TECHNICAL WORKING GROUP ON SIMU FOR NACP-IV PLANNING

KNOWLEDGE MANAGEMENT

CONCEPTUAL FRAMEWORK, SITUATIONAL ANALYSIS & RECOMMENDATIONS FOR NACP-IV

(Draft, 15 Aug 2011)

OBJECTIVES

- To have an overarching Knowledge Management strategy under NACP-IV that encompasses
  - All forms of knowledge
  - All technical areas from creation of knowledge to its translation into action
  - All sources of information and knowledge
  - All programme areas
- To develop key recommendations for establishing a robust and sustainable system for Knowledge Management under NACP-IV

BACKGROUND

The world is almost 30 years into the HIV epidemic and still faces 2.6 [range 2.3-2.8] million new infections per year. Evidence-based resource allocation to increase the efficiency and effectiveness of national programs has become a global focus. While global data collection efforts have been massive, too few have been able to embody the '*Know your epidemic, Know your response'* message advocated by the HIV/AIDS community at large. Two questions remain critical: (1) what data should be collected and (2) how should it be used to help design and implement the national response?

In India, best viewed as a "sub-continent" with a population of over 1 billion people and with 28 states, 7 union territories and 642 districts, tackling the HIV/AIDS epidemic is a problem of programmatic scale not seen elsewhere in the world. Informed by increasing evidence and with strong partnership with development partners, India's national response to HIV has evolved over the three phases of National AIDS Control Programme. Current evidence indicates that the national response has been effective and appropriately focused.

What lies behind India's success in tackling its HIV/AIDS epidemic? What can we learn from this experience? Part of the answer lies in how India has developed and used its evidence base to make critical policy and programmatic decisions. Over the past 15 years, the number of data sources has expanded and the geographic unit of data generation, analysis, and use for planning has shifted from the national to the state, district and now sub-district level. This has enabled India to focus on the right geographies, populations and fine tune its response over time. Given the proliferation of data sources and the emerging capacity within India to analyze and use data, it is imperative to identify these opportunities to strengthen the national programme's use of data for better programme decision-making at the district, state and national levels.

Under NACP-IV, it is envisaged to have an overarching **Knowledge Management strategy** that encompasses all the different programme areas. Apart from traditional Knowledge Management principles, the strategy will emphasize on Knowledge Translation as an important element of policy making and programme management at all levels. While Knowledge Management looks at systematic

analysis, synthesis, development and dissemination of Knowledge products in various forms, the element of Knowledge Translation will be given highest priority to ensure making the link between Knowledge and action.

The national HIV programme, at its fourth phase, would take tremendous advantage from capitalizing on the knowledge generated and accumulated so far from more than a decade of implementation and experience –among the population, the communities, the programme managers and the policy makers, and from continuous information being generated and updated from the programme monitoring, surveillance, and research.

KNOWLEDGE MANAGEMENT – CONCEPTUAL FRAMEWORK

Two Forms of Knowledge

There are two main forms of knowledge, as they are generated in a different way and lay among different stakeholders: the knowledge generated by the programme and made available to NACO (Codified and explicit knowledge) and the knowledge generated by the communities and the practitioners from experience and practice (experiential and practitioner knowledge). Any system for knowledge management should look at ways to capitalize on both types of knowledge, and create ways for collection, cross fertilization and sharing of knowledge among between communities/ practitioners and programme managers and policy makers. This can be represented in the following diagram:

