community participation and local empowerment;
- lack of coordination between intersectoral (and even international) agencies;
- lack of realization that health is central to development;
- high levels of poverty and scarcity of economic means; and changing lifestyles and cultures, bringing new social and health problems

South-East Asia Region

"The WHO Healthy City Project launched in the SEA Region in 1994 covered six cities, Chittagong and Cox's Bazar (Bangladesh); Bangkok (Thailand); Badulla (Sri Lanka); Kathmandu, Koleswar (Nepal); and New Delhi (India)."⁵⁴ Progress in Healthy Cities development has been slow owing to a lack of clear concepts among local authorities and a lack of coordinated urban infrastructure to support the process. Despite a slow beginning, there are at present about 40 Healthy Cities in the Region, involving all Member States.

At only 42 %, the South-East Asia Region has the lowest sanitation coverage of all WHO regions, and the situation is far worse in urban slums. Other challenges are the poor urban infrastructure and governance and low capacity for intersectoral collaboration. The prevailing mass illiteracy and poverty in many countries of the Region makes it difficult for large segments of the population (the potential recipients of the benefit) to understand the Healthy Cities concept and participate in it. Nevertheless, the increasing trend towards political decentralization seen in the Region is an emerging opportunity for promoting healthy settings at local levels.

To make the initiative successful there is a need to:

- generate political mobilization and community participation in preparing and implementing a municipal health plan;
- increase awareness of health issues in urban development efforts by municipal and national authorities, including non-health ministries and agencies;
- create a network of cities that promotes information exchange and technology transfer; and
- facilitate intersectoral action for health.

In 2002, the Regional Office commissioned an evaluation of Healthy Cities projects in 12 cities in India, Nepal, Sri Lanka and Thailand. Some of the important observations/conclusions of this study indicate that the following factors contribute to successful implementation

⁵⁴Aggarwal, S., & Yoosuf, A.S. (2010). Urbanization dynamics and WHO's "healthy city" initiatives in the South-East Asia Region.



- exposure and commitment of decision-makers, particularly local politicians;
- clarity of vision and mission, with a strong planning and management team;
- sense of ownership of policies;
- high degree of stakeholder involvement; and
- institutionalization of Healthy Cities programme policies.

Region of the Americas

Since the Healthy Cities movement began in Canada in 1984, two strong provincial networks of Healthy Cities have developed in Ontario and Quebec, representing a total of 200 communities. There are more than 200 self-declared Healthy Cities and Communities at both the state and city level in the United States. Common themes across these two countries are conservation of resources and environmental health, domestic and youth violence, adolescent services, and job and life skills training.

On the other hand, countries in Latin American are working through healthy settings, such as the **Healthy Municipalities, Cities and Communities (HMC)** strategy, which has been one of the more successful strategies for putting health promotion into practice in the region. An HMC strives to achieve a social pact among civil society organizations, institutions from various sectors, and local political authorities in order to carry out health promotion actions with a view to providing the population with a good quality of life. Healthy Cities projects have also been initiated in Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, Mexico, Nicaragua, Peru, and Venezuela

European Region
Healthy Cities has a 30-year history in Europe. Spanning more than 13000 cities in the countries of the region the projects have focussed on:

- Health and health equity in all policies
 - Raising awareness
 - **Health impact assessment** training
 - Projects that assess the needs of single-parent families
- Caring and supportive environments
 - Projects on ageing and dementia, age-friendly cities
 - Participating in WHO projects related to **physical activity**
 - Training for member cities on health literacy and **healthy ageing**
- Healthy living
 - Reducing **tobacco** and **alcohol** consumption among young (smoke-free cities)
 - Developing a strategic plan for **active cities**
 - Projects related to children and **obesity** (awareness on nutrition)
- Healthy urban environments

Copenhagen: Healthy and Happy City

The Danish capital ranks high on the list of the world's healthiest and happiest cities. With obesity and depression on the rise worldwide, Copenhagen consistently sits at the very top of the UN's happiness index and is one of the star performers in the Healthy Cities initiative of the World Health Organisation. It joined the WHO Healthy Cities initiative in 1987, a year after the original 11 cities. It's not just about walkable streets, but about forging healthy, sociable, happier communities.

