How does capacity-building of health managers work? A realist evaluation study protocol

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Introduction

Health worker availability has been associated with better coverage of programmes such as vaccination as well as better outcomes such as reduced child and maternal mortality [1, 2]. Although the relationship between availability of health service providers and improved mortality outcomes appears straightforward, it is not easy to establish. Issues of health worker performance and their motivation and the contextual factors that shape an enabling environment for health service providers to perform effectively continue to be poorly understood [3]. Early studies exploring associations between health worker availability and health outcomes reported results ranging from "no significant association with infant mortality" to positive associations with infant and maternal mortality and even surprisingly, in one study, an adverse association between doctor availability and infant and perinatal mortality, termed 'doctor anomaly' [4–6]. Using improved data and design, more recent cross-country regression-based analysis has shown a positive relation between health worker availability and reduced child and maternal mortality, and improved vaccination coverage [7, 8].

The 2006 World Health Report drew attention to the human element in the delivery of health care services by focussing on the health workforce. It identified the forces driving the health workforce (health needs, health systems and contextual factors), and the related workforce challenges (numbers, skill mix, distribution and working conditions) [9]. A well-performing workforce is considered to be a combination of staff being available (retained and present) and staff being competent (productive and responsive) [9]. In order to ensure such conditions, the report suggested policymakers to adopt *good* human resource management (HRM) within the health services. Human resources management (HRM) is the management of people in an organisation. It

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includes the policies, practices and activities at the disposal of managers to ensure the availability of staff in their number, with skills needed to discharge their functions and having the motivation to accomplish the organisation's objectives [10].

Sub-optimal performance of health workers is a serious issue requiring urgent attention as it is linked to morbidity and mortality, and reviews having shown that health worker performance is critical to achieving good health outcomes across health conditions, age groups and to achieve the health-related millennium development goals [11, 12]. The world health report suggested four “practical and low-cost instruments” of which supportive, yet firm supervision and lifelong learning are important for a competent and responsive health workforce.

However, the difference made by *good* HRM in achieving better performance and outcomes of health services is poorly researched. There are indeed serious knowledge and evidence gaps on what kinds of interventions work. This is mainly due to methodological challenges on measuring HRM practices and performance, and the paucity of studies on district level interventions on health workforce from low and middle income countries, where the need for such evidence is most pressing [3, 12].

But several reviews also highlight the need for evaluations that can improve our understanding of “how” such interventions work so that HRM interventions may be better designed and implemented [1, 3, 13]. Also for this issue, there are few documented studies [14], despite the relevance of this question for policymakers as well as health care organisation managers.

Experience from action research in capacity building initiatives in 25 of the 28 Indian states as well as performance reviews of the NRHM highlight the need for systemic capacity-building on one hand and scientific evaluations of how interventions work

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(or do not) on the other [38–40]. Paul et al. reviewed several studies at both national and local level to identify gaps in the Indian health care system; they recommend interventions and research (among others) to improve decentralised district-level planning in health services. Given the lack of institutional capacity to utilise financial or technical inputs, health spending even on the appropriate services may not lead to actual provision of services [41]. Our study intends to address the evidence gap (how do district level training interventions improve performance?) and will contribute to the evidence base for better design of health workforce interventions.

Finally, more knowledge is needed regarding the role of context. HRM interventions are implemented within existing health systems. Context matters: what works in one setting does not necessarily work in another setting in the same country and may perhaps even not work in the same setting at another moment in time. Evidence on effectiveness of HRM interventions is either scanty or flawed due to poorly designed research [15].

In this paper, we present the protocol of an evaluation of a district-level capacity-building intervention in Karnataka State (India) that aims at responding to the effectiveness question, but also to the causality question. Inspired by principles of realist evaluation, this study focuses on identifying the determinants of performance of health workers in managerial positions, and to understand how changes are brought about.

The capacity-building intervention we assess aims to improve the capacity of health managers to conduct the planning and supervision of health services. These managers are posted at district and sub-district (*taluka*) levels (a *taluka* is an administrative sub-

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division of a district, with population ranging from 100,000 to 200,000). It does so by combining class-based lectures with in-service 'mentoring', where trainers and faculty visit participants in their workplace to further build on the classroom teaching and to help participants apply the teaching in their working environment.

Methods

Aim

We will carry out an evaluation study of a capacity-building intervention at district level in Karnataka state (figure 1). The aim of the study is to understand how capacity building in health district management works. This study will first describe the structure and nature of the intervention and, second, design tools to determine whether and how it brought about the changes that it sought to bring about and through what mechanisms these changes were achieved.

Figure 1 Map of India showing Karnataka state (shaded red) in south India

Study objectives

1. To determine if a district level capacity-building programme is associated with improvement of planning and supervision practices in Tumkur district, Karnataka state
2. To identify and describe the plausible mechanisms for changes in planning and supervision practices, if any
3. To develop recommendations for better design and implementation of capacity-building interventions for health services managers in Karnataka

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4. To contribute to the development of a methodological framework for the scientific evaluation of complex HRM interventions at local health care system level

Research question

Based on these objectives, we framed the following research questions (one main question with three sub-questions) to be addressed in the study as follows:

"How does a training programme for health managers at district level that consists of contact classes and mentoring have an impact on their planning and supervision practices?"

1. What are the interventions' elements that are associated with improvement of planning and supervision practices?
2. Was there an association between greater participation in the intervention (classroom training and mentoring) and improved planning and/or supervision practices?
3. How might a training programme change management practices of health managers with respect to the preparation of annual plans and supportive supervision?

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Setting

The study will be conducted in two districts (i.e. local health care system) of the state of Karnataka in India (figure 2). Karnataka is one of the average-performance states in India with respect to health outcomes – the 'average' is concealing wide disparities between districts. For instance, in 2008, coverage of immunisation for children was over 90% in Kodagu district, while it was below 50% in Raichur district [16]. The

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study will take place in Tumkur and Raichur district. Of the 30 districts in Karnataka, Tumkur is the fourth largest in terms of population (total population - 2,681,449 people) and the third largest district in Karnataka in terms of size (total area - 10,597 sq. km) with only 20% urban population and at least half the population recognised as being below the poverty line [17, 18]. The district has 10 *talukas*. In view of its large size, average socio-economic indices and 'average' health performance in terms of its outcomes, Tumkur could be considered a typical district of Karnataka. The government classifies Raichur district in northern Karnataka as having several *talukas* that are 'backward', but it ranked 14th among the (then) 27 districts in terms of health indicators. On the same index, Tumkur was ranked ninth [19]. These two districts are purposively selected as they are roughly comparable to each other in terms of health management and outcomes.

