'Ayushman Bharat' Program and Universal Health Coverage in India

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India's National Health Policy 2017 (NHP-2017) has its goal fully aligned with the concept of Universal health coverage. The Ayushman Bharat Program announced in the Union budget 2018-19 of the Government of India, aims to carry NHP-2017 proposals forward. The Ayushman Bharat Program has two initiatives/components – Health and Wellness Centers, and National Health Protection Scheme – aiming for increased accessibility, availability and affordability of primary-, secondary- and tertiary-care health services in India. Afterwards, the second component has been renamed as Pradhan Mantri Rashtriya Swasthya Suraksha Mission. The new program has received an unprecedented public, political and media attention; and is being attributed to have placed health higher on political agenda. This review article analyzes and provides critical reflections, suggestions and way forward for rapid and effective implementation of Ayushman Bharat Program. To be effective and impactful in achieving the desired health outcomes, there is a need for getting both design and implementation of Ayushman Bharat Program right, from the very beginning. If implemented fully and supplemented with additional interventions, the program can prove a potential platform to reform Indian healthcare system and to accelerate India's journey towards universal health coverage.

Keywords: *Health insurance; Health policy; Primary healthcare;* Sustainable development goals*; Universal health coverage*

The limited access, insufficient availability, sub-optimal or unknown quality of health services, and high out-of-pocket expenditure (OOPE) are amongst the key health challenges in India [1]. These challenges exist alongside a global discourse to achieve universal health coverage (UHC) – increasing access to quality healthcare services at affordable cost, by all people; and in times of fast economic growth in India [2]. Though, India's National health policy-2017 (NHP-2017) is fully aligned with global discourse and has the goal to achieve UHC, outside the policy discourses, health is often not considered high on the priorities by political leadership and is traditionally been underfunded [1,3,4]. The inappropriate mix of inputs (infrastructure, human resources and supplies) results in a failure to deliver the desired health services and public health system is grossly underutilized by people. The elaborate government primary healthcare system in rural India with nearly 185,000 facilities delivers only 8-10% of total health services, availed by people. One-fourth of health facilities in public sector deliver nearly three-fourths of total health services delivered by entire public sector facilities. This means that remaining 75% of health facilities are delivering much lower number of services per facility than these are capable of [5]. People are either compelled to, or prefer to, seek care from private providers, often at a cost beyond their paying capacity. Health expenditures is estimated to contribute to 3.6% and 2.9% of rural and urban poverty, respectively [6]. Annually, an estimated 60 to 80 million people in India either falls into poverty or get deeper into poverty (if already below poverty line) due to health-related expenditures [1,7]. Clearly, the health expenditures undermine poverty alleviation efforts by the union and state governments in India **(*Box* 1)** [1,8-17]. India was ranked at 154 of 195 countries on health service delivery index published in mid-2017 in Lancet journal [18]. Though Indian healthcare system has traditionally focused on delivery of maternal and child health (MCH) services, and in spite of making rapid progress, the country continues to have relatively high infant and maternal mortality [19]. Access to even child health services is mostly through private sector. Furthermore, people often have to spend from their pockets for services such as child birth, even when availing services at public health facilities [20,21].

In this background, when Ayushman Bharat Program (ABP) was announced in India's union budget 2018-19, it received wide and unprecedented media, public and political attention [22-24]. This article reviews and documents the key health sector related announcements in union budget 2018-19, critically analyzes the components of the proposed program, and suggests a few strategies to strengthen implementation and accelerate India's journey towards UHC.

Box 1 KEY HEALTH CHALLENGES IN INDIA [1,8-17]

Health infrastructure and human resources: There were 156,231 SHCs, 25,650 PHCs and 5,624 CHCs in India as on 31st March 2017 [8]. However, most of these facilities suffer from poor infrastructure, under-staffing and lack of equipment and medicines. Only 11% of SHC, 16% of PHCs and 16% CHCs meet the Indian Public Health Standards (IPHS) [5]. There is gross shortage of specialists and general physicians in all levels of system. More specifically, SHC, which are the first contact point between community and government health system, one-fifth were without regular water supply, one fourth without electricity, one in every ten without all-weather road, and over 6,000 did not have an Auxiliary Nurse Midwife/health worker (female) [8,10].

Health financing: The high out of pocket expenditure (OOPE) on health at 62.6% of total health expenditure is a major health challenge in India [11]. The OOPE on health in India is one of the highest in the world and nearly thrice of global average of 20.5% [8]. Part of the reason is poor government spending on health, at 1.15% of gross domestic product (GDP), which is one of the lowest in the world [1,11,12].

Service Delivery and utilization: In absence of well-functioning government facilities, people chose private providers. Nearly 75% of all out-patient consultations and 65% of all hospitalization in India happens in private sector [13]. People in India are increasingly getting affected by the health conditions which require regular visits to out-patient consultation, preventive and promotive measures and regular medications. The cost of such high volume and low-cost interventions is major part of OOPE.

Quality of health services: There is limited information available about quality of healthcare services in India [14]. However, widespread presence of unqualified providers, shortage of human resources, absentee doctors, and studies on skills of qualified doctors indicates toward poor quality of health services [14,15]. *Regulation* is an approach to ensure quality; however, the clinical establishment (registration and regulation) act 2010 has been implemented by only a limited number of states in India [16].

Changing disease epidemiology: The changing epidemiological profile of population is another reality in India. In 2016, the non-communicable diseases were major causes of morbidity and mortality in all Indian states replacing the communicable diseases abundance [17].

HEALTH IN UNION BUDGET OF INDIA (2018-19)

The Government of India's union budget, for the financial year 2018-19, was presented to the parliament of India on 1st February 2018 [22]. The Ministry of Health and Family Welfare received an allocation of Rs. 54,800 Crore (approx. US $ 8.4 billion), an increase of nearly 11.5 percent over the budget of last year. Though in nominal terms, the budgetary allocation to health sector has trebled in the last decade **(*Table* I);** as proportion of gross domestic product (GDP), it has changed marginally from 1.1% to 1.3% [22-25].

A key announcement in the union budget 2018-19 has been the Ayushman Bharat Program (ABP). This program has two components: (*a*) delivering comprehensive primary health care by establishing 150,000 health and wellness centers (HWCs) by year 2022, and (*b*) Providing financial protection for secondary and tertiary level hospitalization as part of National Health Protection Scheme (NHPS). The ABP with two components intends to provide services with continuum across three levels of care and brings back the attention on delivery of entire range of preventive, promotive, curative, diagnostic, rehabilitative and palliative care services (***Fig.* 1**).

One of the two initiatives in ABP is to upgrade 150,000 (of the existing 180,000) Sub health centers (SHCs) and Primary health centers (PHCs) in India, to the HWCs by December 2022. The scope of services from existing SHCs and PHCs is proposed to be broadened from current range of services, and implements the national health programs to a broad package of 12 services. This intends to make comprehensive primary healthcare accessible by community within 30 min of walking distance [1,5,22]. A total of 11,000 and 16,000 HWCs are proposed to be made functional in financial years (FY) 2018-19 and 2019-20, respectively [26]. This includes upgrading all 4,000 primary health centers in urban area to the HWCs by March 2020.

