Innovation

Framework

National Urban Health Mission (NUHM)

Executive Summary:

Urban health is extremely complex with myriad of challenges . For urban health to expand comprehensively to address issues and effectively fulfil demand of an ever increasing vulnerable population an innovative approach and solution is essential. NUHM provides for presence of multiple health service providers, access to technology; especially penetration of mobile and satellite or cable TV, FM radios; providing the opportunity to explore innovation and partnerships for increasing the reach of the programme.

The Innovation Framework intends to provide conceptual clarity and implementation guidance with regard to the rationale for innovations presents relevant experiences; and delineates processes and the supporting systems with an aim to nurture innovations under NUHM. The objective of the Innovation Framework is to guide the States and the Urban Local Bodies (ULBs) in developing, implementing and scaling up innovations to address the unique urban health challenges along with promoting systematic learning, documenting and sharing of urban health innovations across India.

An innovation can be identified with its inherent characteristics which are enabling, easy to implement, replicable and economically viable while it can be categorized such as 1) Product and Device Innovation 2) Innovation in Service Delivery 3) Program and Process Innovation 4) Technology Innovation 5) Social Innovation 6) Financial Innovation and 7) Policy Innovation. Since the NUHM essentially deals with the urban health systems and therefore the innovations under NUHM would broadly fall under to “Health Systems and Program Design”. However, innovations in products and technologies intending to provide affordable health care services can also be explored. The guideline also describes the process part which has summarised as “3 Is and L” wherein the three ‘I’s stand for Identification, Ideation and Implementation, and the L stands for Learning. The Learning element can be further divided into two components a) Monitoring & Evaluation and b) Documentation for sharing. The collection, compilation, and analysis of evidence (qualitative and quantitative) to assess the progress vis a vis the stated objective, undertake mid-course correction, predicting the possibility of replication and scale up and most importantly, sharing with larger stakeholders.

The documentation is an equally important element of the innovation pilot and requires dedicated resource allocation. Documentation of pilot is different from the routine documentation work which needs the engagement of skilled and experienced staff. The state can either identify and recruit staff with requisite skills and expertise or seek the support of institutions capable of providing specialized service. The Framework has a reference in the documentation section on how to integrate it with the National Knowledge Platform. The document has also tried to identify the possible reason for success and failure of innovation in the specific context. While discussing the role and responsibilities, the document has delineated the responsibility starting from CPMU/DPMU up to NHSRC, program division and urban health division of MOHFW. The partnership is an important element of the implementation part of innovation since it complements the role of partners. Innovation and Partnership are intrinsically linked as one leads to the other both sustain each other. This section has an elaborate discussion on how to identify and engage partners.

List of Abbreviations

ASHA	Accredited Social Health Activist
AC- UH	Assistant Commissioner – Urban Health
CHD	Coronary Heart Disease
CDAC	Centre for Development for Advance Computing
CPMU	City Program Management Unit
DC-UH	Deputy Commissioner – Urban Health
DHS	District Health Society
ESIC	Employees' State Insurance Corporation
GoI	Government of India
ICT	Information Communication Technology
MRI	Magnetic Resonance Imaging
MAS	Mahila Arogya Samiti
MOHFW	Ministry of Health and Family Welfare
NGO	Non-Government Organization
NHSRC	National Health System Resource Centre
NHM	National Health Mission
NPCC	National Program Coordination Committee
NUHM	National Urban Health Mission
OPD	Out -Patient Department
PMU	Program Management Unit
SPMU	State Program Management Unit
ToR	Terms of Reference
UCHC	Urban Community Health Centre
ULB	Urban Local Body
UPHC	Urban Primary Health Centre
WHO	World Health Organization

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1. Introduction and background

The National Urban Health Mission (NUHM) aims to address the health concerns of the urban population especially the poor and disadvantaged by facilitating equitable access to health services which are rationalized, revamped and strengthened[1].

In recent past, India has witnessed a phenomenal population growth which has changed the demographic pattern of cities. In 1951, India had only five cities with a population more than million. Within a period of 64 years, it has five cities (Mumbai, Delhi, Hyderabad, Bangalore, Ahmedabad) with over five million population; three cities (Chennai, Kolkata and Surat) over four million population and two cities (Jaipur and Pune) which have over three million population[2]. The census reveals that 1.4 percent of urban households in India live in slums while urban land areas have not increased in proportion to the population growth resulting in higher population density in the cities. This trend is leading to increasing overcrowding of informal settlements where the majority of the poor live.[3] As per the United Nations projections, if urbanization continues at the present rate, then by 2030, 46% of the total population will be living in urban regions of India[4].

The NUHM is being implemented in 1067 cities which have population above 50,000. The characteristic of NUHM cities are significantly different from each other and are influenced by demographic composition, economic activity of the city, governance system and process, availability and access to infrastructure. The "Dual Burden of Disease" has become an established fact for the urban population. Life expectancy has increased and as a result a significant portion of its population is now aging. Coronary heart disease (CAD), diabetes and re-emergence of vector born disease such as dengue, encephalitis, and malaria are imposing challenges for the health system. Health profile or disease profile of a city is significantly different from another city wherein presence of specific vulnerable populations plays a significant role. It is important to note that the trend of growth is the most in small and medium town cities where the process of urbanization is very organic in nature which challenges the public health care delivery system. Recognizing this gap in public health delivery system, the NUHM was launched on 1st May, 2013 to address the primary health care needs of urban population, with a special focus on the urban poor.

1.1 Need for Innovation

Given the enormous size, complexity and ever evolving challenges, it is quite apparent that the conventional health care delivery system and process, many not be enough to reach out to each and every single person with quality health care service. Urban Health, being a highly complex, dynamic and evolving domain, would therefore benefit through an innovative approach and solution. It is therefore important for the health service providers, planners and policy makers to be as innovative as possible to address health care challenges.

The implementation framework for NUHM also lays an emphasis on developing innovative approaches to reach out to the vulnerable sections of the population, encouraging the states to do so within the broad framework of NUHM.

[1] NUHM Framework for Implementation, MOHFW, GoI May, 2013

2 Census of India 2011

3 National Urban Health Program, Frontiers in Social Pediatrics (2016) Edited by A.K. Patwari and HPS Sachdev

1.2 Supporting factors for Innovations

Unlike rural area, the urban space also provides opportunity with the presence of multiple health service providers, access to technology; specially penetration of mobile and satellite or cable TV, FM radios. Due to exposure of mass media, there is a relatively higher awareness and demand for the health services in the community. Presence of private sector, both qualified and other health services providers, further widens options and most importantly, the aspiration of the disadvantage section for better living act as an impetus for innovation. These are conditions which provide the opportunities to develop innovative strategies to overcome implementation hurdles.