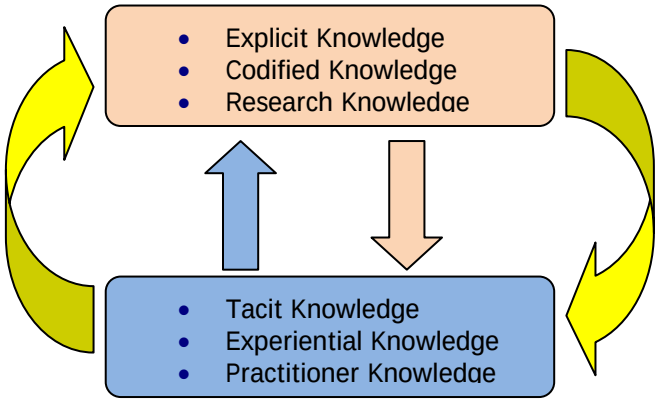

Fig 1: Two Forms of Knowledge – Explicit/ Codified & Tacit/ Experiential

Four Components of Knowledge Management

There are four main components of Knowledge Management. These are equally important and need all to be simultaneously in place to ensure effective knowledge management and translation that would be beneficial for the programme. The four components are as follows:

a. Creation of Knowledge – Data Analysis (Converting data into information & knowledge) and development of Knowledge Products
b. Collection and storage of Knowledge from other sources – Data Archiving
c. Sharing of knowledge – Dissemination and Communication of Knowledge Products to stakeholders
d. Translation of Knowledge – Data Use for programmatic action

Knowledge Creation

Knowledge creation refers to transforming the data generated under the programme through various data generating mechanisms such as programme reporting, surveillance and research into knowledge products such as reports, factsheets and policy briefs to inform programme on strategic areas from time to time. This may be depicted using the following graphic. Besides those depicted below, one critical area that is inherent in knowledge creation is 'Ensuring Data Quality' through quality audits, validation and cleaning before taking the data for analysis.

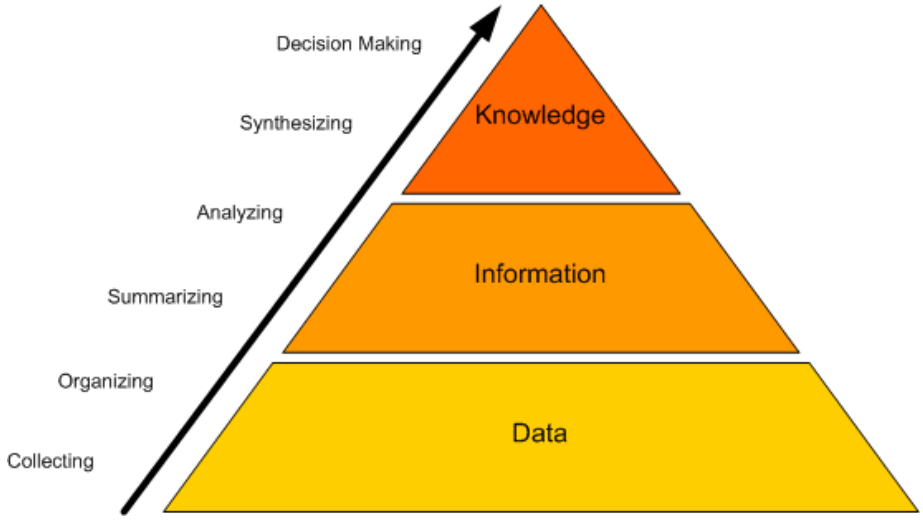

Fig 2: Process of Knowledge Creation

Knowledge Collection & Archiving

While the former refers to creating knowledge from data generated under the programme, this component refers to collecting and archiving knowledge generated by external sources. There are several academic institutes and experts, research organizations, partner supported bodies, independent expert groups and implementing organizations that are involved in various forms of data generation, research, analysis and development of knowledge products in the field of HIV/AIDS.

In addition to the need for building up the knowledge from the regular sources of data available to NACO, the knowledge capital needs to be reinforced through collection, synthesis, and dissemination of experiential knowledge, which results from implementation experience. Apart from being consumers of knowledge, the different segments of users and programme beneficiaries are also able to contribute towards knowledge generation in some way or the other. Hence, the tremendous potential of people affected by HIV, the communities and grassroots field workers will be a great strength in terms of the value of their inputs and feedback to the programme which is often classified as Tacit Knowledge or Experiential Knowledge.