The second initiative in ABP is NHPS (also known as AB-NHPM or PM-RSSM), which has been referred as 'the world's largest government-funded healthcare (insurance) program' [22]. The NPHS aims to provide a coverage of up to Indian Rs. 500,000 (or US$ 7,700) per family per year for expenses related to secondary- and tertiary-level hospitalization. The AB-NHPM, after the

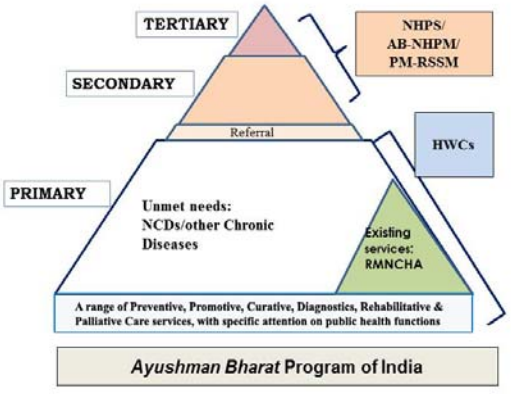
TABLE I BUDGET ALLOCATION TO HEALTH SECTOR IN INDIA 2008-09 TO 2018-19 [22-24]

Financial	*Ministry/Department*				*Total*
Year	*Health & Family Welfare*	*Health Research*	*AYUSH**	*AIDS Control***	
2008-09	16968	531	623	-	18123
2009-10	21113	606	922	-	22641
2010-11	23530	660	964	-	25154
2011-12	26897	771	1088	1700	30456
2012-13	30702	908	1178	1700	34488
2013-14	33278	1008	1259	1785	37330
2014-15	35163	1017	1272	1785	39237
2015-16	29653	1018	1214	1397	33282
2016-17	37061	1144	1326	-	39533
2017-18	47352	1500	1428	-	50281
2018-19	52800	1800	1626	-	56226

All figures in Indian Rupee x Crores. The values are actuals for 2008-09 till 2016-17 and budget estimates for year 2017-18 and 2018-19.

Remark: Fourteenth Finance Commission recommended the devolution of 42% of total central revenue resources, which was implemented starting FY 2015-16. This artificially resulted in reduced allocation to centrally sponsored schemes in union budget.

** Ministry of AYUSH was created in 2015-16. The budget of the Department of AYUSH is shown prior to these years; **Department of AIDS Control (i.e., NACO) had a separate Demand for Grant in Union Budget in the specified years*



NHPS: National Health protection Scheme; AB-NHPM: Ayushman Bharat- National Health Protection Mission; PM-RSSM: Pradhan Mantri- Rashtriya Swasthya Suraksha Mission; HWCs: Health and Wellness Centres; RMNCHA: reproductive, maternal, neonatal, child health and adolescent; NCDs: Non communicable diseases

FIG. 1 *Ayushman Bharat Program in India.*

launch would subsume Rashtriya Swasthya Bima Yojana (RSBY), and the Senior Citizen Health Insurance Scheme (SCHIS) [27-29]. The RSBY was providing insurance coverage of Rs. 30,000 (US$ 470) for up to 5 members of a family per annum, for a target beneficiary base of 60 million families. The target beneficiary in AB-NHPM has increased to 107.4 million families, and estimated 535 million people, equivalent to ~40% of Indian population [22,27]. The key health sector specific announcements in the union budget 2018-19 are listed in ***Box* 2**. The key components and implementation design of both HWCs and AB-NHPM/PM-RSSM are publically available and summarized in ***Web Table* I** and ***Web Fig.* 1-3** [5,22,26,27]. The additional details on team at HWCs and on the design structure of AB-NHPM/PM-RSSM are summarized in ***Web Appendix* 1** and **2**, respectively [1,5, 22,26,27].

Prioritizing health and acknowledging linkage with wealth

The union budget 2018-19 of India can be credited as one of the most explicit political acknowledgement of linkage between 'good health' and 'economic growth'. The Union Finance Minister in his budget speech said: "*Only 'Swasth Bharat' can be 'Samridha Bharat'. India cannot realize its demographic dividends without its citizen being healthy*." and '*Ayushman Bharat Program will build a New India 2022 and ensure enhanced productivity, well-being and avert wage loss and impoverishment. These Schemes will also generate lakhs of jobs, particularly for women"* [22]. Soon after union budget, the health needs of the people of India occupied center stage of discussion, by political leaders, media and people, and terms such as 'universal health coverage' and 'Ayushman Bharat Program' were introduced in the functional dictionary of general public [25,30,31] – something, which has a potential to place health higher in future public and political discourses in India.

In a shift, AB-NHPM has the beneficiaries beyond traditional approach of targeting 'below poverty line' (BPL) population. Inclusion of 'vulnerable and deprived population' identified through Socioeconomic and Caste Census (SECC) will nearly double the number of people to be benefited [22,27,32]. The benefits of HWCs, when fully functional, would be available to 100% of population of the country.

DISCUSSION

This was the first union budget of India since the release of NHP-2017 in March 2017. This budget follows upon a few strategies proposed in the NHP-2017, including suggestions to invest two-third or more of government

Box 2 HEALTH IN UNION BUDGET 2018-19 OF INDIA [22, 27]

- Ayushman Bharat Program received an allocation of Rs 3,200 Crore (US$ 500 Million). This is for union government share and state contributes remaining as per agreed formula; therefore, total allocation would be in range of Rs 5,000 Crore (US$ 770 Million) from state and union government, combined.
- Cash assistance of Rs 500 (US$ 8) per months for Tuberculosis patient for the duration of treatment and this initiative has been allocated Rs 600 Crore (US$ 90 million).
- Twenty-four district hospitals to be upgraded to medical colleges, to ensure at least 1 medical college for every 3 parliamentary constituencies and at least 1 government medical college in each state of India.
- The existing 3% 'education cess' has been changed to 4% 'Health and education cess'. This would generate additional revenue of Rs 11,000 crore (US$ 1.7 billion) during the financial year.
- Initiative to control air pollution by supporting the farmers in Haryana, Punjab, Uttar Pradesh and National Capital region of Delhi for the *in-situ* disposal of crop waste.
- Expansion of Ujjwala scheme (to provide free 'Liquefied Petroleum Gas' connection to rural women) from 50 million to 80 million women in India. Allocation of Rs. 3,200 Crore (US$ 490 million).
- Continuation of Swachch Bharat Mission (SBM) with target of building addition 20 million toilets. Allocation to National Nutrition Mission has been doubled to Rs. 3,000 Crore (US$ 460 million).
- Increase of nearly 10% for Pradhan Mantri Jan Aushadhi Yojana, Swachch Bharat Mission Rural and for Anganwadi Services.
- The government's proposal to private sector and corporates to support the process of establishing HWCs could be considered a far-reaching policy shift to engage and invite private sector in strengthening primary healthcare in India.
- The social welfare surcharge of 10% to fund social schemes and merger of three public sector insurance companies would indirectly affect this program and health sector.
- Higher Education Finance Agency (HEFA) to be restructured to fund infrastructure and research in medical institution as well. HEFA was announced in union budget 2017-18.

funding on the health on primary healthcare, establishing health and wellness centers and introducing 'strategic purchasing' in healthcare, among other [1,22].