Figure 2 Map of Karnataka state showing Tumkur district (shaded blue) and Raichur district (shaded green)

The intervention

In 2009, Tumkur district was chosen to pilot a capacity-building programme. The programme was implemented in the district by a consortium of five Indian organisations, called *Swasthya Karnataka* in partnership with the government of Karnataka (see figure 3 for structure of the capacity-building programme, key actors involved and timeline). It consists of 12 modules on public health management topics, delivered through classroom teaching for two or three days per month in a residential training programme for all staff involved in management of health services at taluka and district levels, along with mentoring of these participants on a monthly basis at their workplace. One of the main objectives of the intervention was to improve

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3 planning and supervision practices of health managers through providing knowledge
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5 of public health planning principles, improving their skills in planning and
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7 supervision as well as bringing about a *can-do* attitude towards organisational change.
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9 The programme began in August 2009; the monthly contact classes for health
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11 managers ended in January 2011 and mentoring is in progress as of December 2011.
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16 **Figure 3** Schematic showing the structure of the capacity-building intervention in
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18 Tumkur along with key actors and timeline
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23 *Study design*
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25 Marchal [20] reviewed the methodological debate around the use of (quasi-)
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27 experimental study designs in complex interventions and scientific evaluations in
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29 health systems research. He builds a case for using the realist evaluation approach in
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31 research on complex interventions in health systems. He presents the results of a
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33 realist evaluation of the role of workforce management in well-performing health care
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35 organisations and identified some mechanisms underlying the better performance of
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37 these well-performing hospitals [20]. In line with this approach, we will carry out a
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39 realist evaluation of the capacity-building programme in Tumkur, using a mix of
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41 quantitative and qualitative methods. The characteristics of the intervention that
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43 support the choice of realist evaluation are presented in the discussion (see below).
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49 Our study design is determined by the following considerations:
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52 1. Classical controlled (quasi-)experimental designs are limited to answering
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54 *whether* a particular intervention (usually measured as treatment variables)
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56 was associated with an observed pre-defined outcome. They do not answer the
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questions *how*, *why*, and *under what conditions* the intervention worked (or did not). Besides enabling an understanding of the changes in planning and supervision practices in course of the intervention, the study design should also generate valid explanations for why and how the results observed were achieved.

2. HRM interventions are implemented in existing health system settings. Hence, the researcher cannot *manipulate* all treatment variables for the purposes of testing *a priori* hypotheses, either because the context of the intervention does not support this or for ethical reasons. Although hypothesis testing should be central to discovery of the mechanisms, such hypotheses should be derived from the possibilities permitted by the context within which the intervention is being implemented.

In order to understand whether, and how the intervention produces a change in managerial practices at the district level, we will carry out the study in six steps. In figure 4, a schematic shows the sequence of steps (steps A, B1-2, C, D, E and F) with the questions that will be addressed at each step and the corresponding methods. The various phases of our study design follow the logic presented in the six-step framework developed by Van Belle et al [21]. The six steps they describe refer to a theory-driven evaluation where evaluators reconstruct the assumptions based on which the programme was designed (programme theory) in order to *refine* it through *testing* and verifying. Based on this process, an improved programme theory is developed, which explains how the intervention and outcome are related. Realist evaluation is a type of theory-driven evaluation [22] that generates a theory explaining the mechanisms through which the outcomes were brought about in a

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given context. We found the steps used by Van Belle et al. useful to organise and describe the steps in this study. The steps A-F below refer to the steps in our design as shown in figure 4; the six steps of Van Belle et al. are referred to as numbers (steps 1-6; see figure 5). The scope of the evaluation and appropriateness of realist evaluation (corresponding to step 1 of Van Belle framework) is presented in the Discussion section (see below).

Figure 4 Study design showing steps A to F

Figure 5 Six steps proposed by Van Belle and colleagues [21]

The study starts with a reconstruction of the initial programme theory of the intervention (step A in figure 4) corresponding to steps 1 and 2 of the Van Belle framework. A *programme theory* that may be presented in the form of a *logic model* is a reconstruction of the assumptions and steps through which the intervention is expected to reach the expected outcomes. An initial programme theory will be the starting point for the study by providing a basis for the questions and tools of the subsequent qualitative and quantitative data collection phases. In figure 6, a simplified hypothetical causal chain based on the programme theory is presented. It links the intervention inputs (contact classes and mentoring) to the expected outputs (improved planning and supervision practices).

Figure 6 Hypothetical pathways to change based on initial reconstruction of programme theory and literature

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In steps B and C, we will use a mix of qualitative and quantitative methods to understand the process of planning and supervision and whether and how it changed in the course of the intervention[23]. In step B, we will measure perceptions about training, planning and supervision, organizational commitment, self-efficacy in problem-solving and nature of supervision among participants and non-participants through a survey in Raichur and Tumkur districts of Karnataka. Organisational change in health services is an outcome of individual, institutional and contextual factors. Existing theories of behavioural change in health services conceptualise that interventions operate at one or more of these three spheres of influence (figure 7).

Figure 7 Theories of behavioural change in health services in relation to their sphere of influence

A hypothetical causal pathway (figure 6) that links the intervention inputs and the outputs, and a review of literature (figure 7) on what we know about HRM interventions were used to choose the variables and design the tools for the survey.

In step C, we will use qualitative methods to document and understand the changes in planning and supervision practices before, during and after the intervention in Tumkur district. In this phase, we will also determine the contextual factors that influence planning and supervision in the district, especially other programmes initiated by the state health authorities that have similar or overlapping objectives with the intervention. The National Rural Health Mission (NRHM) is a nation-wide initiative of the Indian government that seeks to improve district level planning and supervision and implements this through the creation of a district and taluka programme management unit. NRHM introduced technical and human resource

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inputs into the health system in the form of decentralised annual action plans and placement of young management professionals at taluka and district levels for planning and supervision of the plans.