Promoting health in everyday life is the first of the six-pronged approach and includes making it attractive to cycle, serving nutritious lunches in institutions and enabling educational institutions to offer quit-smoking programmes.

An extraordinary 62% of people living in the city cycle to work every day and the vast majority keep it up through cold and wet weather. It is the easier choice as the city is designed for bikes and not cars. Facilities also include smoking cessation courses and free stress clinics.



- o Participation of national, strategic groups and partnerships on related issue areas, such as related to **ageing** and **physical activity**.
- o Creating urban spaces where citizens can carry out physical activity
- o Actions related to **mobility** and accessibility encompass a range of actions including **traffic** calming, eliminating architectural barriers, redeveloping urban furniture and creating **footpaths** and **cycle lanes**.

Western Pacific Region

Since the late 1980s, when Australia, Japan and New Zealand embarked on their Healthy Cities projects, several more countries in the Western Pacific Region have joined the Healthy Cities movement. These include Cambodia, China, the Lao People's Democratic Republic, Malaysia, Mongolia, the Philippines, the Republic of Korea, and Viet Nam.

Currently over 100 Healthy Cities projects are being implemented in the Region. These projects share some common features, such as intersectoral collaboration and community participation. Nevertheless, they also address a diversity of priority health issues, reflecting the different states of economic development.

The Healthy City projects in this region differ significantly from one country to the other, depending on the development levels. In a more developed setting, in the case of Australia or Japan, the critical issues were crime and injury prevention along with the protection of the environment. Whereas, in poorer countries such as Cambodia or Vietnam, the provision of clean water and sanitation and basic infrastructure are the focus areas.

Linkages between Smart and Healthy Cities

While the healthy cities movement advocates holistic and systemic health policy and planning to address health and urban poverty inequality, the smart city initiative utilizes information and communication technologies for the design, implementation and promotion of sustainable development processes. Both projects operate around the notion of urbanisation to make cities better to live in. Smart cities and healthy cities share integral concepts and components of city planning and sustainable development. The foundation of smart cities is built on the objective to help society to become more connected, networked and data driven, along with an aim to enhance physical and digital infrastructure, which is also an essential part of the healthy city concept.



Healthy Cities and Smart Cities

Examples of hyperconnected smart cities include Masdar in United Arab Emirates, Songdo in South Korea, over a dozen of cities in China, and many more cities in Europe. In the UK, Bristol City Council is developing a smart city service to monitor the health and well-being of people living at home. Bristol also has a more extensive smart city agenda that goes beyond home tele-healthcare services.

Love Clean Streets is a UK app that enables Internet-connected citizens to use their mobile phones' built-in GPS and camera to document and directly report to their local authorities any environmental or neighbourhood issues or crimes, which is a good example of the active engagement and participation of members of the general public in the day-to-day running and maintenance of their own cities.

Barcelona, has deployed city-wide 'Internet of Things' systems to provide real-time valuable information on the flow of citizens, noise and other forms of environmental pollution, as well as traffic and weather conditions. Barcelona's wirelessly-connected garbage bins are fitted with sensors that monitor trash levels (future versions of the sensors are expected to also detect the presence of hazardous materials that might be dumped in the bin).

Healthy Cities: Developed versus Developing Countries

The **Healthy city approaches** among developed and developing countries vary significantly based on the development levels. Developed countries are inclined to focus on areas such as healthy lifestyle, physical activity, healthy ageing and non-communicable disease related issues. Whereas developing countries in a low-income setting centre their approach on improving access to fundamental needs such as food, clean water and sanitation, shelter, income safety, poverty reduction, education and basic infrastructure. The main activities selected by the Healthy city projects in the developing regions were awareness raising and environmental improvements, particularly solid waste disposal.

The **health services** in the developing countries focus on strengthening the primary health care system to ensure comprehensive maternal and child care and controlling communicable diseases. Whereas in the developed countries the primary focus is on providing patient-centred care to address issues such as obesity, prevention of alcohol use and substance abuse addiction, mental well-being, healthy ageing innovation, crime and injury prevention and providing disability friendly facilities.