Knowledge collection and archiving includes

- collection and documentation of knowledge products generated by other sources (such as research organizations, communities, partners, academic institutions, etc.) in the form of reports, research studies, scientific papers etc.;
- collection and synthesis of tacit or experiential knowledge from beneficiaries, service providers and other stakeholders through systematic mechanisms for experience sharing;

- extracting the summary or key messages from these documents and providing as input to the concerned programme divisions from time to time;
- and, development and maintenance of knowledge repositories that facilitate easy retrieval and access to diverse users

Knowledge Sharing and Dissemination

Different users have different types of needs for knowledge. While a scientist would be looking for research evidence, a person living with HIV might be looking for practical tips, and a member of parliament would need something which can inform public policy. The dissemination and sharing of knowledge should consider the different needs of the various types of the users and tailored to be useful for them and should take different forms of passive and active dissemination. Passive dissemination is through website, knowledge hub, data-centre, e-libraries, newsletters, reports and publications, etc. Active dissemination is through seminars, workshops, conferences, discussion forums, e-learning tools etc. Information and Communication Technologies (ICTs) can a play a catalytic role in improving the capacity of people in becoming efficient users of and contributors to knowledge.

Knowledge Translation

After knowledge is created and made available to the various types of users at described above, the whole process of knowledge management is only meaningful when this knowledge is translated into actionable decisions and policy orientation. Effective use of knowledge for programmatic decision-making and policy or strategy formulation starts with understanding programme requirements for evidence and analysis, identifying key questions to be answered, generating/compiling/synthesising body of knowledge to answer the questions, and enabling the decision-makers and managers to take programmatic decisions based on the evidence.

SITUATION ANALYSIS ON KNOWLEDGE MANAGEMENT DURING NACP-III

Knowledge Creation

1. India has very strong systems for generating various types of **data** from programme monitoring, surveillance, research and programme evaluation.
2. The amount of data generated and made available to NACO through multiple reporting formats on numerous indicators is enormous in size, importance and variety.
3. There is a large data base on programme monitoring regularly updated through CMIS / SIMS, a very strong surveillance system that provides regular update on epidemiological and vulnerability situation in different geographic areas of the country and among different populations, and an existing system that supports good quality research and programme evaluation.
4. However, analysis is limited to key programme Indicators and mandatory requirements, statutory and global commitments.
5. All these sets of data are not regularly transformed into strategic knowledge that can be translated into actionable policies and programmatic decisions. Comprehensive and scientific data analysis and synthesis is done less often, in a way that would increase the knowledge capital.
6. The number of analytical reports and documents brought out by the programme during NACP-III is meager compared to the volume of data available.

7. Also, data quality, data validation and cleaning have not received adequate focus under the programme. This has led to parallel structures of data management. There were often differences among versions of data available with programme divisions, SIMU at national level and the SACS. This is an important limitation in development of knowledge products.
8. Knowledge creation and development of knowledge products at state level is scanty and dependent on individual interest taken by the SIMU and programme officers at SACS.

Knowledge Collection & Archiving

1. There are no mechanisms in place under NACP-III to collect and archive knowledge products such as reports, papers, research briefs etc. developed by external stakeholders. Though most of the stakeholders do send copies of the documents developed by them to NACO, they are not systematically archived.
2. Different systems are in place to provide opportunity to share experiences and discuss knowledge, some of them are based on electronic platforms (Solution Exchange discussion forum, AIDS-India email groups, etc). Some others use different formal or informal channels for experience sharing.
3. However, most of these systems are not set up in a way to allow for comprehensive documentation and collection of knowledge, and more importantly they operate outside of the national programme and rarely interact with it.
4. This situation leads to missed opportunities for gathering and documenting good experiential and practical knowledge, and does not permit the programme to fully benefit from it.
5. There are no mechanisms for actively documenting best practices in programme planning or implementation from field level, and promoting them for adoption and scale up.