The data from steps B and C will be analysed and interpreted together in step D to understand the relationships between the elements of the initial hypothetical causal chain. This will result in an improved theory linking the inputs, intermediate steps and the effect of contextual factors. We will then formulate – in step E – explanatory context-mechanism-outcome configurations based on the interpretation in step D that will be validated through a fresh round of data collection using qualitative methods. An iterative analysis of findings from steps C, D and E will be conducted so as to build an internally consistent and valid explanation in step F on "what elements of the intervention worked, for whom and under what conditions". The last three steps in our study (steps D, E and F) correspond to the last three steps of the Van Belle framework.

Methods and tools

Realist evaluation is method-neutral; it allows for the use of mixed methods, whereby the choice of data collection and analysis methods is determined by the nature of the research questions and of the programme theory [24]. The methods and tools for data collection are determined by each step (qualitative or quantitative) and the nature of questions asked at this step (see schematic in figure 4). A summary of the tools and expected outcomes at each step is shown in Table 1.

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Table 1: Details of the tools, sampling and expected outcomes

Step	Methods/tools	Sampling/selection of respondents	Analysis and expected outcome
Step A Reconstruction of programme theory	Desk review of intervention design, proposal, annual district level plans, reports and interviews with the people who designed and are implementing the intervention. Review of theories of behavioural change in health services	Not applicable for review of documents; purposive sampling for interviews	- Initial programme theory and a hypothetical causal pathway linking intervention inputs and expected outcomes - Summary of theories of organisational change in relation to their spheres of influence
Steps B1 and B2 Data collection – quantitative (process)	Construct survey questionnaire based on a review of theories of behavioural change in health care organisations and reconstruction of initial programme theory from step A	All health managers in intervention and control district who agree to participate (about 100 in all; about 60 in Tumkur and 40 in Raichur)	Key outcome variables for survey - Attitudes to training programmes and district planning - Organisational commitment - Self-efficacy - Attitude towards receiving and providing supervision Statistical analysis to determine relationship among variables and effect of exposure to intervention
Step C Data collection – qualitative (context and outcomes)	Assess action plans before, during and after intervention; assess performance and outcomes using routine institutional data and interview participants and non-participants at district and taluka level to understand changes in the course of three years	Purposive, based on exposure to intervention	Analysis of the qualitative data to understand how planning and supervision practices changed in the course of the intervention as well as how other contextual determinants influenced these changes
Step D Analysis (context-mechanism-outcome configurations)	Analyse findings from B2 and C to understand the relationship between various elements in the hypothetical causal chain and the contribution of contextual factors to the outcomes observed	Desk review and joint analysis of findings	Further refining of the initial programme theory by the improved understanding from the application of qualitative and quantitative methods
Steps E & F (Validation and refining the theory)	Formulate context-mechanism-outcome configurations and verify through fresh	Purposive sampling of participant and non-participant health managers in both	An internally consistent and valid explanation of “what components of the intervention

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	data collection as well as re-looking at the earlier findings (steps B2 and C)	districts	worked, for whom and under what conditions”

The questionnaire used in the survey (step B) includes six modules (modules B to G in supplementary file 1) to measure attitude towards planning and training programmes, organisational commitment, self-efficacy and supportive nature of supervision. The module on organisational commitment (module C in supplementary file 1) is adapted from two versions of the Meyer and Allen organisational commitment questionnaire that were tested and validated in public services in south Asian settings [25–27]. A five-point Likert scale is used to grade responses. Self-efficacy in managing conflict situations usually faced by managers of health services is measured with a ten-item scale based on the Bandura scale[28] that was developed for use across cultures and has been demonstrated to have cross-cultural equivalence across several languages [29–32]. The supportive nature of supervision is measured using 14 items on a five-point Likert scale. We adopted eight items measuring supportive supervision and 4 items measuring non-controlling supervision from Oldham and Cummings, which in turn is based on the Michigan organizational assessment package [33, 34]. We added two items to measure controlling supervision. The questionnaire will be piloted among public health experts and *taluka*-level health managers. The pilot will be used to improve the understandability of the questions, as some of the tools have not earlier been tested among south Indian health services staff. Exposure of participants to the intervention, type of participation and their performance during and immediately after the training programme and mentoring will be captured through analysis of secondary data from attendance records, monthly reports of the training programme and visit notes by mentors.

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In step C, we will conduct document review, compile routine health information data on performance, conduct interviews using a semi-structured interview guide (supplementary file 2) and undertake non-participant observation.

Sampling

The survey (step B) will be conducted among all health managers in the district. For the purpose of this study, a health manager is defined as a health worker in the government services, who is managing a facility, team or institutions at the *taluka* or district level. The questionnaire will be administered among the health managers in the two study districts, Tumkur and Raichur. They will be invited to participate voluntarily in the study. The first author (NSP) or one of two trained data collectors will visit the health managers their place of work by fixing prior appointment at a time convenient to them to ensure good recruitment. The data collectors will be trained to answer questions about the questionnaire and the nature of the study, as well as to clarify doubts arising in the course of filling the questionnaire.

In steps C and E, we will carry out purposive sampling; in step C, we will choose respondents for interviews in order to interview people ranging from no exposure to the intervention to people who have participated most in the intervention. In step E, data collection will be done through participant observation and will be iterative in nature. It will be based on the findings of steps B2 and C. We shall select participant health managers purposively in Tumkur district as well as non-participant health managers with similar outcomes from Raichur district to understand which ones among them achieved organisational change and to what extent this was facilitated (or

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not) by the capacity-building programme or individual, systemic or contextual factors (see figure 7).

Analysis

The quantitative data from the questionnaire will be examined (step B2) and descriptive parametric measures for organisational commitment, self-efficacy and nature of supervision will be calculated. Participation in training and mentoring (exposure) among the health managers in Tumkur district will be measured through secondary documents (attendance and mentoring notes). We will apply statistical tests of differences between groups to determine the degree of association between exposure to training and the measures of organisational commitment, self-efficacy and nature of supervision.

We will analyse interview transcripts (step C) using content analysis to understand the process of planning at district and *taluka* levels. We will use triangulation by systematically sorting through the qualitative data from the observation notes, interviews and secondary document analysis to find common themes or categories by eliminating overlapping areas.

The results of the qualitative and quantitative phases will then be analysed together (step D) to develop plausible explanatory context-mechanism-outcome configurations that explain who performs better with respect to planning and supervision in response to a training-mentoring programme in a district. The result from the analysis of participant observation field notes (step E) will be used to validate this framework and refine the initial programme theory. This phase of joint quantitative and qualitative

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analysis will be iterative – we will refine the framework through purposive participant observation visits and interviews. By taking into consideration the context within which a given outcome was observed, and testing and validating explanatory configurations of these three (context, mechanism and outcome), we will explain how the intervention brought about the changes observed in planning and supervision practices.