NUHM rightly acknowledges the situation and provides a financial provision through untied funds to plan and formulate innovative solutions to carry out these activities. This framework intends to provide guidance and the conceptual clarity with regard to rationale for innovations; presents relevant experiences; and delineates processes and the supporting systems with an aim to nurture innovations under NUHM.

2. Objective of the Innovation Framework

With the overall goal of supporting the NUHM outcomes, the innovations framework have been designed with the objective of:

- Guiding the States and the Urban Local Bodies (ULBs) in developing, implementing and scaling up innovations to address the unique urban health challenges
- Promoting systematic learning, documenting and sharing of urban health innovations across India, thus encouraging scale-up of strategic and locally relevant innovations across the cities and town.

3. Defining Innovation

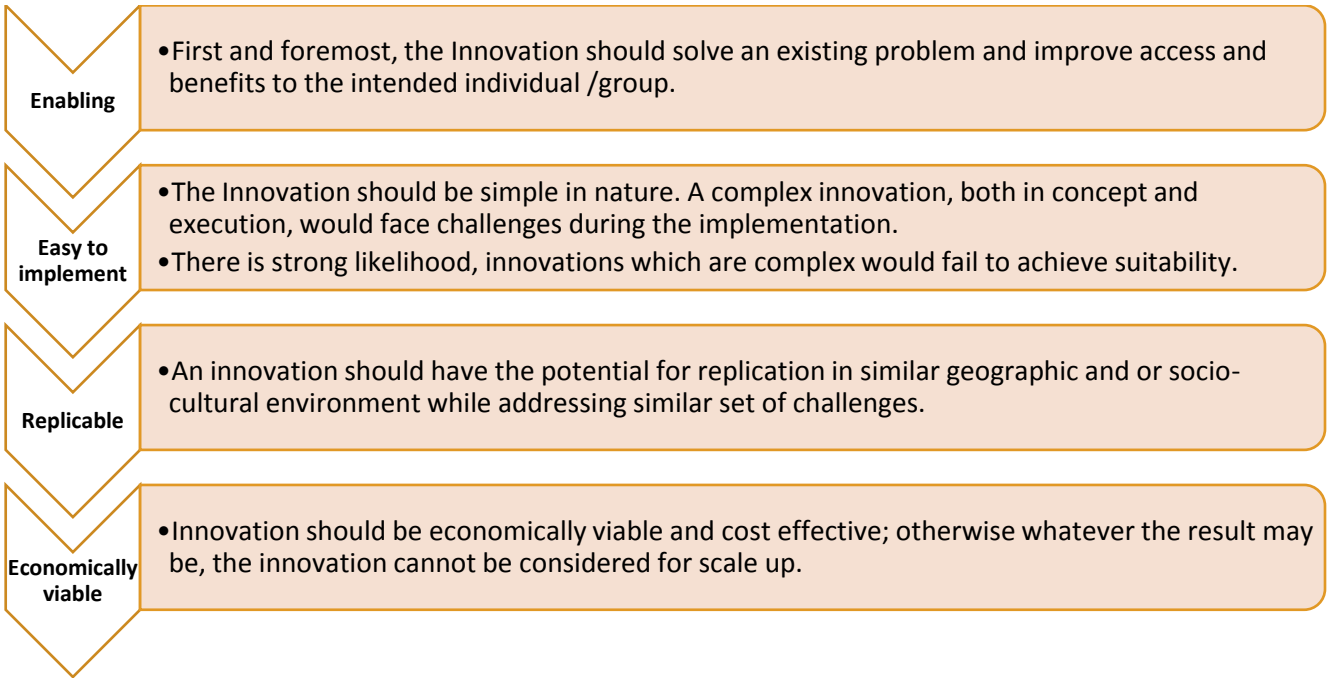
Innovation generally refers to changing processes or their sequence; creating more effective processes; or creating new products and ideas. In the context of health sector, innovation may be defined as a process or product, which is (a) new (incremental or transformational) and creative – involves an innovative approach or application of an existing approach; (b) which meets a need or solves a problem; and (c) which brings significant benefit to one or more groups. The basic purpose of the innovation is to overcome a challenge or barrier to reach out the intended beneficiary with health care service which could be scientific, business and or social.

According to the World Health Organization (WHO) *health innovation identifies new or improved health policies, systems, products and technologies, and services and delivery methods that improve people's health and wellbeing*. Health innovation responds to unmet public health needs by creating new ways of thinking and working with a focus on the needs of vulnerable populations. It aims to add value in the form of improved efficiency, effectiveness, quality, sustainability, safety and/or affordability. Health innovation can be preventive, promotive, curative and rehabilitative and/or assistive care."[5]

[5] http://www.who.int/topics/innovation/en/

4. Characteristics of Innovation

Innovation is an opportunity to convert high quality medical care; and available technology and resources (institutional and individual) into improvements in health and social well- being. The emphasis should not be on understanding what constitutes "new" but on what constitutes a solution to overcoming an existing constraint or barrier or fulfilling a need. Innovations related to service delivery could be a comprehensive health care delivery model or could involve select elements of the implementation chain. An innovation need not be altogether a complete new idea (invention) or is not merely replication or scaling up others' learning in a new set up, without considering the local context. It is possible to innovate by combining new elements with existing elements, or a different configuration/sequence of the existing elements. But mere replication of an existing model in a new location cannot be construed as an innovation. Following are the some of the essential ingredients of innovation:



5. Categories of Innovation

In the larger context, innovation can be divided into categories such as 1) Product and Device Innovation 2) Innovation in Service Delivery 3) Program and Process Innovation 4) Technology Innovation 5) Social Innovation 6) Financial Innovation and 7) Policy Innovation.
The NUHM essentially deals with the urban health systems and therefore the innovations under NUHM would broadly be confined to "Health Systems and Program Design". However, innovations in products and technologies intending to provide affordable health care services can also be explored .

5.1 Product and Device Innovation

Definition: Innovation products or devices are essentially medical products which are either new or better than the existing products in the market. These products are either a revised version of the existing one or

completely new product to address hitherto unaddressed challenges. In most of the cases, products bring value to customer with a reduced price and increase quality and efficiency. For the company, product and device innovation are always centre of attraction since a prudent investment on products and devices would always open-up improved visibility, new market share and high profitability.