Healthy environments are a common aspect to all countries involved in healthy city planning. Although, the elements and strategy followed vary widely among the countries. Most of the projects in the developing countries focus on improving effective and efficient drainage and solid waste management systems, promotion of hygiene and sanitation, reducing air pollution, improving housing conditions among others. In comparison, healthy environments in developed settings



constitute features creating resilient communities and supportive environments such as walkable cities, recycling oriented urban planning, smoke-free cities, and creating urban spaces where citizens can carry out physical activity.

Although priorities for each city may vary, these are incremental actions of the same framework and do not preclude a city in the developing country from committing financing and implementing a comprehensive vision of a healthy city.

Healthy Cities in India

A Technical Resource Group (TRG) established to understand the urban health status reviewed the capacities and participation of Urban Local Bodies (ULB) in the provision of urban health and submitted its report in February 2014. Underscoring the importance of ULB participation, the TRG made specific recommendations for strengthening coordination in 18 identified areas of public health importance (table 8).

Table 08: Eighteen areas of participation for ULBs (Technical Resource Group report 2014)

Under ULB Municipal Health Officer (MHO)	Under ULB MHO in some cities- but Under separate departments in the others	Under other departments always but influences health
Disease surveillance & Epidemic control	Treatment and disposal of sewage	Integrated Child Development Services
Vector control	Solid waste management including carcass disposal	School Health
Dangerous and offensive trade, licensing (in particular slaughterhouse management, health safety in cinemas, restaurants etc)	Biomedical waste management	Implementation of welfare schemes for vulnerable populations—especially the homeless.
Food safety	Drinking Water supply	Housing schemes
Birth and death registration	Sanitation and Prevention of public health nuisance	Road Safety.
	Control of stray dogs/ rabies control	Food security programs
	Air Pollution Control (often under pollution control board)	

Many ULBs have increased the attention given to the urban poor as a result of past government initiatives, such as Jawaharlal Nehru National Urban Renewal



Mission and Rajiv Awas Yojana National Urban Livelihood Mission. ULBs also perform key public health functions such as water and sanitation. ULBs are therefore key to enhanced community participation in the urban health care delivery system and for achieving inter-sectoral convergence around public health goals. However, because the National Urban Health Mission (NUHM) is being implemented mostly by the state health departments (except in the mega cities and in a few cities selected by the state governments), there is a risk of undermining the role of ULBs during NUHM implementation. While the success of NUHM's key strategies will depend on the active involvement of ULBs during planning, monitoring, and implementation, the institutional responsibility for enhancing ULB roles and capacities and achieving convergence around public health functions needs to be further clarified and supported.

While the 74th CAA and the ensuing Model Municipal Law provides the guidance, since local governance is a state matter, the status of devolution of powers to ULBs differs from state to state. A study carried out in 2003 assessed the adoption of these functions by the states. It found that all major states had assigned to their urban local bodies the following responsibilities (listing only those relevant to this report)⁵⁵

- 'Public health, sanitation, conservancy, and solid waste management'
- 'Burials and burial grounds, cremations and cremation grounds and electric crematoriums'
- 'Vital statistics including registration of births and deaths'; and
- 'Regulation of slaughterhouses and tanneries'

Almost all the States had assigned water supply for domestic, industrial and commercial purposes and with a few exceptions, the states had assigned 'safeguarding the interests of the weaker sections of society, including the handicapped and the mentally retarded to ULBs as well.

The Planning Commission constituted a Working Group on Expenditure Norms under the chairmanship of Raja Chelliah, which further concluded that the functions of water supply, sanitation/sewerage, solid waste collection, primary education and primary health be regarded as the core municipal functions.

Whereas Bihar, Gujarat, Himachal Pradesh, Haryana, Manipur, Punjab and Rajasthan have included all the functions as enlisted in the Twelfth Schedule in their amended state municipal laws, Andhra Pradesh has not made any changes in the existing list of municipal functions. Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh and West Bengal states have amended their municipal laws to add additional functions in the list of municipal functions as suggested in the twelfth schedule.