Ethics

The protocol of this study was approved by the Institutional Review Board of the Institute of Tropical Medicine, Antwerp and by the Institutional Ethics Committee of Institute of Public Health, Bangalore.

All participants shall be made aware of their participation in the study through formal correspondence. They will have the option to decline participation in the study, and it will be ensured that non-participation will not affect further participation in the training programme. In addition, written consent shall be obtained for each interview. The study proposal shall be shared with the state health authority and permission shall be sought to access routine health data, reporting formats and meeting proceedings.

Questionnaires and interview transcripts shall be coded to ensure confidentiality of all ideas/opinions expressed by participants in the course of the study. None of the study outcomes shall identify participants by name or exact designation to avoid potential professional or personal harm to the participants in view of opinions/ideas expressed by them.

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The language of interaction with participants will be either English or Kannada (the local language in the state of Karnataka) in function of their preference; this would be established at the beginning of the interaction. Consent forms shall be made available in both English and Kannada (supplementary files 3 and 4) and the participant will have a choice to read and understand the nature of study in the language of their choice and decide accordingly. The content shall also be orally explained to the participant by the trained data collector in the case of the self-administered questionnaire and the interviewer in the case of interviews. All interviews shall be conducted at a time and venue indicated by the participant with prior appointment. The approval for audio recording of interviews shall be sought separately in addition to the consent for taking notes of the interview.

The participant shall have the right to revoke or withdraw consent to part or all of what he has expressed during the study period. In case of collection of any document outside of public domain (for example privileged communication between district authorities), a permission letter shall be obtained from the authorised official.

There is no interaction with patients in the course of the study.

Quality control

All the data from the qualitative data collection methods will be organised on Nvivo software with clear documentation of the procedures adopted and consistent file naming. Analysis of the interview transcripts, categorisation and analysis will be crosschecked by two researchers.

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For each survey respondent, the data collector will check the questionnaire for completeness. Before data entry, a member of the study team will scan all questionnaires for errors. The data will be entered into a spreadsheet using a software for programmed data entry (Epidata) with in-built validity checks and error detection (supplementary file 5)[35].

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Discussion

HRM interventions at the district level are complex; the outputs are produced as a result of interactions between several actors and institutions within a given context resulting in a web of processes, which are difficult to map in a straightforward, linear manner. It is being increasingly recognised that such interventions present a methodological challenge [42, 43]. This study intends to improve our understanding of scientific evaluation of complex interventions in HRM in health. The capacity-building programme in Tumkur has all the features of a complex intervention as described by the new guidance of the Medical Research Council (MRC) on developing and evaluating complex interventions. The guidance lists some dimensions of complexity – "the number of and interactions between components within the experimental and control interventions (if identified), number and difficulty of behaviours required by those delivering or receiving the intervention, number of groups or organisational levels targeted by the intervention, number and variability of outcomes and degree of flexibility or tailoring of the intervention permitted". The latest 2008 guidance of MRC, while acknowledging the limitations of experimental designs, notes that inclusion of a process evaluation in complex interventions "is a good investment to explain discrepancies between expected and observed outcomes,

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to understand how context influences outcomes, and to provide insights to aid implementation". The recent guidance builds on the experience gained in understanding the limitations of the earlier experimental designs and suggests the use of a "more flexible, and less linear model of the process, giving due weight to the development and implementation phases, as well as to evaluation" [44]. This is further reinforced by Campbell et al. [40] who emphasise the need to use a mix of qualitative and quantitative evidence that needs to be applied to an (often) iterative process of framework development and testing.

Realist evaluation of HRM interventions

Conduct of trial-based studies in social systems has limitations in view of the lack of 'control' over the contextual and operational factors that affect the observations. Although a potentially verifiable causal chain that connects an intervention and a hypothesised outcome linked together through sequential steps is often appropriate for scientific evaluation, the responses of social systems to new approaches are very often difficult to 'reduce' to such a testable succession of steps with cause-effect relationships [21, 22, 45]. Increasingly, social programme evaluations have been encouraged to look beyond the "successionist" format of experimental design that is well suited for classical bio-medical research. At the first WHO health systems research symposium at Montreux in 2010, a strong call was made to strengthen the evidence base for capacity development through "proper evaluation of capacity development initiatives" and use of multi-method approaches to overcome the difficulties imposed by the complexity of human resources in health interventions [46, 47]. Realist evaluation precisely posits that programmes are embedded in social systems and stresses the importance of understanding *what works for whom and*

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under what conditions. It offers a framework to design scientific evaluations of human resource interventions. Based on a review of literature on choice of methods for complex interventions, Marchal [20] reports that experimental or quasi-experimental designs "are indicated when the effectiveness of an intervention should be tested" and are by themselves inadequate to answer and explain how interventions work, an analysis supported by several other reviews [40, 43, 46].

Health worker practices are complex behaviours that are determined by various individual, systemic or institutional and contextual factors [12]. In their review of theories of behavioural change in health services, Rowe et al. [12] question the premise that poor organisational performance in health is merely due to the lack of knowledge and skills. They encourage studies to move beyond the old paradigm "that most performance problems can be solved by training alone". In the Tumkur capacity-building intervention, a reconstruction of the assumptions of the intervention and how it sought to change planning and supervision practices is established. The outcomes (i.e. better planning and supervision practices) are determined by several factors at the individual (improved knowledge and skills), institutional (competence, enabling environment, motivation to apply/change) and contextual (other programmes or interventions with similar objectives and many other contextual factors that may facilitate or discourage organisational change) levels. In order to understand *how* the programme worked, we will further build and refine these hypothetical pathways based on a review of literature and the study findings to arrive at context-mechanism-outcome configurations.

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Realist evaluation presents a scientific approach towards understanding mechanisms through which social interventions work. According to Pawson and Tilley [49], "Programs work (have successful 'outcomes') only insofar as they introduce the appropriate ideas and opportunities ('mechanisms') to groups in the appropriate social and cultural conditions ('contexts')". By building and testing such Context (C)-Mechanism (M)-Outcome (O) or CMO configurations within the *talukas*, it is possible to generate an internally consistent and externally valid knowledge of how such interventions work in a given context to produce an observed outcome [22].