The list of innovation in medical products and services are quite long and includes equipment and devices, medical infrastructure, portable medical devices (X Ray and ECG), wearable medical products, health insurance products among others.

Product/Device Innovations:

- Infant warmers, brings down the cost of addressing hypothermia by overcoming the cost aspect as well as the need for continued electricity supply.
- Low frills hospitals providing quality care in urban, peri- urban and rural areas at an affordable cost
- Providing health insurance coverage for people over 60 years of age
- Low cost affordable diagnostic devices

Case study:

Health Kits

A for-profit social enterprise located at south India which develops and markets health kits, for maternal child health. Their products include new-born kit, post-partum haemorrhage kit, and sanitation and hygiene solutions for women. The organization's products are assembled and packaged by local women, creating economic opportunity in the communities it serves. The institution operates an innovative B2B business model, selling its products to health-based businesses (for-profit and non-profit) that are capable of giving a significant and scalable access to its target beneficiaries, especially; the underprivileged women.

The organization employs women to package its first core product, in a biodegradable jute bag that can be reused by new mothers as a purse. The $2 clean birth kit is to help hospitals and not-for-profit organizations to prevent infection at the time of birth and reduce maternal and infant mortality. The organization exhibits a very unique gender inclusive organizational model and ensures that the products are designed in accordance with local culture, understanding and market needs and can sell well in the market.

5.2 Innovation in Service Delivery

Definition: Service innovation can be defined as an improvisation of a conventional service delivery mechanism to increase access to unreached beneficiaries without compromising the quality and the efficiency of the health delivery services.

Examples of Service Delivery Innovations:

- Use of boat /train to reach inaccessible areas to provide health care services
- Use of social or religious leaders to positively influence targeted community for pulse polio or other targeted service
- Emergency and referral transport initiatives offering free or low-cost services thereby improving access to emergency medical services across states

Case study[6]:

Boat Clinics of Assam

This is a unique initiative to reach out communities who reside along with Brahmaputra valley and are cut off from basic health care services. A local institution came up with this an innovative concept of "Boat Clinic" locally known as *Akha* to provide mobile health services to the poor and the marginalized people living on the islands in Dibrugarh district. The health services focus on immunization of children, pregnant women and new mothers as well as treatment of vulnerable adult groups. The concept which aims at bridging health delivery gaps won a World Bank Award for innovation.

The boat clinics started in Dibrugarh in partnership with the district administration. It has since expanded services to Dhemaji and Tinsukia. UNICEF builds the capacity of functionaries through training. The National Rural Health Mission, Government of Assam, through private public partnership now implements this in 13 districts to provide sustained health care to its unreached population. The Boat Clinics reaches out 15 to 20 thousand people every day and as of 2015 they had reached 1.5 million poor and vulnerable people.

5.3 Innovation in Program and Process:

Definition: Program and Process innovations are defined as new or improved steps undertaken for the betterment of service performance. Process innovations can start from small internal improvements such as improvements in sub-processes or re-designing existing processes. With respect to health care, this can be understood as organizations aligning their service system in an efficient and effective manner.

Examples:

- Addressing overcrowding in Out Patient Department (OPD) by process mapping and process reengineering
- Electronic Money Transfer System for Asha
- Innovation in workforce management
- e- Mamta, a name-based citizen-centric service delivery initiative to integrates non-recipients of services into the health care system.

[6]https://www.c-nes.org/programmes/boat-clinics/

Case Study[7]:

e-Mamta

e-Mamta is a name-based mother and child tracking information management system designed to facilitate effective citizen-centric service delivery. It was conceived by the State Rural Health Mission in January 2010. The programme adopts an innovative working design that harnesses Information and Communication Technology (ICT) as a tool to strengthen primary health care facilities and service delivery in Gujarat. Based on a case-based tracking software, 'e-Mamta' aims at integrating all pregnant mothers and children as recipients of maternal and child health care services. The innovative information management tool facilitates the completion and continuum of health care by identifying the recipients and non -recipients of services (ante natal care, child birth, post- natal care, immunization, and nutrition, adolescent and family planning services) to ensure optimal coverage. The impact of the initiative has been widespread. Almost 80% of the total population of Gujarat has been registered by the system. Steps have been adopted by the state government to converge this information management tool with other national level policies and programmes with the objective of enhancing their effectiveness.

5.4 Technology Innovation

Definition: Health Innovations which are based on cellular or any other technology solution falls under this category.

Examples:

- Telemedicine and tele-ophthalmology services –BNH Telemedicine Centre, Employees' State Insurance Corporation (ESIC) with help of Centre for Development for Advance computing (CDAC) by Ministry of Labour under digital India for NE states.
- Low cost medical screening and testing equipment- AINA to test blood glucose, lipids, creatinine and haemoglobin levels. Limb Immobilisation (LIMO) for first aid, Magnetic Resonance Imaging (MRI) and XRay
- M- health as a technological support initiative involving diagnosis, treatment tracking for chronic patients through health promotion messages, preventive check-ups reminders
- Interactive vernacular audio/video-guided mobile application for front line health workers

Case Study:

Mobile based Application for the frontline staff

An open source Android application developed specifically for frontline health workers in India to improve overall efficiency in planning, reporting and performance assessment. It's is an all-in-one job aid and electronic medical record system that replaces multiple paper-based tools and helps health workers gain access to the most up-to-date training and information in easy-to-understand, convenient formats that work for them. With this application, ASHA health workers can use their smart phones to update skills, stay in touch with supervisors, and track and report crucial data about health issues in their communities. They can use the app to teach new parents how to protect their babies from infection or dehydration, how to breastfeed, and how to identify symptoms of serious illness. If a mother or baby needs medical attention, an ASHA can use the application to quickly refer them to a doctor. The technique promising results have helped inform a large-scale smart phone-based mHealth initiative led by the Government of Uttar Pradesh reaching 12,000 frontline health workers in five districts—with a total population of 15 million. The application will soon be available for frontline health workers in two other states of India (Uttarakhand and Jharkhand) with a combined population of 45 million.

[7] http://oneworld.net.in/focus-area/knowledge-and-research/e-mamta-mother-and-child-information-tracking-system

5.5 Social Innovation

Definition: A novel solution to a social problem that is more effective, efficient, sustainable, and for which the value created accrues primarily to society as a whole rather than private individuals[8].