Provision of water supply and sewerage in several states has either been taken over by the state governments or transferred to state agencies. For example, in Tamil Nadu, Madhya Pradesh and Gujarat, water supply and sewerage works are being carried out by the state level Public Health Engineering Department or Water Supply and Sewerage Boards, while liability for repayment of loans and maintenance are with the municipalities. Besides these state level agencies, City Improvement Trusts and Urban Development Authorities, like Delhi Development Authority (DDA), have been set up in a number of cities. These agencies usually

⁵⁵ P. K. Chaubey, *Urban Local Bodies In India: Quest For Making Them Self-Reliant* Indian Institute of Public Administration, New Delhi, 2003



undertake land acquisition and development works, and take up remunerative projects such as markets and commercial complexes, etc. The Municipal bodies in most cases have been left only with the functions of garbage collection, garbage disposal, street lighting, construction and maintenance of roads.

Challenges to coordinating activities for health at the city level.

Multiplicity of stakeholders poses the challenge of role clarity among different providers of urban development

One of the key challenges in providing urban health for the poor is that it is influenced by multiple agencies, e.g., ULBs, water and sanitation authorities, police, pollution boards and urban and transport planners. Currently, in most states of India, the Urban Local Bodies (Municipal Corporation, Municipal Councils, Nagar *Panchayats* and Notified Area Committees), Public Health Engineering Departments are responsible for delivering environmental health services. PHEDs or ULBs are often unable to service unauthorized and informal settlements for legal, financial or managerial reasons. Providing clarification for this assumption that water and electricity is made available to illegal settlements by the ULB, the Municipal Functionary (met during another assessment recently) admitted that the quality of services do suffer in such geographies.

The Department of Municipal Administration and Urban Development (MAUD) is responsible for urban planning and development in the states where this has not been devolved in its entirety to the ULBs. The department coordinates with various departments involved in development schemes such as Housing Board, Urban Development Corporations, Industrial and infrastructure Corporation, Industries Department, and implements environmental improvement schemes.

The provision of preventive and curative health as described in earlier sections in the cities lies both with the ULBs and the health departments. This has been streamlined to a large extent following the implementation of NUHM, wherein the health facilities are either managed by the ULB or by the health department. However, there remain issues of integrating vertical program units. For example, identified high burden cities have the provision for an urban malaria unit in some cities. This unit until now has been functioning in coordination with the health department at the state/district level. With the establishment of urban PHCs, there will be a need for coordination at the decentralized levels as well.

Variations in provision of human resources within the ULB influences the prioritization of roles

The Public Health unit of the Municipalities is responsible for solid waste management and public health. The unit is expected to be staffed with an Environmental Engineer (for managing solid waste management with the support of sanitary supervisors and workers) and a Municipal Health Officer (for public health management). In the absence of an environmental engineer within an ULB, the Municipal Health Officer becomes responsible for solid waste management as well. The MHO is further responsible for implementation of the public health act, registration of births and deaths and prevention of food adulteration. The ULB functionaries admitted to prioritizing solid waste management and preventive vector control as any gaps in these functions lead to public and political attention and review. In most states, the officers do not have any role in gathering health intelligence or planning basic promotive and



preventive services. This is the case although these functions have been accepted by the states as the function of the ULB following the 74th amendment.

Involvement of elected representatives to leverage additional funds for urban health has not been explored

The NUHM framework articulates the need to access elected representatives for expanding the urban health envelope. All members of parliament, members of legislative assemblies and municipal councillors receive area development funds which can be mobilized for creation of health facilities in underserved urban areas and also for procurement of equipment, Mobile Medical Units and ambulances. Elected representatives who met during the assessment were open to allocating funds but were challenged by the current guidance on expenditure of funds on specified activities. The guidance may vary from state to state and will need to be explored and revised to enable such expenditure.

Planning of coordinated actions very minimal

Although structural mechanisms to pool funds for implementing interventions which address social determinants of health and health in general require policy decisions and structural reforms, what is readily possible is the coordinated planning of activities to address all issues pertaining to health. The NUHM framework provides guidance on leveraging inter-sector coordination.

The onset of NUHM provides an anchoring point for the development of a healthy city.

There has been an expansion of roles being performed by the Municipal Health teams under NUHM.

The municipal health teams in some cities are participating in carrying out health assessments, developing city health plans, supporting the identification of infrastructure for health facilities as well as monitoring the implementation of the program. However, this varies from city to city and varies based on inherent capacities.