Existing theories on behavioural change in health services can be divided into those that explain change at or between individual, institutional or contextual levels, and thus evaluations must consider all these levels while trying to explain behavioural change (figure 7). The variables we chose to measure (attitude towards training, organisational commitment, self-efficacy, nature of supervision) have all been linked to behavioural change and improvement in organisations and a preliminary desk review of the training reports and documents suggests that these are also linked to the intervention in Tumkur.

Contributorship

NSP, ND, BC and GK conceived and designed the study. NSP, BM and GK developed the methodology. NSP, TH, BC and JM developed the tools. NSP wrote the first draft of the present manuscript. All authors reviewed the first draft. All authors read and approved the submitted manuscript.

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Figures

Figure 1

Short title: Map of India showing Karnataka (shaded red) in south India

Legend: Map from Wikimedia Commons/User:Nichalp licensed under Creative Commons Attribution-Share Alike 3.0

Figure 2

Short title: Map of Karnataka showing Tumkur district(shaded blue) and Raichur district (shaded green)

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Figure 3

Short title: Schematic showing the structure of the capacity-building intervention in Tumkur along with key actors and timeline

Figure 4

Short title: Study design showing steps A to F

Figure 5

Short title: Six steps proposed by Van Belle et al [21]

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Figure 6

Short title: Hypothetical pathways to change based on initial reconstruction of programme theory and literature

Figure 7

Short title: Theories of behavioural change in health services in relation to their sphere of influence

Supplementary files

Supplementary file 1

File format: questionnaire_final.pdf

Title: Questionnaire for health managers on training programmes, planning and supervision

Description: The questionnaire measures attitudes to training programmes, organisational commitment, self-efficacy and nature of supervision of health managers

Supplementary file 2

File format: ssi_guide.pdf

Title: semi-structured interview guide

Description: An interview guide with probes to understand process of planning and attitudes towards planning

Supplementary file 3

File format: consent_eng.pdf

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5 Description: A blank consent form (English) used to obtain consent for interviews
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12 File format: consent_kan.pdf
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14 Title: Consent form (Kannada)
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16 Description: A blank consent form in the Kannada (local language) used to obtain
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23 **Supplementary file 5**
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25 File format: epidata_val.pdf
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27 Title: epidata checks
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29 Description: epidata format showing the validity and checks for data entry
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Map of India showing Karnataka (shaded red) in south India. (Map from Wikimedia Commons/User:Nichalp licensed under Creative Commons Attribution-Share Alike 3.0)
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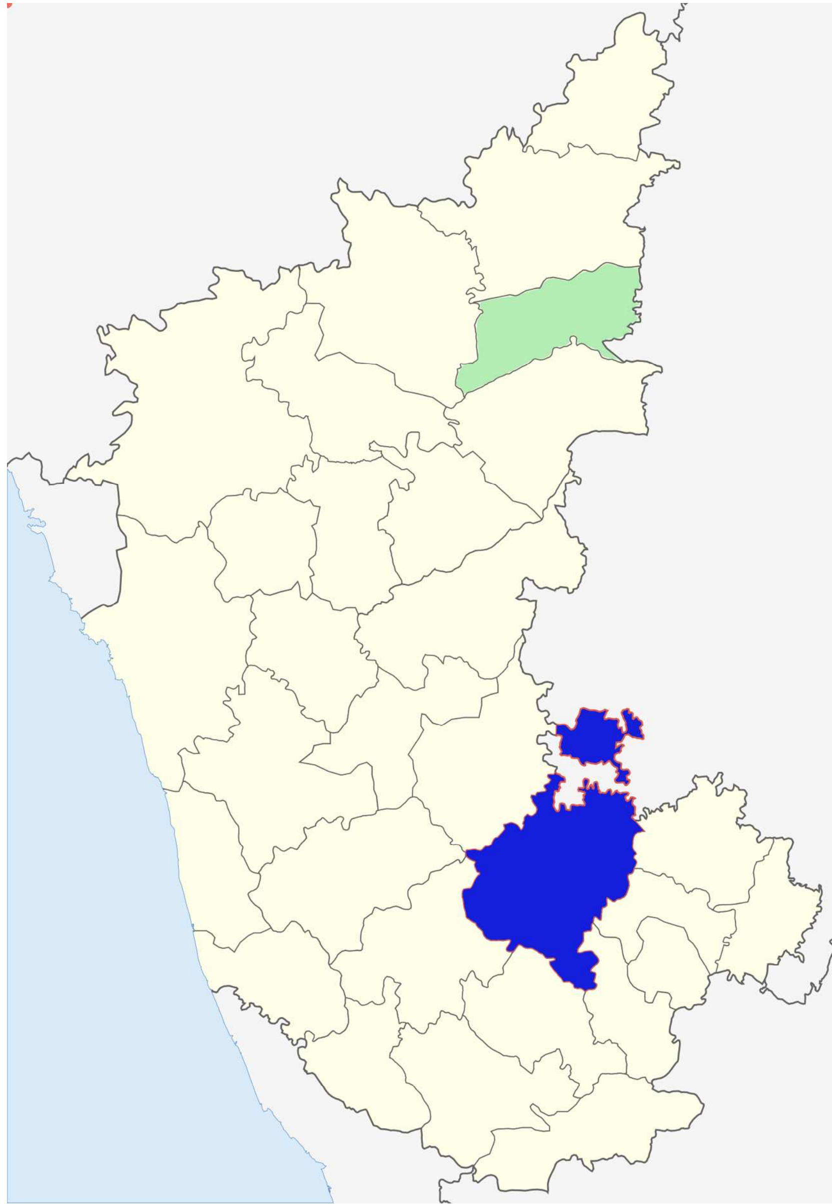

Map of Karnataka showing Tumkur district(shaded blue) and Raichur district (shaded green). (Map from Wikimedia Commons/User:Planemad licensed under Creative Commons Attribution-Share Alike 3.0)