The ABP combines two initiatives, announced in past as a single program. The NHPS was first announced in union budget of 2016-17, though with a coverage of Rs. 100,000 (US$ 1550) per family per annum [23,24] and the HWCs were proposed by the task force on strengthening primary healthcare in India in 2016 and first announced in the union budget 2017-18 [5,23]. The ABP has strengths and limitations (***Table* II**), and potential to address select but key health challenges in the country. Two initiatives in ABP together will meet the range of healthcare needs across primary, secondary and tertiary care, appears synergistic, and may help in increasing accessibility, availability, appropriate care and affordability. This can help India progress towards UHC.

The ABP as a program could be termed bold and ambitious for both the initiatives. The financial coverage in AB-NHPM is around 17-times more generous than RSBY, and two- to four-times more generous when compared with the other states' government-funded health insurance schemes in India. NHPS/PM-RSSM targets almost twice the target beneficiaries and thrice of actual numbers enrolled under RSBY in year 2016-17. Understandably, NHPS has received a lot of attention in India and across the developing part of the world. However, arguably, the proposal to set up 150,000 HWCs by 2022 is even bigger and potentially more impactful initiative for the reasons listed here. One, the comprehensive primary healthcare delivered through HWCs would benefit entire 1.3 billion people of India across rural and urban setting. Second, it would strengthen government primary healthcare system, which caters to only 10% health needs of the people at present while a well-functioning primary healthcare system has potential to cater up to 80-90% of health needs [33,34]. Third, strengthening primary healthcare through HWCs can bring efficiency in health services through increased access, gate keeping and a functional two-way referral system. Fourth and importantly, the extended services in HWCs would cover a number of non-communicable diseases (NCDs), and can tackle the epidemiological transition. In 2016, the NCDs contributed to nearly two-third of all mortality and 56% of preventable mortality in India [17].

TABLE II AYUSHMAN BHARAT PROGRAM: SWOT ANALYSIS

Strengths

- Apparent shift from 'disease specific' and 'Reproductive and child health' focus of government initiatives to comprehensive Primary healthcare
- Shift in targeting of social sector program from 'poor only' to expanded approach of vulnerable and deprived population (increased target beneficiaries significantly)
- Seemingly high level of political commitment
- Acknowledgement of linkage between better health and economic growth of India

Weaknesses

- HWCs are only a part of primary healthcare system, requires broader strengthening of entire health system
- Limited attention and focus on reform of broader health system
- Out-patient department visits, which constitute a large part of out of pocket expenditure, not part of PM-RSSM.

Opportunities

- Alignment with the NHP 2017 and NITI Aayog's three year Action Agenda 2017-20.
- Wide public and media attention on the program can bring desired public accountability to expedite implementation
- Implementation experience from RSBY and other schemes such as free medicines could be utilized for rapid scale up
- Global and national level focus on universal health coverage
- Upcoming general elections and assembly elections in a number of states.
- Potential to develop innovative models and strategies for strengthening entire healthcare system in India.

Threats

- Change in the political leadership or the priorities of the elected governments (before or after elections)
- Limited buy-in and interest by the Indian states in PM-RSSM (both political and other reasons)
- Challenge in availability of mid-level care providers for Health and Wellness centres could delay the setting up of 150,000 HWCs
- Focus on these components only and the other broader health system needs ignored.
- Disproportionate focus on one of two initiatives in ABP

SWOT: Strengths, Weaknesses, Opportunities, Threats

There is sufficient evidence available that strengthening of primary healthcare is the most appropriate approach to achieve UHC. Investment on comprehensive primary healthcare system is a practical and affordable solution for India [1]. Health services are human resource intensive, and India has plenty of potentially trainable human resources available at a low cost. The successful engagement of nearly 1 million Accredited Social Health Activists (ASHA) under National Health Mission (NHM) in India is a proof of the potential and effectiveness of community health workers [35,36]. More of appropriately skilled workforce such as mid-level healthcare providers (MLHP) as part of HWCs would be affordable, efficient and effective. In the process, India might end up building a low cost, high impact model of primary healthcare, for rest of the world. Many countries such as Chile, Costa Rica and Thailand have succeeded through their own context-specific model for primary healthcare at low cost, and achieved comparable health outcomes as to high-income countries.

The global evidence on effectiveness of government funded and social health insurance (SHI) in reducing OOPE is limited, either side [37,38]. However, there is enough evidence to conclude that if implemented well and at-scale, insurance schemes increase access to health services, can save lives, and improve financial affordability. It is this emerging evidence and intention to make health services affordable to poor people, that many state governments in India launched publically funded health insurance schemes, mostly in the last decade (***Table* III)**. There is evidence that such schemes can prove an effective tool to improved quality of health services through differentiated rates and incentives if providers meet certain quality standards, and have accreditation; increased adherence to Standard Treatment Guidelines (STGs), and provider's willingness to accept slightly higher regulation, amongst other approaches [39-41].

The insurance schemes in India have had low population coverage (against the target beneficiaries) and limited impact on OOPE. The coverage with insurance schemes in surveys have ranged from 11-12% families in India [42] or that at least one member in around 28% of Indian families [43]. Considering most of the insurance schemes cover a narrow range of secondary- and tertiary-care procedures, and exclude outpatient services; there seems to be a long way in reducing OOPE in India. The cost of consultations in outpatient department, along with cost of medicines and diagnostics are the major contributor to the OOPE in India, which were not covered in either RSBY earlier or PM-RSSM now. Understandably,