Examples:

- Addressing low literacy rate and malnutrition among the school dropout - Midday Meal Programme
- Cooperative of cycle rickshaw pullers in Varanasi
- Access to high quality primary education using tablets
- Access to service for the informal sector
- Linking rural farmers with upmarket urban retailers

Case Study:

Social Initiative

A social initiative supported by corporates to bridge the gender gap by enabling women in villages to access and use the Internet for their own benefit and the benefit of their communities. The program is facilitating to equip women in villages across India with basic Internet skills and provide them with Internet-enabled devices. These volunteers then go on to train their neighbours and women in nearby villages to access and use the Internet to find information online about topics such as government schemes, health and weather. This training starts a cycle of education, positively impacting the young and rural population throughout India. The program is determined to bridge this gender gap by enabling women in villages to use the Internet for their own benefit and the benefit of their communities.

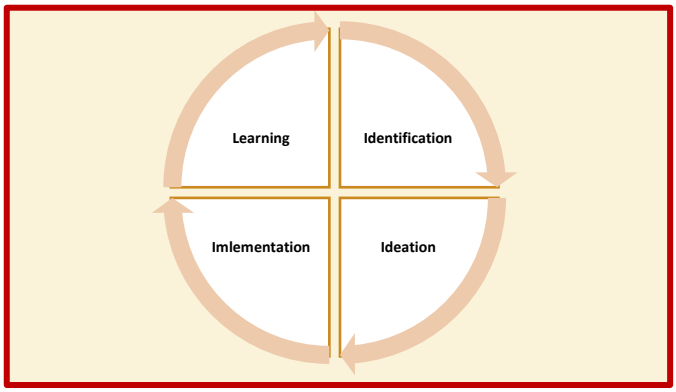
6. Innovation Processes

Since NUHM has entered the fifth year of implementation, cities and states are now more aware about the issues, challenges and the program managers have a clearer understanding of the urban health needs. The foot soldiers of the NUHM (MAS, ASHA and ANM) are probably most cognizant of the implementation challenges along with medical, paramedical and management staff stationed at UPHC (Urban Primary Health Centre) and UCHC (Urban Community Health Centre).

It is important to understand that the nature and the magnitude of challenges that NUHM is facing (Annex-I) varies from city to city and sometimes within zones, wards or slums. It is therefore imperative to contextualize the innovation. The important question that needs to be asked is whether this innovation relevant for the intended geographic area or population. The other important consideration is that all program challenges will not require the intervention of innovations since solutions pre-exist (Annex IV and V) wherein challenges of similar nature have been addressed by others through innovations.

[8]Rediscovering Social Innovation, Stanford Social Innovation Review J. Phills et al. (2008), p. 38

The third important aspect of innovation is the need for focussed attention and investment of resource including time. An innovation which is not thought out well, is not process oriented and most importantly not evaluated for empirical evidences, may not attain the purpose.



The following sections describe the processes involved in creating and introducing Innovations.
The processes can be summarised as "**3 Is and L**" wherein the three **'I'**s stand for ***Identification, Ideation and Implementation*** and the **L** stands for ***Learning***. The Learning element can be further divided into two components ***a) Monitoring & Evaluation and b) Documentation for sharing***.

6.1 Identification

Purpose: The sole purpose of the identification is to recognize the issue(s) which are slowing down the progress of the urban program and delaying the processes which are intended to achieve the envisioned outcomes.

Key Steps:

Step 1: Identification of Issues- Listing of issue(s) at Community / facility/ City/ State level which act as a barrier for implementation. The issues could be related to service, management, resource and behaviour among others. The processes involved in generating identifying challenges are further elaborated under section 4.2.

Step 2: Prioritization of issues - Prioritization of the issues based on the degree of possible impact. Each issue needs to be carefully evaluated against its potential impact on the overall goal of the program.

Step 3: Root Cause Analysis – Carrying out "Root Cause Analysis" following prioritization to delineate the factor(s) that are influencing the outcomes and thus contributing to challenges.

Outputs:

- A list with identified and prioritized issues for which innovation strategies would be developed.
- Documentation of root causes of the challenge

6.2 Ideation

Purpose: The central purpose of the ideation is to generate collective thinking or thought process to overcome the implementation barrier.

Key steps:

Step 1: **Generating Ideas**- Stimulate the discussion to generate innovative ideas/solutions for the most critical issue(s) by encouraging the participation and seeking the inputs of relevant groups/communities/institutions. Discuss the feasibility of the idea by asking key questions like 'how will this be done', 'is there any alternative process', 'who will do it', 'how much time and which resources would be required', what is our current capacity', and 'what support would be required'. Systematically record all responses for future reference. Repeat the exercise in a smaller homogeneous group and continue till a feasible, doable and simple idea is generated. The processes involved in generating ideas are further elaborated at the end of this section.

Step 2: Collation of Ideas- The next step is the collation of the diverse and numerous ideas received. The collation can be done at the city and state level. The collation of ideas should be followed by filtering and prioritization at the city/district level.

Step 3: Finalization of concept- Finalization of "Innovation Concept" can be done at the state level. The State may convene a meeting to discuss and prioritize the ideas received from city and district. Stakeholders such as medical colleges, reputed academic institutions, research organization and Non-Governmental Organization (NGOs) working in the health sector in the subject area may be involved in the discussion and concretization of ideas. The screening may be carried based on set criteria for innovation.

Step 4: Development of Concept note- After finalization of ideas at the state/city (in case of Metro cities) level, a brief concept note should be developed (Annex II). The concept note should clearly spell out a) objectives of the innovation; b) which specific problems/issues it will address; c) the geography; d) processes involved; e) support that will be required; f) budgetary requirement; g) total duration of time and; h) role of local resource agency.

Step 5: Submission of the concept note- The state may submit the concept note separately to the previously constituted committee at the National Health System Resource Centre (NHSRC). The committee would then screen the concept note based on screening criteria and present the findings to the ministry. Following a review process and based on the merit of the concept note the ministry will approve the proposal for budget. To ease the process, the concept note on innovation should be submitted well in advance so that full proposal can be submitted along with the state PIP.

Step 6: Development of a full Proposal- Once the state receives approval on the concept note the state should develop full proposal. The proposal should articulate an implementation plan which includes the list of interventions; tentative team structure; involvement of external agencies such as medical colleges/local educational institutions, research agency of repute/NGOs; and a plan for monitoring and evaluating the innovation. A detail work plan should also be prepared and should include objectives, list of activities, processes to be followed milestones/outputs/outcomes. Responsibility should be clearly allocated at appropriate levels for implementing the innovation. A format for developing proposal of the innovative idea is provided in Appendix III.