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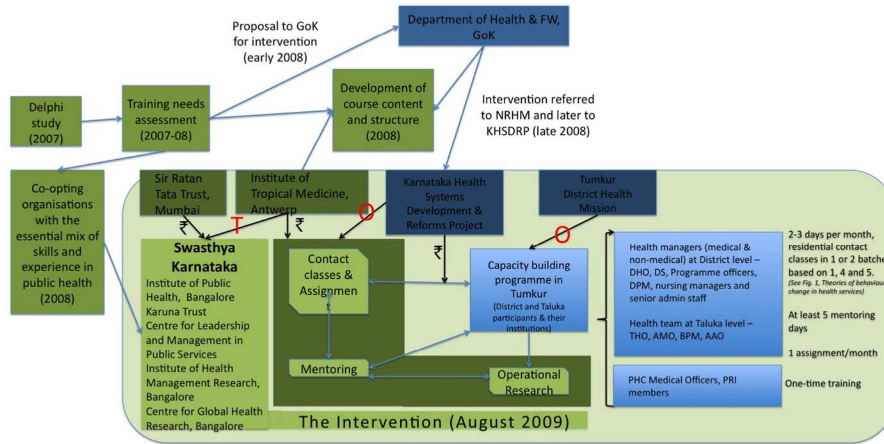
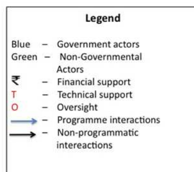
Structure of the intervention in Tumkur with key actors, relationships and timeline



Institute of Public Health, Bangalore



Schematic showing the structure of the capacity-building intervention in Tumkur along with key actors and timeline
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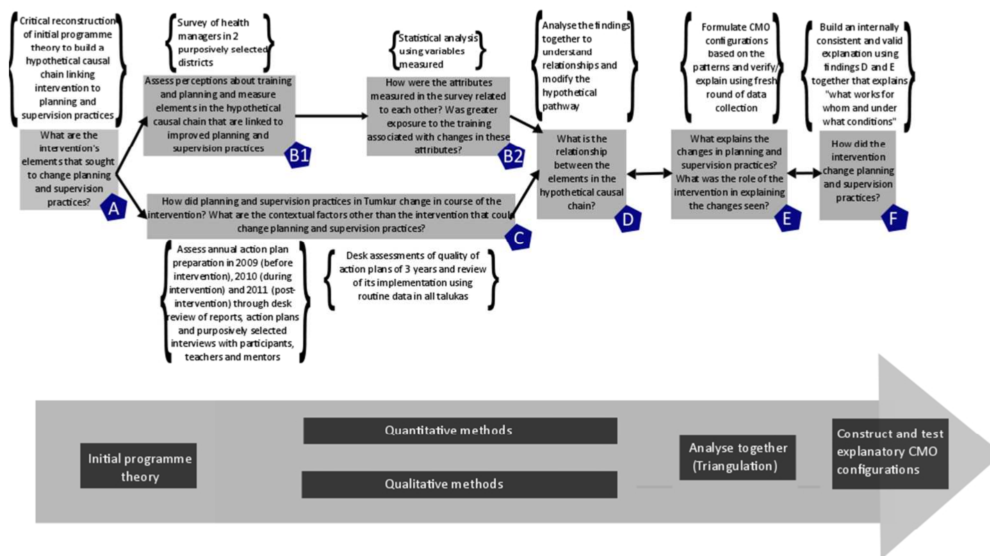

Study design showing steps A to F
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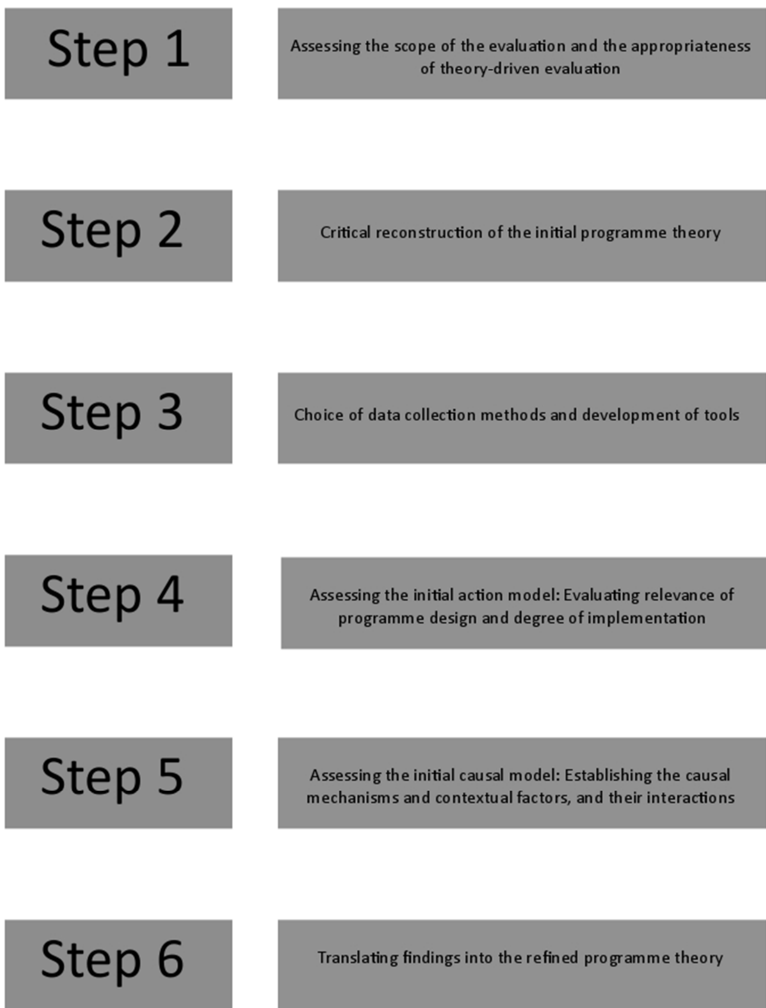