TABLE III EVOLUTION OF HEALTH INSURANCE SCHEMES AT NATIONAL AND STATE LEVELS IN INDIA

Year (of start/ launch)	*Name of the scheme*	*Scope (National or state specific)*
1948	Employees' State Insurance Scheme	National
1954	Central Government Health Scheme	National
1986	Private Insurance- Mediclaim	National
2003	Ex Servicemen Contributory Health Scheme	National
2003	Universal Health Insurance scheme (UHIS)	National
2003	Yeshasvini Cooperative Farmers Health Insurance, Vajpayee Arogyashree Scheme (2010) , Rajiv Arogya Bhagya (2013)	Karnataka
2005	Health Insurance Scheme for handloom weavers	National
2006	Shilpi Swasthya Yojana for handicrafts artisan	National
2007	Aarogyasri scheme (continued as Dr NTR Vaidya Seva (2015) Aarogya Raksha scheme, 2017	Andhra Pradesh
2007	Aarogyasri Health Scheme (Continuation in 2015)	Telangana
2008	Rashtriya Swasthya Bima Yojana (RSBY)	National
2008	Comprehensive Health Insurance Scheme (CHIS) and CHIS Plus	Kerala
2008	Mizoram State Health Care Scheme	Mizoram
2009	Niramaya Health insurance scheme*Continued as* Swablamban Health insurance schemes in 2016	National
2010	Rajiv Gandhi Jeevandayee Aarogya Yojana, Mahatma Jyotiba Phule Jan Aarogya Yojana (2017)	Maharashtra
2012	Mukhya Mantri Amrutam YojanaMukhya Mantri Amtritam Vatsalya (2014)	Gujarat
2012	Chief Minister's Comprehensive Health Insurance Scheme	Tamil Nadu
2012	Megha Health Insurance Scheme,	Meghalaya
2012	Mukhyamantri Swasthya Bima Yojana	Chhattisgarh
2013	Biju Krushak Kalyan Yojana,	Odisha
2013	Sanjeevani Swasthya Bima Yojana	Dadra and Nagar Haveli, and Daman and Diu
2014	The Arunachal Pradesh Chief Minister's Universal Health Insurance Scheme	Arunachal Pradesh
2015	Andaman and Nicobar Island Scheme for Health Insurance	Andaman and Nicobar Island
2015	Bhagat Puran Singh Health Insurance Scheme,Bhai Ghanhya Sehat Sewa Scheme (BGSSS)	Punjab
2015	Bhamashah Health Insurance Scheme	Rajasthan
2016	Din Dayal Swasthya Seva Yojana	Goa
2016	Senior Citizen Health Insurance Scheme (SCHIS) within RSBY	National
2016	Mukhya Mantri State Health Care Scheme (MMSHC)	Himachal Pradesh
2016	Puducherry Medical Relief Society	Puducherry
2016	Mukhyamantri Swasthya Bima Yojana	Uttarakhand
2016	Atal Amrit Abhiyan	Assam
2016	Swasthya Sathi	West Bengal
2018	NHPS/AB- NHPM/PM-RSSM	National

This is an indicative list. For every state, the year of start of first health insurance schemes has been listed. A number of these schemes are for specific target population groups. A number of Indian states have more than one scheme; however, only a few key schemes are listed. There are a few Indian states, with no insurance scheme. Most of the states in India, in addition, have schemes with provision of re-imbursement for medical expenses for selected health condition and those schemes are not listed.

health insurance schemes, focused only on secondary and tertiary level hospitalization, do not always lead to reduced OOPE. Rather in some cases, OOPE increases as the awareness about schemes can lead to utilization of health services (by the people who were not accessing services) and people have to pay for additional services

not covered [38,39,44]. The budgetary allocation to RSBY during the years of implementation was less than one percent of total annual government spending on health in India. Clearly, the impact on OOPE could not have been much different. In the similar vein, considering that total OOPE in India in 2014-15 was Rs 302,425 Crore (Approx. US$ 46.5 billion) and a scheme such as PM-RSSM with an annual budget of around Rs 12,000 Crore (or US$ 1.8 billion), even with full scale implementation would have only marginal impact on reducing OOPE. Though, it may prevent catastrophic health expenditures for the families covered.

For health insurance schemes being effective and efficient, a common and bigger pool, administered through a single agency is considered the best approach. India has multiple schemes with their independent and almost parallel administration, management and beneficiaries. Even within a state, there are multiple scheme running parallel, targeted at different beneficiaries. If PM-RSSM can initiate the process of merger of multiple schemes in a single pool over period of time and where non-poor join by paying the premium, that would make it truly a 'game changer'. In this context, the initiative by the government of Karnataka to combine 7 ongoing and existing schemes in a single pool, to be administered by a common agency, could be studied for probable learnings [45]. At national level, a few schemes for financial assistance to patients have been harmonized by union government by the abolition of autonomous bodies and transfer to Ministry of Health & Family Welfare [46]. Alongside, a road-map for the extension of benefit of PM-RSSM to additional population, with graded subsidy, should be actively considered and strategy outlined.

Many countries have included health as a basic right in their constitution [47]. Evidence indicates that inclusion of health as basic right help in increasing access to services and holding the governments accountable. While India has adopted a number of right based initiatives, including the 'right to education' legislation, the health has not been mentioned as a right in the constitution of India, though often interpreted in context of Article 21 on right to life [48]. India's NHP-2017 takes a stride and proposes 'progressively incremental assurance' towards health, though it falls short of 'right to health' [1]. The sustainability of select SHI in India over other schemes has partially been attributed to legislative provisions [49]. A scheme of magnitude of PM-RSSM might benefit from legislative backing as has been case with Employee State Health Insurance Scheme (ESIS) and Central Government Health Schemes (CGHS) [50, 51].

The National Health Services (NHS) of United Kingdom is said have emerged from political commitment in aftermath of post-World War II [52]. With ABP in India, there appears a political will and commitment. The community and civil society plays a crucial role in ensuring that political promises and commitments sustained in changing political environment [52,53]. An institutional and legally backed-up mechanism to engage communities and civil societies, such as national health assembly in Thailand [54] may help India as well, though the modus operandi could be home-grown.

In implementation of HWCs, caution has to be exercised and an overzealous attempt to expand package of services should not results in reduced attention on maternal and child health (MCH) services. Rather, the MCH service platform should be used to build upon expanded package of services. In addition, HWCs and financial affordability offered through PM-RSSM would further increase accessibility, affordability to all populations including mothers and children and bring hitherto uncovered populations to the public health system. HWCs can help in addressing different types of inequities in health services, as identified by multiple surveys. There is evidence that when geographical and financial access to services is increased, it is poor and women who are more commonly benefited.

The people have to be at the center of health services and in scale-up and reform of health services, attention should not be on supply-side interventions only; people's perspective should get due consideration. Mechanisms for satisfaction survey and feedback assessment should be strengthened, and the data used for regular actions and initiatives.

Finally, there is a strong economic case for accelerated implementation of ABP in India. Healthier population means enhanced overall productivity, reduced wage loss and less impoverishment. In Germany, domestic health economy contributes to 12% of gross value added and 8% of Germany's export [55]. The rapid implementation of ABP in India has potential to generate employment through recruitment of additional workforce such as MLHPs.

Implementation challenges in ABP and possible solutions

The initiative under ABP can be called ambitious and bold; however, would be operationally challenging for a health system, not known to deliver. The sub-optimal implementation and partial scale-up has been the case with a number of initiatives in the past [27,56-60]. This includes initiatives started a few years ago (*i.e.*, a number

of free treatment and diagnostics schemes by union and state governments) as well as NHPS announced in 2016 and the proposed universalization of maternity benefit scheme, announced in December 2016 [61,62]. Clearly, in health sector, more need to be done for translating policies and intentions into practice.