An assessment conducted by the Asian Development Bank which aimed to understand the role of ULBs in promoting health found that following the introduction of NUHM, three **distinct and incremental models of ULB participation in health can be seen.**⁵⁶ From very minimal participation in Rajasthan (allocation of land for PHCs), to fulfilling the supportive role under NUHM, to comprehensive urban health provision in West Bengal, the ULBs demonstrate varying capacities, resources as well as interest in managing the health of the urban poor. It further looked at an optimal model of participation and exemplified this with the convergent action plan of Pune Municipal Corporation (see table 9).

Table 09: Convergent action plan Pune Municipal Corporation

Department/ Program	Strategies
------------------------	------------

⁵⁶ Ranjani Gopinath. Participation of Urban Local Bodies under NUHM: An Assessment, Submitted to ADB and MoHFW in May 2016

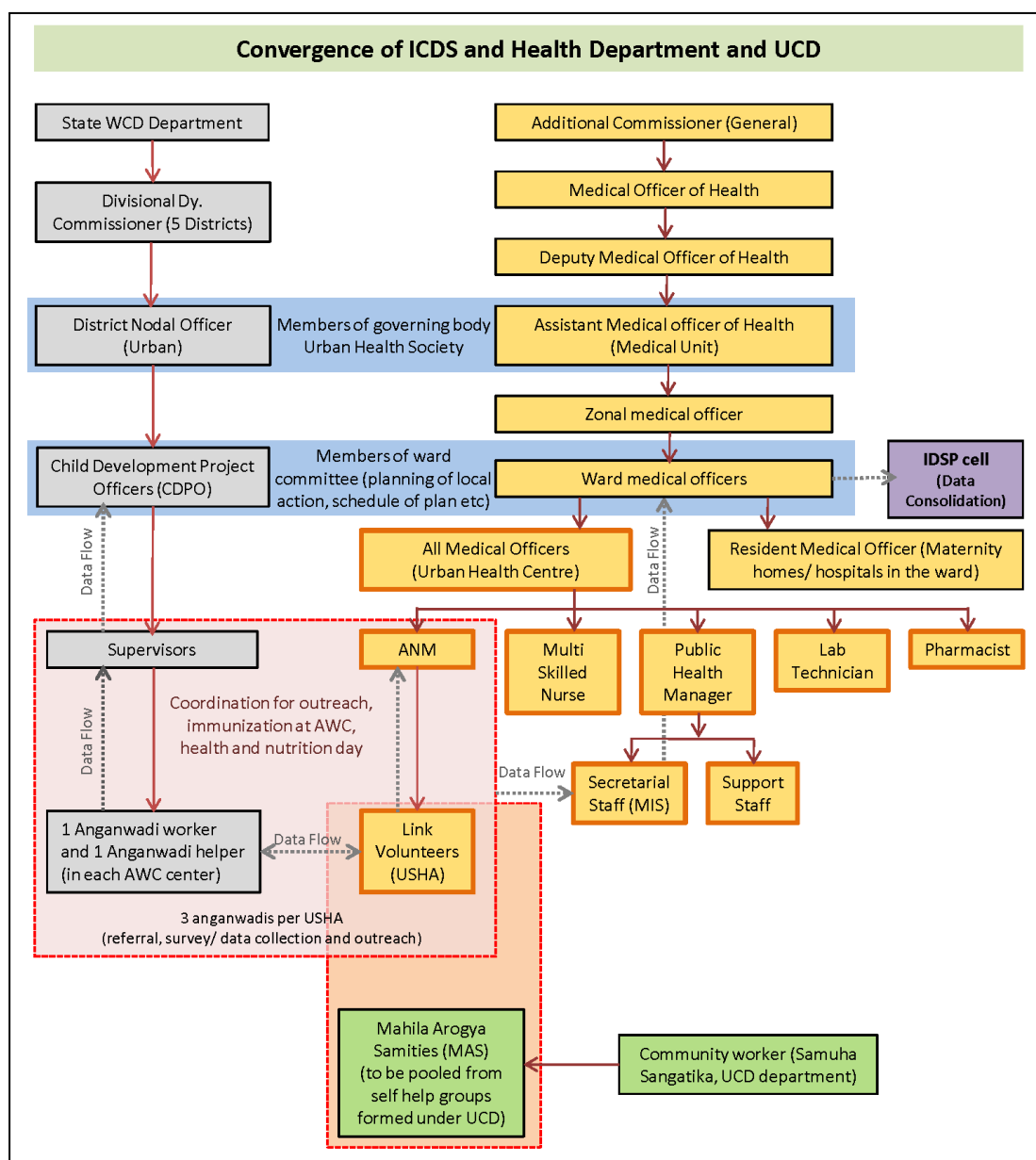


ICDS Program	<ul style="list-style-type: none"> • Provide a contact list of ANMs and ASHAa working in slums to the respective Anganwadi staff and supervisors. • Share data being recorded and collected by Anganwadi staff and supervisors with the health department. • Develop a micro plan for routine immunization in slums at Anganwadi centers and other sites in close coordination with the Anganwadi workers, supervisors and CDPOs. • Conduct a GIS based spatial analysis to assign primary health care center(s) to each Anganwadi center in the city and establish a strong referral system to U-PHC and other secondary/ tertiary facilities. • Geographically rationalize ICDS projects according to the 15 administrative wards in Pune Municipal Corporation. Invite Anganwadi workers and supervisors to participate in ward level coordination meetings.
Urban Community Development (UCD), PMC	<ul style="list-style-type: none"> • There are close to 11000 women self-help groups established in slums with the support of the Urban Community Development (UCD) department. These groups are being federated into Mahila Arogya Samitis (MAS). • UCD department also has facilitated the construction of several community structures in slum areas which are currently used by the women self-help groups for various activities. This infrastructure is being leveraged for health purposes such as for conducting immunization camps and outreach sessions. These structures are used as Anganwadis in some slums where space availability is a constraint. • PMC facilitates upgradation of these community structures such as construction of additional stories for health purposes.