Knowledge Sharing & Dissemination

Some of the practices undertaken during NACP III for information dissemination include the following:

1. **Data sharing guidelines to provide access to programme data:** The comprehensive data generated and available on various programme indicators were available to stakeholders and implementers whenever it was sought by the latter. A due process was adhered to for the same. Following submission of a formal application by the stakeholder / implementer, the request was forwarded by SIMU to programme division who validated the data pulled-up from CMIS. As final step, the required data was released by SIMU.
2. **CMIS bulletins:** Under the leadership of SIMU, annual CMIS bulletins are made available that include analysis of programme indicators including for keys trends for TI, treatment, care and support, blood safety, PPTCT, STI, ICTC etc. These bulletins are to the advantage of planners, programmers and implementers for informed decision making as they aim to advance in achieving the targets.
3. **Annual report by the Department of AIDS Control:** Annual report is an important programme document providing an update on key initiates undertaken by NACO and with partners during the previous year across all programme units along with short-term results achieved. Based on most recent available routine and non-routine data, it provides a national-level overview on India's progression in achieving targets set under the NACP-III and strategic plan to highlight any gap areas that require strengthening.
4. **NACP-III Monographs and Updates:** NACO brings out monographs, brochures on programme updates and other handy material from time to time. These capture the key strategies and progress in the interventions under the programme.

5. **NACO Website:** Official website of NACO (www.nacoonline.org) provides access to all the documents pertaining to policy, strategy and operational guidelines under the programme. SIMU regularly updates NACO website by taking inputs/material from different divisions of NACO, SACS, other government departments and partners. Status of the facilities and programme interventions are constantly updated. All new documents (Annual Action Plan, Audit Reports, Annual Report, Results Framework Document) brought out by the department from time to time, IEC material including audio/video files for promoting awareness on HIV/AIDS, latest events/news, training material, job opportunities, status of RTI applications, office orders, contact Details of NACO/SACS officials, bid documents for procurement of goods and services are also provided on the website.
6. **National Conference on HIV/AIDS Research:** NACO, in collaboration with UNAIDS, organized the first ever National conference on HIV/AIDS Research where around 100 research studies with programmatic importance and contributing knowledge advancement were presented, discussed and disseminated.
7. **Providing Data for National/International Documents:** NACO provides data from time to time to national and international documents such as Economic Survey, National Health Profile, India Report to the People, Planning Commission, Parliamentary Committee Reports, Joint Implementaion Review Mission Reports, Results Framework Document, UNGASS report, Universal Access report, SAARC report, etc. all of which are in public domain in the respective websites.
8. **Presentations in Conferences:** Officers from NACO present the information on the programme in various conferences of relevance at national and international platforms. Exhibitions and standees are developed by NACO on important thematic areas and are displayed in the conferences.
9. **Orientation sessions and meetings** are conducted for delegations from various institutions, medical colleges, public health groups, bilateral delegations from different countries, national and international agencies who visit NACO and the required information is shared accordingly.

However, there is scope for further streamlining the dissemination of information from programme and data sharing to ensure that there are no delays in attending to the data requests. A systematic way of organizing the knowledge products for easy access for public use is required.

Knowledge Translation

India's programme is known for being strongly evidence based. Some of the important examples of effective data use under NACP-III are as follows:

1. **Categorisation of districts** into four categories based on HIV Sentinel Surveillance data for three years has been the most effective strategy under NACP-III to prioritise resource allocation and develop scale-up plans. Priority attention was given to the category A & B districts where programme implementation was closely monitored throughout NACP-III. This enabled the programme to achieve an unprecedented scale-up of services at appropriate locations in the country that resulted in significant control of HIV epidemic and greatly improved access to services.
2. **Development of Annual Action Plans** is an elaborate exercise of data compilation using standard templates that starts with review of district level data and preparation of district Plans that further get summarized into State Plans and National Plan. Development and finalization of Annual Action Plans for all the 35 states and national plan is a detailed exercise that spans over 2 months and involves intense discussions and review of programme data, performance and failures between state and national level programme managers.