Health sector is a specialized field where successful outcome requires getting both design and implementation right. In setting up HWCs, a 'rate limiting factor' could be recruiting MLHPs or Community Health Officer (CHO), one each would be required for 150,000 HWCs. This is an opportunity to innovate and explore solutions for recruitment of additional cadre of providers on priority basis. Alongside, the quality of services delivered through these facilities needs to be assured by achieving Indian Public Health Standards (IPHS).

There is limited capacity amongst Indian states in identification and enrolment of beneficiaries, designing the benefit package, fixing the package rate, empanelment of facilities, monitoring and regulation and fraud detection. Many of these are 'sine qua non' for success of a health insurance scheme. The insurance schemes require a state level authority with sufficiently trained staff, and a well-functioning Information technology (IT) system to implement the program. In India, the capacity of the states to run insurance schemes is lowest where these are needed most. The success of PM-RSSM would also be dependent upon how the supply-deficient Indian states such as Uttar Pradesh, Bihar and the North-eastern states take up and implement the scheme. A well-functioning IT platform would be essential to meet diverse needs of different stakeholders including patients, service providers and program managers [26,27]. The significance of IT platform cannot be over-emphasized and it would be very crucial in strategic purchase of services, provider payments, fraud detection and monitoring of the scheme. India to utilize the opportunity provided by PM-RSSM to build a strong IT platform not only for this scheme but also to develop an integrated health information platform to bring multiple IT systems on a single platform. The implementation would benefit from generating real time data and then use of data for action. As a first step, the data generated from RSBY should be analyzed and learnings used for designing and scaling-up of PM-RSSM.

The ABP success on advancing health and achieving UHC in India would be dependent upon the response and leadership of Indian state. The states may require different model and design to address both supply deficiency and capacity. A few additional suggestions to improve implementation effectiveness of ABP are provided in ***Box* 3.**

The way forward to strengthen health systems in India

As health seems to have received priority in India, the opportunity should be used as a catalyst for decisive and broader health system re-designing and strengthening. A few steps can contribute to the implementation effectiveness:

1. *Retain focus on increasing government investment on health*: In the years ahead, the universal implementation of two components of 'Ayushman Bharat Program' would require approx. Rs. 70-100 thousand Crore (US$ 11.5 - 15.5 billion) per annum [63]. This increased investment in health would be in alignment with NHP-2017 target of government

Box 3 ACTIONABLE STEPS FOR IMPROVING IMPLEMENTATION EFFECTIVENESS OF AYUSHMAN BHARAT PROGRAM

For HWCs

- Conduct detailed costing exercise, agree on roadmap, and allocate commensurate financial resources.
- Aggressive scale-up and not incremental approach.
- Give attention to urban primary healthcare and think of additional and innovative approaches with capital investment in urban areas.
- Establish autonomous authority/corporations to provide technical support for setting up HWCs.
- Information technology back-bone, and other areas for intervention.

For AB-NHPM/ PM-RSSM

- Make insurance scheme easy to use for people so that poor are able to use the services.
- Communicate the benefit plan and scheme to target beneficiaries to ensure enrolment.
- A national level IT platform, to facilitate beneficiary identification, portability, the payment and detect fraud.
- Linkage of out-patient care with specialized care to ensure efficiency and effectiveness in health services.
- Strengthening of supply side is as important as demand based financing schemes.

spending 2.5% of GDP on health by year 2025 [1]. This would require an annual increase of 20-25% in budgetary allocation by both national and state governments. Not allocating enough funds to already underfunded health sector, and only promise of providing funds as per the need, can be taken as 'perverse incentive' by fiscally deficit governments as a reason not to ramp-up implemen-tation. Measuring the government investment on health as percentage of GDP is a better approach than comparison by the nominal values or budget to budget estimates. The ABP should not result in reduced attention from the targets of NHP-2017. The UHC is about everyone, everywhere [64], and the mechanisms for financial protection beyond targeted 40% families as in PM-RSSM, should be explored and linkage between primary and secondary/tertiary care strengthened. This should be part of mid-term roadmap and 'progressive universalization' of financial protection in India. Over the period of time, non-poor should be a part of a government scheme. While premium for poor can be borne by government, the non-poor can subscribe to an insurance scheme (preferably, mandatory contribution).

2. *Strengthen and scale up ongoing initiatives*: Strengthening a number of ongoing initiatives, *i.e*., free medicines and diagnostics schemes, scaling up services in urban areas, expansion of services for non-communicable diseases and strengthening of the referral linkages at all levels of facilities, are complementary and should continue to receive attention. Health outcomes in selected urban areas are often worse than rural areas and urban population faces additional challenges such as limited public space for physical activities, air pollution, over-crowding and migratory populations, which pose additional health risks [59,65]. In urban set-up, converting the existing urban PHCs into HWCs would not be enough and capital investment to expand PHC infrastructure is also needed. A PHC and government medical officer for every 50,000 population would not be able to cater the health needs of urban population. An UPHC should be available for every 10-20,000 population. The initiatives such as 'Mohalla Clinics and 'Basthi Devakhana' should be actively considered for expansion in other urban settings of India [66,67].

3. *Establish institutional mechanism to bring stakeholders together*: Engagement with the community and civil society organization will play a crucial role. This can bring accountability and ensure continuity, rapid scale-up of the initiatives, and can place health in electoral agenda. The academic and research institutions as knowledge partners can help in designing local solutions, while continue to derive learnings from international experience and good practices in due course. The success of ABP would also be dependent upon how best the proposed initiatives in ABP are anchored on other flagship initiatives and priority programs of government, such as Aspirational District Program (ADP) and Gram Swaraj Abhiyan (GSA), launched around same time [68,69]. In India, while there are a few mechanisms, *i.e.*, Central Council of Health and Family Welfare, for limited stakeholder of non governmental stakeholders. However, there is need for more inclusive, dedicated and sustained institutional approach are possible learnings from experience of national health assemblies in Thailand [54].

4. *State Government to take lead for advancing UHC and explore the legal framework for PM-RSSM* Achieving UHC in India can be supported by examination of existing legislative provisions and exploring additional ones to achieve stated policy intentions. Sustainability and long-term continuity of social health insurance schemes in India has been partially attributed to legislative back up [48-51]. Similarly, hospitals and public health is a state responsibility as per constitution of India. Therefore, uptake of ABP is a lot dependent upon interest and leadership of Indian states. In the long run, it might be helpful to explore the pros and cons of bringing health in concurrent list of constitution of India.

5. *Use ABP as platform to bigger health system reforms in India*: The success of ABP would be in bringing the shift from the traditional approach of disease specific and targeted initiatives to focus on people-centered integrated services and financial protection. One of the strengths and success factors of National Health Mission (NHM) in India was attempt to strengthen health system. The health system strengthening does not appear to be an explicit focus in ABP in India. In due course, it would be beneficial to converge the ABP and NHM to improve both supply- and demand-side issues and achieve a stronger health system in all states of country.