Step 7: **Submission of Proposal -** All proposals developed by the state, may be sent to NHSRC for feedback. At the national level, a small technical committee comprising Advisor, NHSRC (NUHM), Deputy Commissioner (UH) and Assistant Commissioner (UH) may be formed to review the proposals and provide feedback on innovations to the states/cities. The states/cities may include these proposals in their respective Program Implementation Plans (PIP) and attach the feedback provided by NHSRC/MoHFW.

Step 8: **Approvals from the MoHFW** - Appropriate approvals will be provided for implementing these innovative ideas during the National Program Coordination Committee (NPCC) meeting of the State.

Outputs:

- List of ideas /workable solutions for the specific challenge.
- Concept note on specific innovation
- Full proposal on innovation with approval from central govt.

6.3 Process of identification of challenges and Generating Ideas

Ideas could be generated through multiple approaches including but not limited to the following:

- At every level, be at the community or at the state level, assign one dedicated person to facilitate the processes of identification and ideation.
- Clarify the process and the intended objectives to the participants.
- Encourage everybody's participation and understand the rationale of the view point of the participant for both issues and its possible solutions.

- Record suggested points, processes and outcomes for sharing at the next level.
- Conduct focused discussions on priority issues in the monthly/ periodic review meetings, during community meetings and monthly meetings at UPHC and UCHC level.
- Generate ideas during the periodic meetings and brainstorming sessions at City/District Health Society (DHS)/ Urban Health Cell (Under ULB)/ Urban local bodies
- Based on the level of discussion, plan engagements with other relevant stakeholders (Medical colleges, Public Health Institutions, research agency, Universities, Community based organizations and NGO's) and sharing priority issues with them for accepting potential solutions around those issues in public health system.
- Generate ideas by involving other platforms such as 'Call for Innovation' at regular periodicity. This could also be done in partnership with the state level educational institutions which are active in the health sector innovations.
- Solicit ideas through the State Health Mission / health department website portal for identified problems.
- Encourage field level functionaries to share ideas through either the state portal or through a dedicated email as they aware of issues and have the potential to come up with practical ideas to solve such issues.
- Review the proposal at the state level by the appropriate authority before finalization. It is recommended that discussions on the proposal involve medical colleges/reputed academic institutions in the state. The proposal, if applicable, should clearly identify the role of the external institution in implementing the innovation.

6.4 Implementation

Purpose: To overcome the implementation barrier and obtain desired results.

Key steps: The state can initiate implementation following the receipt of approval. The key steps involved in the implementation are:

Step 1: Development of Implementation Plan - After the approval and funding commitment, the implementation roadmap should be finalized. This would involve refining the proposal including the work plan and making it ready for execution.

Step 2: Team mobilization & formalization of Partnership - For implementing the innovation, team mobilization is a critical step which should be done as quickly as possible. Institutional partnerships as required should be formalized through MoUs/contract indicating the Terms of Reference (ToR), work plan, deliverables and budget.

Step 3: Orientation- Orientation of the staff members as well as different stakeholders on the objectives, processes, role and responsibility including the work plan of the project should be completed as a next step.

Step 4: Implementation of activities: Initiation of the pilot project at the field level

Outputs:

- Monthly progress report which will capture both process and outcome level data
- Case studies

6.5 Learning

Learning is an integral part of implementation of innovation which provides valuable insights about the processes, outcomes and also factors influencing scale up or replication. Learning activity is a combination of Monitoring & Evaluation and Documentation.

6.6.1 Monitoring & Evaluation:

Purpose: To assess whether the pilot has achieved its stated objective or not, capture demonstrated results (both intended and spin off), facilitating or impeding factors, cost benefit assessment including time taken, possibility of scale up or replication.

Key steps: While preparing for the implementation of the pilot, the state should initiate the development of an M&E plan. The key steps involved in developing the M&E plan are:

Step 1: Designing of M&E framework - Designing of Monitoring and Evaluation Plan for the pilot includes a) Terms of Reference (ToR) for base line and End line assessments; b) Framework of Monitoring including areas to be assessed – Processes, Outputs including indicators (selective); c) Periodicity of collection of monitoring data and analysis plan; and d) Process to engage an independent third party (private /public institution) evaluator for base line and end line assessments.

Step 2: Sharing and Finalization - Sharing and vetting of Monitoring & Evaluation Plan by previously constituted advisory committee at the state level and revision as per the suggestion. Actively reach out to NHSRC and Ministry for any support that is necessary to complete the designing of the evaluation.

Step 3: Regular Monitoring: A review of implementation and progress at the city/district or state level (at least monthly) for mid-course corrections and handholding support should be carried out.

Step 4: Finalization of the Agency for base line – The identification of agency /institution to be engaged as per the state's procurement process, following the principle of open, transparent and competitive bidding process.

Step 5: Finalization of assessment plan: This will include a) survey /research tools; b) list of respondents; c) time frame; d) Data Quality Assurance; e) Team composition and Tabulation plan; f) Outline of the Report. The nature and the scope of the Pilot will decide whether the assessment would be qualitative or quantitative in nature. However, a mixed approach is preferred for better results.

Step 6: Actual implementation of the survey- If the duration of pilot is two or less than two years, a base line and an end line assessment are adequate. A mid-term assessment may be required if the duration is three years or more than that. The mid-term assessment in general should be qualitative one.

Step 7: Documentation and Sharing- Findings of the survey result should be scientifically documented and shared with city/district and SPMU and other relevant stakeholders such as staff members, who are associated with the pilot, members of the community, ULBs and advisory committee. The document should incorporate feedback and suggestions of the reviewers.

Outputs:

- Monitoring data (on selected indicators) on a regular basis
- Assessment/Evaluation report (Base line – Midterm – End line)
- Key questions:
    - **Base line:**
        a) What is the current status of the issue/challenges?
        b) What are the key constituents of the challenges?
        c) What is the current status of the factors that are associated with the challenges?
        d) Status of the selected indicators?
    - **End line:**
        a) Has the project achieved its stated objective?
        b) What is the nature and magnitude of change (indicators)?
        c) Factors that contributed for its success and failure?
        d) Is it cost effective?
        e) What is the feasibility for replication and scale up?

6.6.2 Documentation:

Purpose: Collection, compilation and analysis of evidence (qualitative and quantitative) to assess the progress vis a vis the stated objective, undertake mid- course correction, predating the possibility of replication and scale up and most importantly sharing with larger stakeholders.