PMC Engin. Deptt.	<ul style="list-style-type: none"> • Dedicated civil engineer from the Engineering Department is assigned to the health department of the ULB to monitor regular maintenance of facilities as well to facilitate upgradation and new construction of health facilities.
JNNURM cell	<p>The most vulnerable slums with high number of very poor households and high rate of water and vector borne diseases as identified under NUHM are prioritized for provision of basic services under the JNNURM grant.</p>

The ULB has developed and implements institutional mechanisms of coordination and convergence at all levels of implementation and has strengthened this further under the NUHM.



Figure 02: Convergence mechanism in Pune



Existing Opportunities for Convergence

India has several programs which cater to the urban poor which presents an opportunity to develop evidence-based plans and pooling of funds. These include the urban ICDS program, *Swarna Jayanti Shahari Rojgar Yojana* (SJSRY), Urban Infrastructure & Governance (UIG), Urban Infrastructure Development Scheme in Small & Medium Towns, Integrated Housing and Slum Development Program (IHSDP), Prime Minister's Employment Generation Program (PMEGP), Skill Development Initiative, *Sarva Siksha Abhiyan*, Mid-day Meal Scheme, Swachh Bharat Mission, Integrated Child Development Scheme (ICDS), *Rashtriya Swasthya Bima Yojana* (RSBY), *Antyodaya Anna Yojana*, National Old Age Pensions Program and Integrated Low Cost Sanitation Scheme to name a few.



Precedence for Pooling of Funds at ULB level

A fund is a separate accounting entity for which income, expenses, assets and liabilities are separately recorded and is capable of being presented as an independent financial statement. Government accounting systems need to be organized and operated on a fund basis. Fund-based accounting helps in taking managerial decisions in a conducive accounting environment. The other major factor is the need to assure legal compliance at every step. As a single government entity is involved in multifarious activities – each with a specific purpose; some in the nature of business and others as a part of governmental activity, it implies that each activity/ purpose must be accounted for separately. Therefore, including all the financial transactions in a single Fund makes it difficult to analyze the way government funds are being used or expended. Organizing municipal financial and accounting systems to incorporate Fund based approaches in their functioning is not very simple and straightforward. The municipal bodies need to have/ make provision for doing it in their legal framework i.e municipal acts of the Corporation or the State, and the accounting system should have been well organized to include this approach and move forward.