CONCLUSION

India has committed to achieve UHC as a signatory to the globally agreed Sustainable Development Goals as well as through the NHP 2017. For countries aiming to march towards UHC, there is no 'one size fit all' solution, and the strategies have to be locally developed and implemented. Every strategy/program would have to build upon strengths and attempt to minimize limitations. Ayushman

Bharat Program appears to be a balanced approach, which combines provision of comprehensive primary healthcare (through HWCs) and secondary and tertiary care hospitalization (through PM-RSSM). While ABP would help India make progress towards UHC, this program alone would not be enough and needs to be supplemented by rapid scale-up and convergence of ongoing schemes and programs, and taking a few additional measures. The ABP can prove an initiative bigger than simply delivering health services and rather a platform to prepare India for making health coverage universal.

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***Web Appendix* 1 COMPREHENSIVE PRIMARY HEALTH CARE TEAM AT HEALTH AND WELLNESS CENTERS** [5,22,26]

The Health and Wellness Centre (HWCs) initiative under ABP was officially launched on 14 April 2018. On this day, the Prime Minister of India opened a HWC to public, in Jangla village in Bhairamgarh Tehsil of Bijapur in Chhattisgarh state of India.

The HWCs at Sub-Health Centre level facility would have following staff:

- Mid-level healthcare provider (MLHP) : BSc/-General Nurse Midwife or Ayurveda Practitioner trained in 6 months Certificate Programme in Community Health/ Community Health Officer
- Multi-Purpose Worker (MPW) Female- 2 per SHC as per Indian Public Health Standards norm
- Multi-Purpose Worker (MPW) Male - 1
- 5 Accredited Social Health Activist (ASHA)s as outreach team per Sub-health centre

Health and Wellness Center at Primary Health Centre (@30,000) in rural area/Urban Primary Health Centre @50,000 popualtion

- 1 Allopathic Doctor,
- 1 Staff nurses,
- 1 Pharmacist,
- 1 Laboratory Technician
- Lady health visitors + Multi-purpose workers + (As per existing norms).
- Services: As per Indian Public Health Standard (IPHS) plus Screening of NCDs and wellness room

Note: The use of terminology of Multi-purpose workers –male and female (MPW-M or F) instead of Auxiliary nurse midwife (ANM) is being proposed, as these staff would provide broader range of services than nursing and midwifery. There would not be a Mid-level Healthcare Provider (MLHP) at the facilities where a medical officer is present such as Primary health centre and Urban PHCs.

***Web Appendix* 2 AYUSHMAN BHARAT- NATIONAL HEALTH PROTECTION MISSION (AB-NHPM)** [22, 27]

This scheme was announced in union budget of India as national health protection Scheme (NHPS) on 1 February 2018.

Approval by Union Cabinet

The Union cabinet of India approved the scheme on 21 March 2018 as Ayushman Bharat- National Health Protection Mission (AB-NHPM). The cabinet approved that AB-NHPM will subsume the on-going centrally sponsored schemes – Rashtriya Swasthya Bima Yojana (RSBY) and the Senior Citizen Health Insurance Scheme (SCHIS), started in year 2008 and 2016, respectively AB-NHPM will be rolled out across all States/UTs in all districts with an objective to cover all the targeted beneficiaries..

Beneficiaries and Inclusion Criteria:

AB-NHPM will have a defined benefit cover of Rs. 500,000 (US$ 7700) per family per year. There will be no cap on family size and age in the scheme. Benefits of the scheme are portable across the country and a beneficiary covered under the scheme will be allowed to take cashless benefits from any public/private empaneled hospitals across the country.

AB-NHPM will be an entitlement based scheme with entitlement decided on the basis of deprivation criteria in the Socio-economic and caste census (SECC) database.

The different categories in rural area include:

- families having only one room with kucchha walls and kuchcha roof;
- families having no adult member between age 16 to 59;
- female headed households with no adult male member between age 16 to 59;
- disabled member and no able bodied adult member in the family;
- SC/ST households;
- landless households deriving major part of their income from manual casual labour,
- The automatically included families in rural areas having any one of the following: (*a*) households without shelter, (*b*) destitute, (*c*) living on alms, (*d*) manual scavenger families, (*e*) primitive tribal groups, (*f*) legally released bonded labour.

For urban areas, 11 defined occupational categories are entitled under the scheme.

Empanelment of Facilities:

All public hospitals in the States implementing AB-NHPM, will be deemed empaneled for the Scheme. Hospitals belonging to Employee State Insurance Corporation (ESIC) may also be empaneled based on the bed occupancy ratio parameter. As for private hospitals, they will be empaneled based on defined criteria.

The payments for treatment will be done on package rate (to be defined by the Government in advance) basis. The package rates will include all the costs associated with treatment. For beneficiaries, it will be a cashless, paper less transaction. Keeping in view the State specific requirements, States/ Union territories (UTs) will have the flexibility to modify these rates within a limited bandwidth.

Union and State Engagement and Coordination

There will be provision to ensure appropriate integration with the existing health insurance/ protection schemes of various Central Ministries/Departments and State Governments (at their own cost).

The State Governments are allowed to expand AB-NHPM both horizontally and vertically. States will be free to choose the modalities for implementation.

Governing Structure (National and State Level):

For giving policy directions and fostering coordination between Centre and States, The scheme is proposed to set up following bodies at national level:

- Ayushman Bharat National Health Protection Mission Council (AB-NHPMC) at apex level Chaired by Union Health and Family Welfare Minister.
- Ayushman Bharat National Health Protection Mission Governing Board (AB-NHPMGB) which will be jointly chaired by Secretary (HFW) and Member (Health), NITI Aayog with Financial Advisor, MoHFW, Additional Secretary & Mission Director, Ayushman Bharat National Health Protection Mission, MoHFW (AB-NHPM) and Joint Secretary (AB-NHPM), MoHFW as members. CEO, Ayushman Bharat - National Health Protection Mission will be the Member Secretary, State Secretaries of Health Department may also be members as per the requirement.
- National Health Agency (NHA) to manage the AB-NHPM at the operational level in the form of a Society. NHA will be headed by a full time Chief Executive Officer (CEO) of the level of Secretary/Additional

Secretary to the Government of India.

At state level, a State Health Agency (SHA) to implement the scheme States will have the option to use an existing Trust / Society / Not for Profit Company/ State Nodal Agency or set up a new Trust / Society / Not for Profit Company/ State Health Agency to implement the scheme and act as SHA.

Funds Transfer:

To ensure that the funds reach SHA on time, the transfer of funds from Central Government through AB-NHPMA to State Health Agencies may be done through an escrow account directly.

IT Platform:

A robust, modular, scalable and interoperable IT platform is proposed to be made operational to entail a paperless, cashless transaction. This will also help in prevention / detection of any potential misuse / fraud / abuse cases. This will be backed by a well-defined Grievance Redressal Mechanism.

Media and Outreach:

In order to ensure that the scheme reaches the intended beneficiaries and other stakeholders, a comprehensive media and outreach strategy is proposed, which will, inter alia, include print media, electronic media, social media platforms, traditional media, IEC materials and outdoor activities 30 April has been announced as 'Ayushman Bharat Diwas' in India. This day on 2018 was used to generate awareness about PM-RSSM amongst the target beneficiaries as well as to collect data on potential beneficiaries for this scheme.