3. **Development of new programme strategies** such as Migrant Strategy, Folk-based IEC strategy, Strategy of Link ART Centres etc. during NACP-III is based on research evidence as well as thorough compilation and review of all relevant evidence from internal as well as external sources.
4. **Epidemiological Profiling of HIV/AIDS Situation at District & Sub-district Level Using Data Triangulation** is the most important activity undertaken by NACO in 25 states and over 560 districts, where a systematic approach was adopted for data compilation, quality checks, data validation, cleaning, analysis and creation of strategic knowledge at district level. Data triangulation approaches were adopted to consolidate the information at district level into meaningful outputs explaining the status and drivers of epidemic, programme response and gaps and information gaps. The most effective aspect of this exercise has been the involvement and capacity building of the programme staff right from the personnel at the reporting units, district teams and state officers, in every step of the exercise. The project also fostered institutional linkages with local medical colleges and public health institutions.
5. **Development of a framework for reprioritization of districts** using data from multiple sources was undertaken subsequent to the data triangulation exercise. This is an important move to further refine the programme priorities using the inputs from recent rounds of surveillance as well as programme data. This framework allows for extending prioritization even up to sub-district level.
6. **National Conference on HIV/AIDS Research:** This conference was one of the important efforts made by the programme to link evidence and action. The conference was conducted with the theme 'Towards Evidence - Policy linkages in HIV/AIDS Research'. The conference provided a platform for exchange of learnings from epidemiological, preventive and therapeutic research between the research community and programme, thereby providing evidence for planning. The conference succeeded in extracting the research outcomes of programmatic relevance.
7. Surveillance data is often used in the programme to identify districts and areas for greater supportive supervision by programme officers and SACS. Surveillance also gives information on emerging pockets with high HIV prevalence for detailed investigation and focus by SACS.

However, the above activities are undertaken as one-time activities. There is need for systematic efforts to institutionalize 'data use for decision-making' as a regular, ongoing activity under the programme.

Summarizing the above, the following **areas received less attention during NACP-III**, and the mechanisms to carry out these activities on a regular basis are inadequate.

1. Understanding programme requirements for evidence
2. Data Quality Assessments, Data validation & data cleaning
3. Systematic Data analysis and consolidation
4. Bringing out knowledge products - analytical reports, fact sheets, summary reports, policy briefs, publications & scientific papers
5. Collection and archiving of knowledge generated by other sources
6. Regular communication of analytical outputs to the programme managers & stakeholders; and
7. Effective use of data for planning, prioritisation & decision-making at national, state & district levels

Though the above mentioned activities are implicitly or explicitly part of the responsibilities of the SIMU, the **primary reason** for their not being addressed adequately is lack of functional distinction of staff

under SIMU for data analysis and data use. Knowledge management is not addressed as a functional area in itself. As long as the same personnel coordinating data generation activities are expected to undertake data analysis and dissemination also, the administrative and managerial responsibilities, deadlines and troubleshooting receive higher priority and data analysis is limited to mandatory submissions and ad-hoc requirements. Systematic data analysis and use does not take place.

The **key gaps under NACP-III for an effective Knowledge Management** may be summarized as below.

1. Majority of the time of SIMU staff at NACO & SACS is devoted to planning, coordination, implementation, monitoring and trouble-shooting of different SI activities across the country. Efforts are primarily directed towards administrative & financial processes and managerial requirements for undertaking the planned activities.
2. Data analysis and report development is usually limited to fulfill the mandatory submissions, urgent demands and ad-hoc requirements from time to time.
3. Less coordination with programme divisions to understand their requirements for evidence and analysis and provide the required inputs in a timely manner.
4. At the state and district level, 'data use for decision making' as an approach and practice, is lacking among programme managers in most of the states and districts.
5. There are gaps in capacities of programme managers & data management teams at state and district levels for regular review of data, for identifying quality issues and problems, for identifying relevant data sources to answer their programme questions and for employing simple analytical methods/tools to analyse data.
6. The linkages with institutions and academic bodies, to garner their potential in providing support to programme units in data analysis, are inadequate.