Documentation is an equally important element of the pilot and requires dedicated resource allocation. Documentation of pilot is different from the routine documentation work which needs engagement of skilled and experienced staff. The state can either identify and recruit staff with requisite skills and expertise or seek the support of institutions capable of providing specialized service.

Key Steps:

Step 1- Preparation of Documentation Plan- A documentation Plan for innovation may have the following components: a) Description of Routine reporting (Monthly Progress Report, Quarterly Progress Report , Annual Progress Report) b) Plan for Process documentation c) Plan for Outcome documentation. The plan should consider the monitoring system, possible outcome of the baseline and end line result and the qualitative aspects such as case study, best practice etc. The plan should have clearly defined key activities, outputs and time line

Step 2- Engagement of Resource Agency or Individual: Identification and recruitment/engagement of documentation specialist or institution through procurement process of the state.

Step 3- Development of Learning Products - Review the quality of the output, timely feedback and finalization of the documents products in the form of tools, process documents, status papers, reports, guidelines and audio or video capsules.

Some illustrative examples of documentation:

- Documentation of the model, including goals and distinguishing technical, organizational, and/or process elements
- Evaluation of the model's (comparative) impact and factors for success
- Comparative analysis of the costs associated with the model
- Tools , training materials , case study , fact sheet
- Refinement and simplification of the model for replication and scale up
- Institutional requirement and supportive environment for replication /scale up

7. Integrating with the National Knowledge Platform (NKP)

During the identification and ideation stage (Chapter -6 Innovation Process) the state may proactively seek out support from the National Knowledge Portal (NKP) for both resource and knowledge inputs to design the innovation. After the implementation of the innovation, the result of the findings should be widely disseminated through various knowledge sharing and dissemination platforms such as dissemination event organized by NKP including its web portal, best practices sharing workshops, newsletters, web portals state and central governments, meetings and conferences among others. NHSRC at the national level, and SHSRCs at state levels, are entrusted with the task of systematically collating and disseminating innovations under NHM. The NHSRC website (http://www.nhsrcindia.org) has a web page (http://nhsrcindia.org/best-practices--innovation) dedicated to best Practices and Innovations. In addition, NHSRC also issues publications such as coffee table book on "Good, Replicable and Innovative Practices 2015". In addition, NHSRC and the MoHFW periodically organize national workshops on innovations under NHM. It is proposed that going forward, increasing number of NUHM innovations be included for showcase. States may also add a link on their

NHM/health department website showcasing their innovative projects and its outcome including lesson learned.

8. Possible Reasons of Innovation Success /Failure

Literature review suggests that a host of interdependent factors play a critical role in the success or failure of innovation. A brief description of factors and their influence is described below:

- **Assessing Stakeholders and their role:** There are many stakeholders in the health care ecosystem and include public sector, private sector, technology, public policy, funding, customer among others. Each stakeholder reacts whenever there is any innovation introduces in the ecosystem which has ability to influence the market or revenue share. Stakeholders with substantial resources and the power attempt to influence public policy and opinions to delay or expedite the process. A critical appraisal of stakeholders and the possible impact of the innovation on the ecosystem is therefore must before designing any innovation[9].

- **Client centric approach:** The central aspect of innovation designing is "Client Centric Approach" which ensures that at end of the process, the intended beneficiary, either internal (health care or management staff) or external (community) shall be benefited from the process. The team engaged in the innovation should therefore reflect on this key aspect on a regular interval. Case studies mentioned in the "The Primary Care: Innovator's Handbook" recommends strongly that innovators understand community's perspective. One of the case studies described in the handbook pertains to "Access Afya" a chain of micro-clinics or "health kiosks" located directly in the informal settlement of Mukuru in Nairobi, Kenya. The basic idea of health care delivery model was to increase health care access in urban informal settlements by offering simple diagnosis process to treat or refer the cases. Before setting up the clinic, the program staff undertook several round of qualitative assessment in order to understand community's needs. Interaction with the community revealed that community was not just expecting screening on specific disease but were also seeking treatment for whole range of primary care issues, including quality drugs. Similar experiences have also reported from Sugha Vzhvu- India, Unjani- South Africa and Care-2-Communities -Haiti, Ross Clinic – India[10].

- **Supportive environment, infrastructure and policy regulation:** The success of innovation depends on factor such as supportive environment wherein infrastructure, policy regulation and local context play major role. The first and foremost factor is uninterrupted infrastructure support, especially for the innovation that depends on IT platforms (such as telemedicine). The other challenges are cost efficiency, regulatory environment of the host country and privacy of data. Innovation which is based on the technology should and must consider local issues and values to contextualize the innovation approach. Evidence reviewed indicates that Telemedicine as an innovative approach to improving access to clinical care particularly for population in inaccessible geographic areas and vulnerable groups such as the elderly and disabled. However, such innovations introduced have failed in some contexts as the human angle was not considered while designing the innovation. Rural population, unfamiliar with technology displayed low acceptance for the substitution of the human touch with a machine[11].

[9] Regina E. Herzlinger Harvard Business Review May 2006
[10] The Primary Care: Innovator's Handbook, Centre for Health Market Research, Result for Development Institute US, 2015
[11] Telemedicine and the provider – patient relationship: What we know so far. Edward A Miller 2010 Dept. of Gerontology, University of Massachusetts, Boston University

9. Role of Institutions

Most activities pertaining to innovating is expected to be carried out at the city level. However, there are several institutions at the state and central level that would play a significant role by contributing their expertise. The success of the innovation would depend on the seamless coordination and support of all stakeholders. A suggested list of role and responsibilities of the various agencies are outlined in the table below.

Institution	Role	Responsibility
CPMU/DPMU	Implementers	• Ideation • Identification • Implementation • Learning – Product & Process • Dissemination at city level
SPMU	Guiding and facilitation role, Sharing at the state level, Can be implementers	• Guide and review the process of concept and proposal development • Identify resource agencies for guidance, evaluation, documentation • Coordinate with the ministry and NHSRC to obtain necessary feedback, guidance approval • Ensure resources are available for the CPMU • Take an active role and support dissemination at state level
NHSRC (Innovation Unit)	Technical inputs, Screening and Advisory	• Review and timely feedback on the concept note and proposal • Responding to needs of the state, assisting them to identify resource person /institution • Guide states on documentation of best practice and learning document • Creating opportunity for the city and states to use available platforms for dissemination
Program Division of MoHFW	Technical inputs	• Will participate the consultation process • Will provide technical inputs on the subject areas (RMNCH, FP, NCD, CD, IDSP etc.)
Urban Health Unit of MoHFW	Advisory, Approval and Amplifier	• Necessary feedback (concept note and proposal) and timely approval • Undertake field visit to witness the progress and provision of feedback • Facilitate products /learning for dissemination at the National level

10. Partnership for Innovation:

The need: The need for and the role of the external technical resources to augment health care delivery services under the NUHM (NUHM Framework of Implementation page chapter 12, page 71). There are several local actors with diverse capacity, experience and institutional standing. However, they are mostly engaged in demand generation, outreach services, referral assistance or providing health care services through secondary or tertiary care or at the most building the capacity of the health workers or community cadres. Partnership for innovations is a special type of partnership wherein the institution is identified and engaged to deliver a) Product or Device Innovation b) Innovation in Service Delivery c) Innovation in Technology or d) Social Innovation.