The Erstwhile scheme- RSBY:

RSBY was launched in the year 2008 by the Ministry of Labour and Employment and provides cashless health insurance scheme with benefit coverage of Rs. 30.000/- per annum on a family floater basis [for 5 members], for Below Poverty Line (BPL) families, and 11 other defined categories of un-organised workers. To integrate RSBY into the health system the scheme comprehensive health care vision of Government of India, RSBY was transferred to the Ministry of Health and Family Welfare (MoHFW) w.e.f 01.04.2015. During 2016-2017, 3.63 crore families were covered under RSBY in 278 districts of the country and they could avail medical treatment across the network of 8,697 empaneled hospitals.

A number of activities to roll-out the PM-RSSM has been completed. The operational guidelines, model tender documents,benefit packages and costs have been drafted and shared widely (available at www.pmrssm.gov.in). A Chief Executive Officer of National Health Agency been appointed and taken charge. A series of consultations with state governments and other stakeholders completed and a few in pipeline. As of now, the proposed date of launch of PM-RSSM in select states of India is 15 August 2018.

WEB TABLE I AYUSHMAN BHARAT PROGRAM: KEY COMPONENTS [1,5,22,26,27]

Health and Wellness Centers (HWCs)	*Pradhan Mantri- Rashtriya Swasthya Suraksha Mission (PM-RSSM)*
The comprehensive primary healthcare (through HWCs) in India focuses upon the provision of package of 12 essential services. In addition, the HWCs are proposed to be linked to Block level Primary health centres (PHC) and Community health Centres (CHCs) as first referral point. The approach includes expanding the workforce to create a Primary Health Care Team, improving availability of drugs for chronic diseases and point of care diagnostic; developing IT systems to strengthen continuum of care, monitoring, innovations in service delivery; capacity Building of care providers and Health promotion. Both PHCs and SHCs would be upgraded to HWCs. However, of the existing 180,000 PHCs and SHC, only 150,000 would be made HWCs as some of the facilities at present are co-located in single village, of these only one would be taken for upgradation. *Twelve packages of proposed services through HWCs:* 1. Care in pregnancy and child-birth. 2. Neonatal and infant health care services 3. Childhood and adolescent health care services. 4. Family planning, Contraceptive services and Other Reproductive Health Care services 5. Management of Communicable Diseases: National Health Programs 6. General Out-patient care for acute simple illnesses and minor ailments 7. Screening and Management of Non-Communicable diseases 8. Screening and Basic management of Mental health ailments 9. Care for Common Ophthalmic & ENT problems 10. Basic Dental health care 11. Geriatric and palliative health care services 12. Trauma Care (that can be managed at this level) and Emergency Medical services. *Key components of Comprehensive primary healthcare (CPHC) as part of HWCs:* - Expanded packages of service - delivered at levels of community-primary health facilities – referral linkage - Expanding Human Resources - MLHP & Multi-skilling - Medicines & Expanding Diagnostics - point of care & new technologies - Community Mobilisation and Health Promotion - Infrastructure - Financing/Provider Payment Reforms - Robust IT System - Partnership for Knowledge & Implementation - Continuum of Care	• A lot of background work was done following announcement of NHPS-2016 in the union budget 2016-17: The benefit packages design, the package rates, empanelment criteria, basic information on IT platform, and national and state health authorities to serve as background material to expedite the planning. • The 'deprivation data' from socio-economic and caste census (SECC) of 2011 will be used for eligibility of beneficiaries. The enrolment will be linked with Aadhar number. • A premium of Rs 1,082 per family has been estimated under NHPS/PM-RSSM. The government would pay the entire premium, for the targeted beneficiaries, with no contribution or co-payment by the beneficiaries. • The full scale implementation of AB-NHPM (for 107 million families) would cost approx. Rs. 12, 000 Crore (US$ 1.8 billion) per year including administrative and other costs. • The premium will be shared between union and state governments, at 60-40, or 90-10 formula, as applicable for other centrally sponsored schemes (CSS). For the Union territories, the entire cost will be borne by union government. It has been estimated that the state government would have to contribute around Rs. 4,330 Crore (US$ 670 million) per annum and remaining around Rs 7,600 Crore (US$ 1,170 million) would come from the Union government. • The state government would be free to choose between trust or insurance model or even a mixed approach for the implementation of the scheme. There would be freedom to the states for appropriate harmonization of ongoing state specific insurance/assurance schemes with PM-RSSM. • The PM-RSSM is proposed to be from 15 Aug 2018 and not later than 02 Oct 2018. • The PM-RSSM will cover both Pre and Post hospitalization expenditure to be covered including all pre-existing conditions covered from day 1. • The Transport allowance to beneficiaries at the time of discharge for particular condition. • Both medical and surgical conditions have been proposed with minimum exclusion. • Covers all tertiary care hospitalization and most secondary level hospitalization • Socio Economic Caste Census (SECC) data will be base for PM-RSSM. The selection Criteria (# of Households) include 5 deprivation criteria (Rural + Urban) (75.6 Million); Automatic inclusion criteria (Rural) (1.59 Million); Occupational criteria (Urban) (19.7 Million); Others already included in RSBY (2.2 Million) • NHPS likely to be implemented by 5-7 states of India in the first year, with additional states onboarding in the following years.