Hence, there is a great need for system strengthening and institutionalization of mechanisms to ensure data analysis and effective data use under the programme.

RECOMMENDATIONS FOR 'SYSTEM STRENGTHENING FOR EFFECTIVE KNOWLEDGE MANAGEMENT'

Critical Requirements for an Effective Knowledge Management

1. The most critical requirement for an effective Knowledge Management is appreciating 'Knowledge Management (Data Analysis, Dissemination & Use)' as an over-arching, but distinct, thematic area under Strategic Information Management & creation/ strengthening of dedicated cadre at NACO & SACS for the same. The following figure depicts the role of Knowledge Management in overall framework of Strategic Information Management under NACP-IV.
2. There is a strong need to promote **'Data Quality – Data Analysis – Data Use'** as the watch words guiding all strategic information activities under NACP-IV.
3. Two key principles should be adhered to:
    a. Data Analysis should be programme-driven & serve programme requirements
    b. Data Analysis & Data Use should be regular, on-going & an integral part of programme implementation at all levels

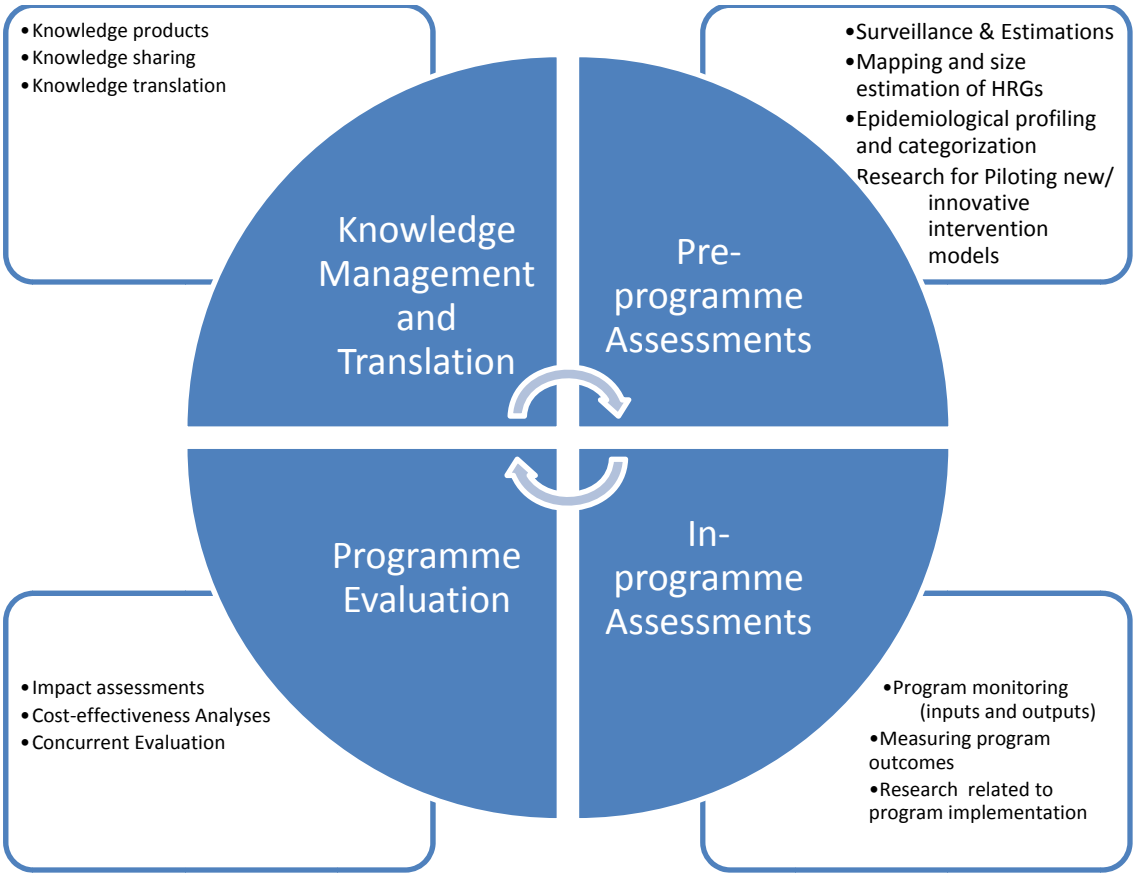

Fig 3: Framework for Strategic Information Management under NACP-IV

Recommendations

System-related Recommendations

1. **Creation of Knowledge Management Unit/ Data Analysis & Dissemination Unit/ Programme Science Unit at NACO:** There is a strong need to reinforce the capacities for data analysis and synthesis towards decision making. NACP-IV provides the opportunity to overcome this challenge by creating a dedicated unit for Knowledge Management at NACO. This unit shall be responsible for creating and translating knowledge into actionable recommendations and ensuring data use at all levels of programme. This will add the 'Missing Fourth Leg' to the existing structure of SIMU that will ensure delivery of its essential and important core functions.

   Primary mandate or Scope of Work of Knowledge Management Unit shall be to

   a. Undertake epidemiological and analytical work at national level and generate evidence to improve programme activities and delivery systems (Knowledge Creation)
   b. Develop and manage a systematic repository of knowledge products for programmatic and dissemination purposes (Knowledge Collection & Archiving)

c. Disseminate knowledge & learning to a wide range of users in India and globally through appropriate mechanisms (Knowledge Sharing)
d. Ensure Effective Data Use at all levels (Knowledge Translation)
e. Develop capacities at all levels (national, state, district, implementing unit) to improve data quality and analyze data, and mentor analytical work at state and district levels
f. Institutionalisation of these activities through development of mechanisms and guidelines