Six steps proposed by Van Belle et al [21]
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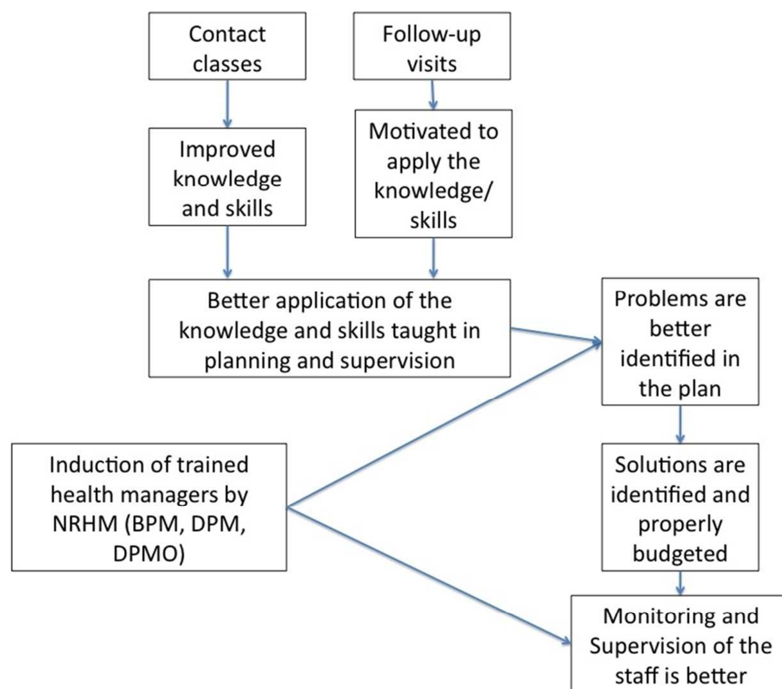

Hypothetical pathways to change based on initial reconstruction of programme theory and literature
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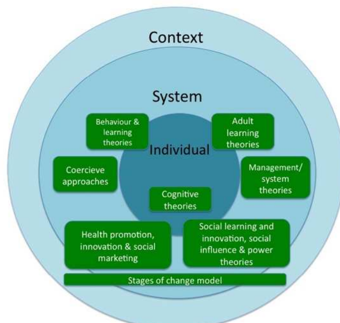
Theories of behavioural change in health services



Theories in relation to sphere of influence
Individual, System and context

Theory	Assumptions	Interventions based on theory
Adult Learning theories	Change occurs when individuals have personal experience with a problem and helped develop the solution	Develop guidelines through local consensus, small-group interactive learning, problem-based learning
Health promotion, innovation and social marketing theories	Behaviours can be changed with clear and attractive products and messages that meet a need of the target audience	Needs assessments, adapting change proposals to meet local needs, creating clear and attractive messages, and disseminating them via multiple channels
Behavioural and learning theories	Behaviours are a result of external stimuli	Audit and feedback, reminders, modelling correct performance, incentives, sanctions, removing factors that are demoralising
Social learning and innovation theories, social influence and power theories	Change occurs through the interaction and influence of important people, and through development of new social norms	Use opinion leaders or respected peers to disseminate guidelines, pressure from patients to use an innovation
Management theories, system theories	Errors can be prevented by improving the design of health systems and processes	Total quality management, total quality improvement approaches, changing structures and tasks
Coercive approaches	Change occurs because of pressure and control	Laws and regulations, licensing, budgeting, complaints procedures, and legal pursuits
Stages of change model, and the PRECEDE model	To change, individuals pass through stages (precontemplation, contemplation of change, preparation for change, action, and maintenance) and different interventions are needed at different stages	Predisposing strategies, to progress from precontemplation to contemplation (education activities, conferences); enabling strategies, to progress from contemplation to action (clinical guidelines); and reinforcing strategies, to progress from preparation to maintenance (audit and feedback, peer review)

Adapted from Rowe *et al*. 2005. How can we achieve and maintain high-quality performance of health workers in low-resource settings? *The Lancet*. 366(9490): 1026-1035.

Institute of Public Health, Bangalore 2010

Theories of behavioural change in health services in relation to their sphere of influence
649x449mm (72 x 72 DPI)

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(In English)

Institute of Public Health
#250, Masters Cottage, 2nd C Main, 2nd C Cross, Girinagar I Phase, Bangalore – 560 045
www.iphindia.org **Phone: +91** [redacted]

Information sheet

Background: Institute of Public Health, Bangalore is a non-profit public health institute in Bangalore involved in training, research, consultancy and advocacy. The Institute has recently begun a training programme for the district and taluka health team in Tumkur.

About the study: The Institute is undertaking a study in your district to understand the process of planning, specifically the NRHM Programme Implementation Plan for 2010. The study will involve interviews and focus group discussions with people in the health department at district, taluka, PHC and village level. The study will also involve interviews with non-health personnel in the district who have been involved in making the NRHM PIP. In addition, policy makers within the state as well as national level will be interviewed.

Why the study? The study is being undertaken to understand the operational problems that happen in implementing the process of NRHM PIP as per the guidelines. We also hope to understand the problems that people face in the field and inform policy makers about it.

Anonymity and confidentiality of all views and opinions expressed during the interviews is guaranteed. The aim of the study is not to find fault with the process in your district, but to understand and document issues and problems with the process of PIP preparation itself, and on trying to find out how this can be improved. All original recordings of the interviews shall be destroyed after transcription and interviewees shall not be identified in any report or publication.

Audio recording will be done to help in capturing all the views and opinions expressed. The audio will be destroyed after transcribing. Complete anonymity and confidentiality of the individuals is guaranteed.

Outcome: The study findings will be used to inform policy-makers about the operational issues in PIP preparation. The findings will also help streamline and improve the process in the coming years. In addition, the findings will be used to inform training programmes and workshops for district health personnel in other district training programmes. A brief of the findings will be shared with you after the study.

For further information, please contact: Dr. Prashanth NS, PhD Fellow, Institute of Public Health, Bangalore. Phone: [redacted]

Informed Consent

I have read and understood the details provided to me about the study through the information sheet above. I hereby consent to participate in the study with the understanding that my views and opinions shall be treated as anonymous.

I also agree to record my opinions. Yes/No.

Signature:
Date:

For peer review only

(In Kannada)

Institute of Public Health
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ಮಾಹಿತಿ ಚೀಟಿ

ಹಿನ್ನೆಲೆ : ಇನ್ಸ್ಟಿಟ್ಯೂಟ್ ಆಫ್ ಪಬ್ಲಿಕ್ ಹೆಲ್ತ್ , ಬೆಂಗಳೂರು ಒಂದು ಸಮುದಾಯ ಆರೋಗ್ಯದ ಬಗ್ಗೆ ತರಬೇತಿ, ಸಂಶೋಧನೆ ಹಾಗ ಸಮಾಲೋಚನೆಯಲ್ಲಿ ತೊಡಗಿರುವ ಸಂಸ್ಥೆ. ಈ ಸಂಸ್ಥೆ ತುಮಕೂರಿನಲ್ಲಿ ಜಿಲ್ಲಾ ಹಾಗು ತಾಲೂಕು ಆರೋಗ್ಯ ಸಂಸ್ಥೆಗಳಲ್ಲಿ ಸೇವೆ ಸಲ್ಲಿಸುತ್ತಿರುವ ಸಿಬ್ಬಂದಿಗೆ ತರಬೇತಿ ನೀಡುತ್ತಿದೆ.