Identification and Engagement:

a) Short listing: Once the challenge is identified, there is a need to undertake an internal assessment to ascertain whether skills and competency are available and adequate within the public system to address the innovation challenges or whether there is a need for support from specialized agency. It is the nature of challenge which would direct the team to identify and select the partner organization for initiating the innovation processes. The members of the SPMU with the help of NHSRC, ministry should plan an active role in identifying an institution with a robust track record of addressing the challenge. While listing the institutions, it is advisable to shortlist more than one organization.

b) Screening and assessment: Screening is the next important step for identifying a partner. Necessary information should be collected on the activities related to innovation, duration of the whole chain of activities – situational analysis – intervention strategy development including product development and pre-testing – implementation – result and findings. Special attention should be given during the product development phase, since this requires the most time, and monitoring is required during pre-testing and finalizing the product for launching. Customization of the readymade product also takes time and has a resource implication. IT products or devices which are developed based on open source platform have limited flexibility compared to others. Once the state representatives are convinced with the product or approach, there is a need to undertake a field assessment at the implementation sites. To ensure ownership, the assessment team should also consider the inclusion of representatives from the city /district. Feedback from the clients and the end users are very critical to understand and assess the outcome of the innovation.

c) Contracting Process: The state can follow the standard process for procurement, as per the state procurement guide line, following an open tendering process with an advertisement in the website, local or national newspapers. The Request for Proposal (RFP) should clearly mention the purpose, expected deliverables, time line, eligibility criteria, and other standard terms and clauses. In a special instance, when the innovation is so unique that there are not many institutions offering the required services, sole sourcing could be considered as the mode of contracting. In such an instance, there is a need to document the process and the purpose of the sole sourcing. A justification note should be prepared and approved by the competent authority as required for the audit purpose. Once the selection process is over, there is a need to develop a detail agreement document which should clearly articulate a) deliverables b) time line c) disbursement plan d) penalty clause e) role and responsibility of the state, city or district.

d) Review and Monitoring: The partnership process should also include a review and monitoring mechanism. This should include the frequency, indicators to be monitored; and identify members to be involved during the process of monitoring. The monitoring system should also include mechanisms for field level reviews. This entails seeking feedback from the process owners and or stakeholders involved in the process.

11. Examples Partnership

- **Model UPHC Project Nagpur Maharashtra** - A not-for-profit type of intervention facilitated by Tata Trusts. Nag pur Municipal Corporation in partnership with Tata Trusts improves the ambience and the process flows in the existing infrastructure to establish a system to improve availability of drugs and diagnostics services.

- **AMA Clinic Odisha -** An approach towards reducing the out of pocket expenditure in the urban areas through specialist services in the Urban PHC. The specialist services are available in UPHCs, keeping with the availability of the specialists on hire basis after empanelment of Specialists from the Govt. Medical colleges/District headquarter hospital/Capital hospital

- **MAS in Kota Rajasthan**- MAS of Kota city actively participates in all health related activities in collaboration with government, NGOs, private organizations etc for RCH activities, Health, Health education, Polio Drive, Swachhta Pakhwada, Mission Indradhanush Sanitation and construction of Toilets etc.

Appendix I: Format for Innovation Concept Note

(Not more than 600 words)

- Objectives of the innovation
- Which specific problems/issues it will address
- Location
- Processes involved
- Support that will be required
- Budgetary requirement
- Total duration of time
- Role of local resource agency

Appendix II: Format for innovation proposal

(The total proposal should be in a maximum of 5-6 pages)

1. **Objective of the proposal.**
2. **About the Innovation**
    a. Outline the problems or unmet needs the proposed innovation intends to resolve, and its relevance to the local context.
    b. Explain the proposed innovation
    c. Who are the intended target population or
    d. Uniqueness of the innovation vis-à-vis existing solutions
    e. Scalability in the long run
    f. Sustainability Plan

3. **Team:**
    a. Provide the team that shall work on implementing the innovation b. Supporting organizations and institutions and their key contacts and deliverables

4. **Execution Plan:**
    a. Proposed work plan along with timelines b. List of Implementation site(s)

5. **Costing:**
    a. Provide the cost break up leading to the total funding requirement for the innovation piloting along with the timeline for utilizing the funding.
    b. Cost of supporting organizations

6. **Learning Plan:**
    a. Monitoring Plan (with indicators , frequency , source)
    b. Evaluation plan for the innovating piloting
    c. Documentation and dissemination plan

Appendix III: List of Innovations in Private Sector

S.N	Type	About the Innovation	Website
1.	Life Spring	Quality Maternal health and family planning Services for urban poor and middle class	www.lifespring.in
2.	1mg	On line information related to medicine and supply, Information related cost -effective substitutions of medicine and Lab Tests online booking	www.1mg.com
3.	e-vaidya	Telemedicine service, which helps in non-emergency conditions, working on primary and preventive healthcare through 24x7 service	www.evaidya.com
4.	Practo	Consult online, book appointment, Health care provider registration	www.practo.com
5.	DAWAI LO	DAWAI LO is an innovative portal and the first of its type in the North Eastern Region of the country that helps people on their path to wellness.	www.dawailo.com/
6.	Pharmacy	Online Medicine Partner	www.pharmeasy.in
7.	Neurosynoptic Communication	Telemedicine Solutions	www.neurosynaptic.com/
8.	Welcare	Centers and have certified ophthalmologists working remotely Provides Teleophthalmology Service with special focus on Diabetic Retinopathy	www.welcaretelemed.com/
9.	Address Health	A company with integrated child health clinics which act as a base to Tele Healthcare centres at schools, pre-schools and residential groups Services include Pediatric Consultation, Dentistry, Vision Services, Psychology & Counselling, Pharmacy, Immunization etc.	www.addresshealth.in
10.	Ziqitsa	Emergency Medical Service	http://zhl.org.in
11.	Medicea (Supply chain management)	Provide services related to supply chain management	www.medicea.in
12.	Medikoe (Information support)	Connects users to service providers on healthcare and wellness services available in the locality	www.www.medikoe.com
13.	Healthians (Management support)	Providing software, hardware and quality management support to pathlabs	www.healthians.com
14.	Prohealth Partners (Information sharing Platform)	A digital platform provides information related to doctors and hospitals, home healthcare service including event and outreach activities	www.prohealthpartners.com/