2. Develop mechanism to dedicate one or two M&E officers under the programme monitoring division exclusively for quality audit, analysis and feedback from routine CMIS/SIMS data. This responsibility may be rotated among the M&E officers working in the division, so that everyone has equal exposure to both administrative as well as technical work.
3. Establish a scientific group, with involvement of key institutes, partners and stakeholders, to advise on the various methods for data analysis (different types of modeling… etc.) and advise on the technical and scientific approach for data analysis to make sure the knowledge used for decision making is on strong scientific basis.
4. Building institutional resource pools in HIV/AIDS analysis in every state to support programme on knowledge management through fostering linkages with academic institutes, research organizations and expert bodies.
5. Devise and put in place, systems to identify new recruits at NACO, SACS, DAPCUs, TSU and other programme structures and provide them standardized induction training on data systems, data management, analysis and use. Standardised modules and material for such induction training should be developed.
6. Create 'learning sites/laboratories' in four-five regions on different thematic areas to generate learnings and systematically feed into national programme for scale up, shifts in policy and programme as needed. These sites provide "hands on" learning opportunities in key intervention areas, for people within India or from other countries.
7. Develop mechanisms to provide support to other countries looking to scale up key programmes (e.g., TI, STI, PPTCT) based on NACO learnings.

<u>Knowledge Creation</u>

8. Standardize approaches, methods, tools & mechanisms to ensure data quality and for data analysis
9. Build capacities of data management teams, epidemiologists, M&E officers & data teams at NACO, SACS and DAPCUs in data quality audit, data validation & cleaning, data analysis and report writing
10. Develop mechanisms for close coordination between programme divisions and data teams to understand the requirements for evidence and guide the analysis to meet the same
11. Establish regular processes for identifying strategic knowledge gaps in form of questions that can be answered through further analysis of existing data.
12. Encourage use of data triangulation methodologies using data from different sources to provide answers to strategic questions. Data triangulation endeavors can be done quickly and efficiently when appropriate process is followed for developing questions and finding answers. The district reports and summaries developed through the exercise on 'District Epidemiological Profiling using Data Triangulation' should be updated by district teams every year.