Internal earmarking of municipal budgets, one of the 23 reforms envisaged under the JNNURM, was practiced differently in different settings of the ULBs and State. Under the JNNURM pooling mechanism for strengthening resources for the urban poor was attempted through the BSUP (Basic Services for the Urban Poor) Fund. The mechanism provides for pooling of funds available with ULBs allocated for the purpose of providing services to the urban poor, including the budgetary resources of urban local governments. Internal resource earmarking provides an important channel that is supplemented by other funds.

An evaluation study⁵⁷ of the Government of Andhra Pradesh directive which required 40% earmarking of funds for urban poor pointed to several interesting insights of the reasons for the current trends especially, with respect to not being able to allocate a higher proportion.

- Most of the ULBs pointed to the difficulty in meeting expenditure needs of the general population and that of city-wide infrastructure maintenance, which take away a sizeable amount of resources. Several ULBs were not aware that the proportion has to be with reference to net or surplus resources.
- The upgraded slums and poor settlements were not excluded, therefore a higher proportion was not allocated to the needy settlements. The utilization of funds reserved for the purpose of developing services or on welfare schemes for the poor was not subject to any social accountability.
- Some ULBs undertook basic infrastructure and welfare schemes under the poverty alleviation programs of the State government and other donor agencies, which were not covered under the spending made through earmarking of the municipal budget.

ULBs with resources continue to allocate non-NUHM funds for health. However, a structured plan needs to be developed to channel urban development funds for

⁵⁷Development of Basic Services For Urban Poor (BSUP); Fund in Urban Local Bodies, January 2010



health. For example, funds for behaviour change communication under the *Swachh Bharath* campaign can be synergized with funds available for capacity building of community groups or outreach efforts under the NUHM to maximize impact. Alternatively, the funds can be utilized for building community capacities in 'point of use' care of water or elimination of open defecation initiatives through the involvement of MAS. Similarly, examples of successful pilots to eradicate open defecation implemented by the SUDA are available in Kolkata. The ULB in Durg is leveraging funds under digital India to strengthen reporting of epidemics. As seen from the example of Pune, community level organizers under the poverty alleviation program are being used to monitor and support the activities of the MAS. It must be noted however that the convergence of urban development programs may require the convergence of departments other than WCD, ULB and the health. It may involve the Education department (school health and *sarva shiksha abhiyan*); government parastatals such as special missions or boards. In the absence of a mechanism to 'fiscally' pool funds from various sources, coordinated planning will be required to direct similar funds towards the same set of most vulnerable populations.

Case study of convergence with Poverty Alleviation Mission in Telangana

Andhra Pradesh Urban Services for the Poor (APUSP), a flagship programme (2000- 08) of the Government of Andhra Pradesh addressed the challenges of municipal service delivery in 42 class I towns and resulted in improvements in livelihoods and access to basic services for about 3 million poor people in the slums of Andhra Pradesh. The State Government of Andhra Pradesh scaled up APUSP reforms across the state through creation of a Mission for the Elimination of Poverty in Municipal Areas (MEPMA). MEPMA is a nodal agency for the convergence of all services targeted towards the urban poor. The mission adopted the following strategy to converge with various programs:

- Building organizations of the poor as CBOs
- Empowering the poor by building their capacities
- Creating highly trained social capital at the grass root level in health, education, livelihoods, vulnerability etc.
- Access to Credit for the poor by facilitating interface between CBOs and bankers (Town Level Bankers committee with SHGs)
- Taking up placement linked livelihood programs on continuous basis; and
- Services under the 7-point Charter (Security of land tenure, improved housing, sanitation, water supply, health, education & social security system), etc.

MEPMA now exists in Telangana and Andhra Pradesh. The MEPMA has organized 137,000 groups, roughly 1.3 million women into slum-based groups in the urban areas of the state. The MEPMA groups have been often leveraged by the health department to mobilize communities for pulse polio campaigns. The success of community processes in Telangana and Andhra Pradesh perhaps emanates from the fact that MEPMA, a specialized agency, implements the interventions. While in West Bengal the interventions are implemented and monitored by the ULB, which may not possess the necessary skills to undertake community-based activities.