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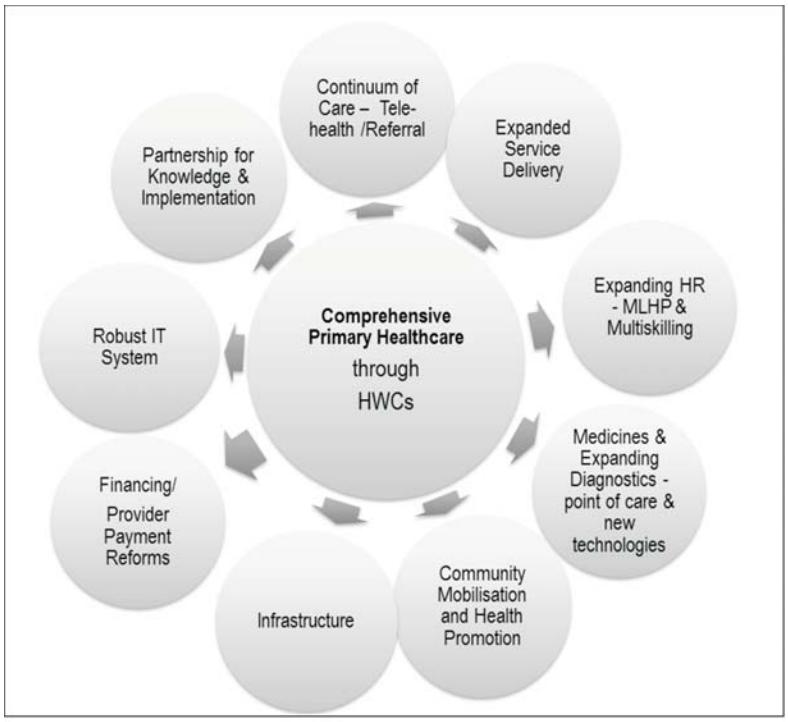
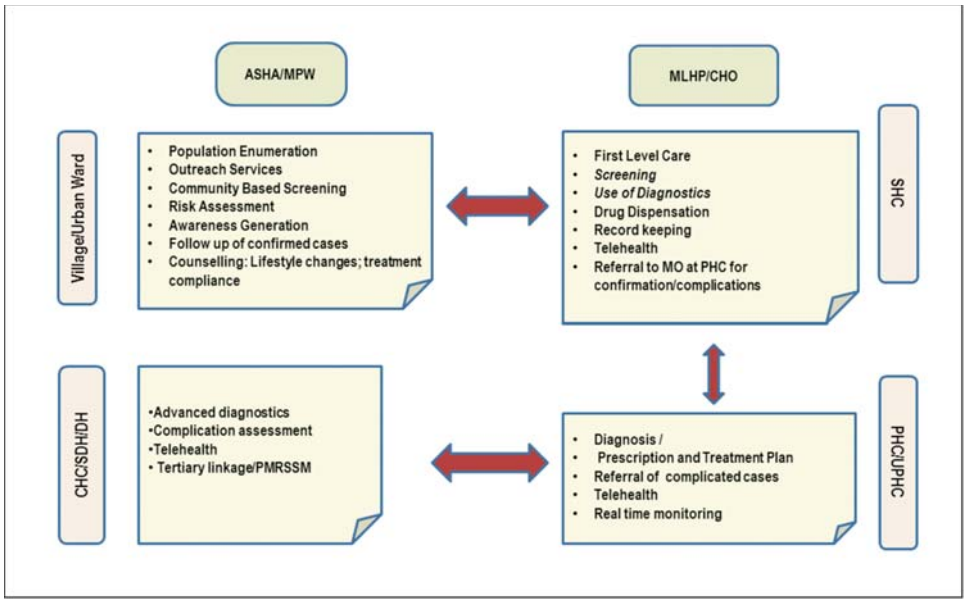
Health and Wellness Centers (HWCs)	*Pradhan Mantri- Rashtriya Swasthya Suraksha Mission (PM-RSSM)*
- Tele-health /Referral Rs. 1,200 Crore (US$ 185 million) allocated to upgrade 11,000 HWCs in FY 2018-19.	
Upgradation of each of the sub health centre would need approx. Rs 1,700,000 (US$ 26,000) per facility. Therefore, total budget needed for upgradation of 11,000 HWCs would be around Rs 1,900 Crore (US$ 290 million). Of this, Rs 1,200 Crore (US$ 185 million) has been allotted in Union budget as central government share and remaining is expected to come as state contribution.	Rs. 2,000 Crore (US$ 310 million) allocated for FY 2018-19. An additional Rs. 8,000 Crore (US$ 1,230 million) for FY 2019-20. Nation-wide implementation of PM-RSSM will cost around Rs. 12,000 Crore (US$ 1.8 billion). However, in the first year, the scheme will be started in part of the year and in select states. The expenditure is likely to be limited. For the FY 2019-20; Rs. 8,000 Crore (US$ 1,230 million) could be sufficient to meet nation-wide implementation as balance amount would come from contribution of state governments.



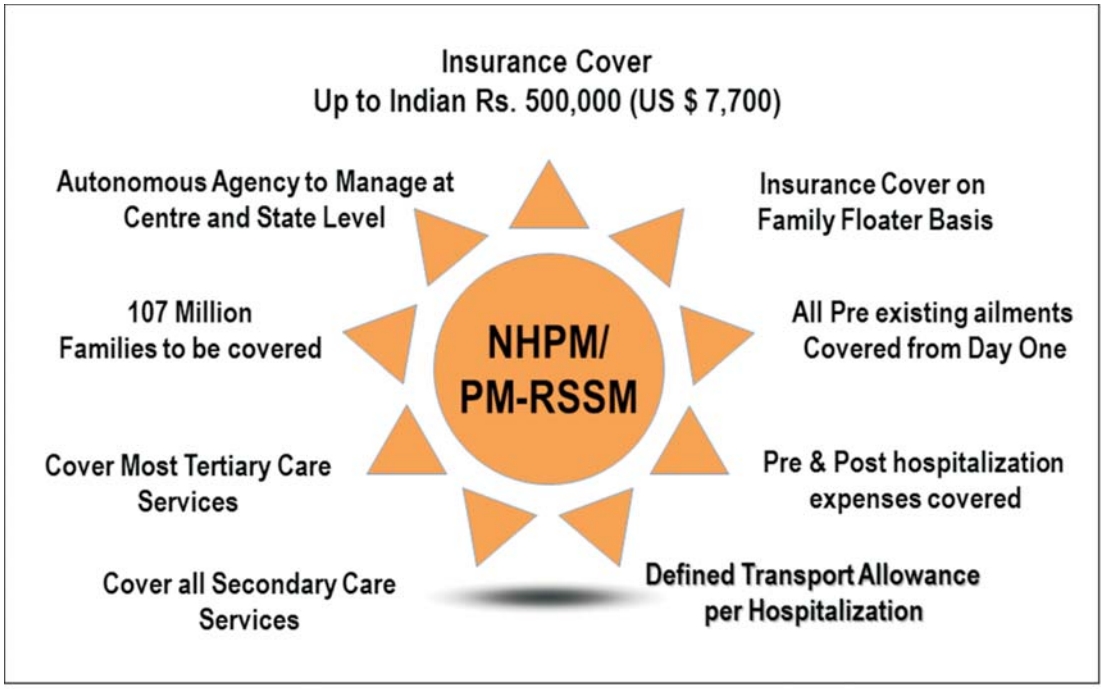
HWCs: Health and Wellness Centres; MLHP: Mid-level health care providers; HR: Human resources

***Web Fig.* 1** *Key elements to roll out comprehensive primary healthcare as part of Health and wellness centers.*



ASHA: Accredited Social Health Activists; CHO: Community Health Officer; HWCs: Health and Wellness Centres; HR: Human resources; MLHP: Mid-level care providers; MO: Medical Officer; SHC: Sub- health centre; PHC: Primary Health Centre; UPHC: urban Primary Health centres; CHC: Community Health Centre; SDH: Sub-district hospital; DH: District Hospital; PM-RSSM: Pradhan Mantri- Rashtriya Swasthya Suraksha Mission; MPW: Multi-purpose worker.

WEB FIG. 2 *Proposed continuum of care from community to facility in Health and wellness centers.*



PM-RSSM: Pradhan Mantri- Rashtriya Swasthya Suraksha Mission

WEB FIG. 3 *Key components of PM-RSSM.*