Knowledge Collection & Archiving

13. Systematize documentation and collection of knowledge products from external sources, by making effective use of different types of Information Communication Technology (ICT). Summary or key messages from these documents should be extracted and provided as input to the concerned programme divisions from time to time.
14. Allow for more regular cross feed-back between the programme management, the programme implementation, the beneficiaries and the community levels to capture the experiential knowledge from diverse stakeholders. Electronic platforms, other formal and informal channels of experience sharing should be developed.
15. Establish guidelines and processes for documenting best practices in a way that can be useful for learning / skills building, and for replication as appropriate.

Knowledge Sharing and Dissemination

16. Establish various processes and channels for timely communication, active and passive knowledge sharing and providing easy access to information and analytical outputs to a wide range of users (Parliamentarians & elected representatives, communities, service providers, NGOs, programme managers, etc) at national, state and district levels.
17. Establish systems for discussion and feedback on the results form data analysis and how it could be made useful for decision making. Regular in-house sessions for 1-2 hours on key analytical work, in the form of Brown Bag Seminars, may be conducted on a fixed day, every month at NACO and SACS offices to disseminate the analytical outputs to programme managers and other stakeholders.
18. Develop a knowledge hub for NACO, as a one-point source of information on HIV/AIDS, which can serve as a place holder for various tools for knowledge sharing. It should be designed
    a. with well-positioned IEC tools & products for common man;
    b. with electronic libraries, capacity building and e-learning tools, and discussion forums;
    c. with strong linkages with other knowledge & training platforms & data hubs developed by other agencies

    Ensure that the Knowledge Hub is regularly updated with the most recent data and reports, and is continuously strengthened with additional tools that would serve the needs of various users of knowledge.
19. Strengthen the linkages with the Press and Media as they are an important vehicle for knowledge dissemination. The Media need to have their capacities built for proper understanding of technical aspects of the knowledge they are disseminating, and to ensure that the knowledge is disseminate in the right way to the right audience.

Knowledge Translation (Ensuring Data Use)

20. Develop plan for promoting data use at national, state and district levels, in consultation with the data management teams and programme divisions at NACO & SACS, that includes activities to
    a. Develop the approach or mindset of using data for decision-making and programme planning
    b. Inculcate among programme managers, a habit of looking at data regularly
    c. Emphasise the importance of local knowledge and contextual understanding, that only the local level programme managers can add to the analysis

d. Trigger and sustain the interest in data analysis and facilitate data use as an on-going process
e. Expose them to real time examples that demonstrate the use of data for decision making & programme planning
f. Make programme managers work on data of their own state/district & reflect upon the insights
g. Develop guidelines and document mechanisms for institutionalizing these activities

21. Develop guidelines, modules and tools to assist programme managers in data use
22. Undertake capacity building of programme managers at national, state & district level on applied data management techniques/methods including
    a. identifying programme questions,
    b. identifying data sources that can answer their questions,
    c. simple methods and tools for quality checks, validation and analysis of data, for routine programmatic analysis, and
    d. evidence-based planning, prioritisation & decision making for improving the programme
23. Undertake activities to sensitise staff at peripheral reporting units on applied data management techniques relevant at the facility level, to enable them identify quality issues in their data, to make them understand the importance of data they generate and the need for ensuring its quality, and appreciate the use of data at higher levels
24. Promote scientific writing within the programme on important topics, involving the data management teams and programme managers, and facilitate their publication in peer-reviewed journals and conferences. This will contribute not only to the development of programme, but also to the professional growth of the professionals working in the programme.