Platforms for convergence are available at all levels of implementation



Various inter-departmental convergence structures exist in different forms at the city, and ward levels. Some are formalized and some are informal and leadership dependent. Examples from the ADB assessment include:

- Informal coordination of UHC officials with elected representatives and NGOs for organizing outreach camps; coordination with ICDS apparatus for selection of ASHAs
- Formalized platform in West Bengal at UHC, ward and higher levels with structured interactions
- Informal coordination with elected officials in Mysuru
- Partnership with externally funded NGO for strengthening community participation (pilot)
- Presence of SUDA structures at all levels, although not leveraged for coordinating urban development programs
- Mandated interaction of the NGO managed UHCs in Telangana with other stakeholders

Two specific structures of convergence – the city coordination committees and ward coordination committees were implemented by the USAID funded 'Health for Urban Poor' program in seven states of India⁵⁸. Ward *Kalyan Samitis* (ward welfare committees) were established in Chhattisgarh as well under the *Mukhya Mantri Shahari Swasth Karyakram*. While the city coordination committees have become an integral part of the NUHM framework (the city urban health committees), the ward level committees are not included in the framework.

The HUP evaluation found that while most platforms at the city level were functioning at a suboptimal level, the structures at the ward level were actively addressing barriers to health. The ward level structures, often composed of representatives of health, ULB, ICDS, schools and elected officials in these states, are leveraging social groups and community level leadership for promoting health seeking behaviour, infrastructure, and monitoring of developmental inputs (including WASH) at the ward level. In Pune where the HUP implemented intensive interventions, the ward level coordination committees are reported to be addressing issues beyond health such as stray dogs, traffic jams and electricity connections. Similarly, in Bhilai, Madhya Pradesh, a park was created by the informal ward level group, in an area which was being used for open defecation earlier. In addition, Madhya Pradesh has nutrition committees at decentralized levels in Madhya Pradesh; similarly, there exist other ward level platforms for other developmental areas. These include neighbourhood committees under SJSRY and ward committees under JNNURM. These have the potential for being leveraged for health purposes as well. However, none of the ward level groups are allocated any funds, currently limiting the scope of their function.

The 'healthy city programme' (HCP) in Kottayam was modelled on a similar initiative in Toronto, Canada. It aims to improve health and environment conditions through awareness generation, community participation and partnerships with local and municipal agencies. Earlier HCP was tried in small pockets, for instance in a slum in Mumbai, then the need to spread it across a whole city was felt. Thus, Kottayam was selected for the project.

⁵⁸ Ranjani Gopinath, Kerry Richter, Kumkum Sriastava and Gabrielle Plotkin. Final evaluation of USAID/India's Health of the Urban Poor Program. Submitted to USAID in September 2015. https://pdf.usaid.gov/pdf_docs/pa00kz4h.pdf



The Kottayam project was launched under the initiative of the department of public health, Mahatma Gandhi University. The Kottayam municipal council adopted a resolution in January 1998, and a steering committee headed by the municipal council chairperson was formed. The project was structured on a decentralised plan of action and thus broken up into various settings, such as healthy home, healthy neighbourhood, healthy village and so on, leading up to the healthy city, and ultimately, a healthy district.

To attain the status of a healthy city, Kottayam was to measure well on several environmental, health and socio-economic indicators. It was funded by the municipal council and Nirmal 2000, a programme involved with the sanitation of the city. Financial aid in the form of grants up to Rs 10 lakh can be obtained from the WHO country budget. Small amounts also come from interested industries and agencies. Some of the projects were completed with the cooperation of the People's Planning Programme, and were financed by it. With no deadlines to conform to, the project moved at its own pace. One area of concern was taken up at a time, and dealt with. The period from August 1998 to May 2001 was an active one. However, practically no work has been done on the project. There have been projects on healthy schools and workplaces, and upgradation of health services. The latter involved setting up health assemblies in 32 wards of Kottayam municipality. A waste management survey was conducted in K.K Street, conceptualised as a 'healthy street'. Yet another example: 200 latrines were built in areas with inadequate sanitation facilities. In another infrastructure-intensive programme, the 'tap for a home' programme, 120 taps were installed. But inertia set in as there was very little community participation and the municipal council lapsed into inaction.

A healthy city plan developed for Delhi was not implemented⁵⁹.

⁵⁹ Aggarwal, Surinder. Delhi Towards a Healthy City. ISBN-10: 8173047227; 2010/01/01.