15.	KiviHealth (Information sharing Platform)	A digital platform provides information related to doctors, hospitals, lab service, pharmacy and provide scope for on line booking	www.kivihealth.com/
16.	Credihealth	Online and mobile-based platform; connects patients and doctors.	www.www.credihealth.com/
17.	Janacare	Mobile based application to address diabetes and obesity including addressing the behaviour change	www.janacare.com/
18.	MESU (Mobile Eye Surgical Unit)	Technology to conduct cataract surgery	www.htic.iitm.ac.in/ (website not working)
19.	Quant Analyzer	Rapid blood test kits, for Vector borne diseases such as Dengue, Malaria, Chikungunya, and detection of HIV, HPV.	www.jmitra.co.in/home.aspx
20.	Press red	Technology based platform to stay connected with the nearest hospital and ambulance services	www.press.red/

Appendix IV: List of Innovation in Public Sector/Not for Profit Sectors

S.N	Type	About the Innovation	Website
1.	Health Dept. Gov. Tripura	Health Camp through Helicopter Service	http://nhsrcindia.org/best-practices--innovation
2.	Health Dept. Gov. Jharkhand	Mamata Vahan - reducing delay in health care Service	http://nhsrcindia.org/best-practices--innovation
3.	Health Dept. Gov. Gujrat	Providing CEmONC Services In Tribal Area,	http://nhsrcindia.org/best-practices--innovation
4	Health Dept. Gov. Gujrat	Mamta Ghar - Birth Waiting Home	http://nhsrcindia.org/best-practices--innovation
5.	Health Dept. Gov. Tamil Nadu	Antenatal Clinic Integrated with Yoga And Naturopathy	http://nhsrcindia.org/best-practices--innovation
6.	Health Dept. Gov. Tamil Nadu	School based treatment of Dental Caries in the Primary Dentition	http://nhsrcindia.org/best-practices--innovation
7.	Health Dept. Gov. MP	Innovative ways to manage SAM in children less than six months of age	http://nhsrcindia.org/best-practices--innovation
8.	Health Dept. Gov. Tamil Nadu	Heart Surgery Program for school children	http://nhsrcindia.org/best-practices--innovation
9.	Health Dept. Gov. Tamil Nadu	Interventions of Eye Screening and supply of spectacles in schools	http://nhsrcindia.org/best-practices--innovation
10.	Health Dept. Gov. Gujarat	Mission Balam Sukham - A holistic approach to address malnutrition	http://nhsrcindia.org/best-practices--innovation
11.	Swastha India	Quality Maternal and child health services for urban poor	www.swasth.org/
12.	Health Dept. Gov. Haryana	Supportive supervision at health facilities	http://nhsrcindia.org/best-practices--innovation
13.	Health Dept. Gov. Arunachal Pradesh	Emergency Medical Service	http://nhsrcindia.org/best-practices--innovation
14.	Health Dept. Gov. Andhra Pradesh	Supportive Supervision as a tool to identify access gaps in public health facilities	http://nhsrcindia.org/best-practices--innovation
15.	Health Dept. Gov. of Sikkim	Use of Civil Registration data to know health scenario & for improvement of healthcare	http://nhsrcindia.org/best-practices--innovation
16.	Health Dept. Gov. Arunachal Pradesh	Private Partnerships for management Of Primary Healthcare Services	http://nhsrcindia.org/best-practices--innovation
17.	Health dept.Gov. of Gujrat, Maharastra	Maternal Death Review - A Tool for System Strengthening	http://nhsrcindia.org/best-practices--innovation
18.	Health Dept. Gov. Bihar	Addressing Skill Gaps of Health Professionals	http://nhsrcindia.org/best-practices--innovation
19.	Health Dept. Gov. Jharkhand	Rapid Supportive Supervision for Strengthening Routine Immunization	http://nhsrcindia.org/best-practices--innovation
20.	Health dept. Bihar	Mobile money transfer for ASHA	http://nhsrcindia.org/best-practices--innovation
21.	Health dept. Orissa	Online Incentive Payment to ASHA	http://nhsrcindia.org/best-

		Through CPSMS	practices--innovation
23.	Health Dept. Gov. Tripura	Tele Medicine	http://nhsrcindia.org/best-practices--innovation
24.	Health Dept. Gov. Tripura	Tele-Ophthalmology Services	http://nhsrcindia.org/best-practices--innovation
25.	Health dept. Maharastra	E-File System	http://nhsrcindia.org/best-practices--innovation
26.	Health dept. Odisha	E-Health Architecture	http://nhsrcindia.org/best-practices--innovation
27.	Health dept. Bihar	Integrated Human Resource Information System (IHRIS) Bihar	http://nhsrcindia.org/best-practices--innovation
28.	Health Dept. Gov. j& K	Web Portal of Health Department	http://nhsrcindia.org/best-practices--innovation
29.	Health Dept. Gov. HP	Hospital Information System	http://nhsrcindia.org/best-practices--innovation
30.	Health Dept. Gov. Odisha	Capacity Building of Gaon Kalyan Samitis	http://nhsrcindia.org/best-practices--innovation
31.	Health Dept. Gov. Maharastra	Community-Based-Monitoring--Planning	http://nhsrcindia.org/best-practices--innovation
32.	Health Dept. Gov. Chattisgarh	Mitanin Support and Career Progression	http://nhsrcindia.org/best-practices--innovation
33.	Health Dept. Gov. Bihar	Organizing ASHA Training - Implementing the NGO Model	http://nhsrcindia.org/best-practices--innovation
34.	Health Dept. Gov. Chattisgarh	VHSNC Planning - The Chhattisgarh Experience	http://nhsrcindia.org/best-practices--innovation
35.	Health Dept. Gov. Chattisgarh	An Initiative for comprehensive social security For Mitanins	http://nhsrcindia.org/best-practices--innovation