ಸಂಶೋಧನೆ : ನಮ್ಮ ಸಂಸ್ಥೆಯು ನಿಮ್ಮ ಜಿಲ್ಲೆಯಲ್ಲಿ ನಕಾಶೆ ಮಾಡುವುದರ ಬಗ್ಗೆ, ಅದರಲ್ಲೂ ರಾಷ್ಟ್ರೀಯ ಗ್ರಾಮೀಣ ಆರೋಗ್ಯ ಅಭಿಯಾನದ ಅಡಿಯಲ್ಲಿ ೨೦೧೦ ವರ್ಷದ ಪಿ ಐ ಪಿ ಯಾವ ರೀತಿ ಮಾಡಲಾಯಿತು ಎಂಬುದರ ಬಗ್ಗೆ ತಿಳಿಯಲು ಒಂದು ಸಂಶೋಧನೆ ನಡೆಸುತ್ತಿದೆ. ಈ ಸಂಶೋಧನೆ ಪಿ ಐ ಪಿ ಮಾಡುವುದರಲ್ಲಿ ನಿಮ್ಮೆಲ್ಲರಿಗೆ ಯಾವ ರೀತಿ ತೊಂದರೆ ಹಾಗು ಅಡಚಣೆಗಳು ಬರುತ್ತವೆ ಎಂದು ತಿಳಿಯಲು ಮಾಡುತ್ತಿದ್ದೇವೆ. ಸಂಶೋಧನೆಯಲ್ಲಿ ತಪ್ಪು ಕಂಡುಹಿಡಿಯುವುದಾಗಲಿ, ಅಥವಾ ಕೊರತೆಗಳು ಕಂಡುಹಿಡಿಯುವುದಕ್ಕಾಗಲೀ ಮಾಡುತ್ತಿಲ್ಲ. ನಾವು ಈ ಕುರಿತು ಜಿಲ್ಲಾ, ತಾಲ್ಲೂಕು, ಪಿ ಎಚ್ ಸಿ ಹಾಗು ಹಳ್ಳಿಗಳ ಮಟ್ಟದಲ್ಲಿ ಆರೋಗ್ಯ ಸೇವೆಗಳ ಸಿಬ್ಬಂದಿಯೊಂದಿಗೆ ಸಂದರ್ಶನ ನಡೆಸುತ್ತೇವೆ. ಜೊತೆಗೆ, ಜಿಲ್ಲಾ ಮಟ್ಟದಲ್ಲಿ ಪಿ ಐ ಪಿ ಯಲ್ಲಿ ತೊಡಗಿದ್ದ ಅಧಿಕಾರಿಗಳೊಂದಿಗೂ ಸಂದರ್ಶನ ಮಾಡುತ್ತೇವೆ. ನಂತರ, ರಾಷ್ಟ್ರ ಮಟ್ಟದಲ್ಲಿ ಹಾಗು ಕೇಂದ್ರ ಸರಕಾರದ ಮಟ್ಟದಲ್ಲಿ ಎನ್.ಆರ್.ಎಚ್.ಎಂ ಅಧಿಕಾರಿಗಳೊಂದಿಗೂ ಸಂದರ್ಶಿಸುತ್ತೇವೆ.

ಏಕೆ **:** ಪಿ.ಐ.ಪಿ ಮಾಡುವುದರಲ್ಲಿ ಹಲವಾರು ತೊಂದರೆಗಳು ಮತ್ತು ಅಡಚಣೆಗಳು ಕಂಡುಬರುತ್ತವೆ. ಆದರೆ ಪ್ರತಿ ವರ್ಷ ಪಿ.ಐ.ಪಿ ಇಡೀ ದೇಶದಲ್ಲಿ ಒಂದೇ ರೀತಿಯಲ್ಲಿ ಮಾಡಲಾಗುತ್ತದೆ. ಈ ಸಂಶೋಧನೆಯ ಮುಖಾಂತರ ನಾವು ಜಿಲ್ಲ, ತಾಲ್ಲೂಕು ಹಾಗು ಕೆಳ ಮಟ್ಟದಲ್ಲಿ ಆಗುವ ತೊಂದರೆಗಳನ್ನು ಅರಿತು, ಇವನ್ನು ನಿವಾರಿಸುವುದಕ್ಕೆ ಯಾವ ಕ್ರಮ ಕೈಗೊಳ್ಳಬೇಕೆಂದು ಮೇಲಿನ ಅಧಿಕಾರಿಗಳ ಮುಂದೆ ಇಡುತ್ತೇವೆ.

ಅನಾಮಧೇಯತ್ವ ಹಾಗು ಗೌಪ್ಯತೆ : ಸಂದರ್ಶನದಲ್ಲಿ ವ್ಯಕ್ತ ಪಡಿಸಿರುವ ಎಲ್ಲಾ ಅಭಿಪ್ರಾಯಗಳ ಗೌಪ್ಯತೆ ಕಾಪಾಡಲಾಗುವುದು . ಹಾಗೂ ಎಲ್ಲಾ ಅಭಿಪ್ರಾಯಗಳು ಅನಾಮಧೇಯವಾಗಿ ಅಧ್ಯಯಿಸಲಾಗುವುದು . ಮೊದಲೇ ತಿಳಿಸಿರುವಂತೆ, ಈ ಸಂದರ್ಶನ ಪಿ.ಐ.ಪಿ ಯಲ್ಲಿ ಆಗುವ ಅಡಚಣೆಗಳು ಹಾಗು ತೊಂದರೆಗಳನ್ನು ಅರ್ಥ ಮಾಡಿಕೊಂಡು ನಿವಾರಿಸಲು ಮಾಡಲಾಗುತ್ತಿದೆ; ತಪ್ಪು ಕಂಡುಹಿಡಿಯುವುದಕ್ಕಲ್ಲ. ನಿಮ್ಮ ಅಭಿಪ್ರಾಯಗಳನ್ನು ನಿಮ್ಮ ಹೆಸರಿನಿಂದ ಯಾವುದೇ ರೀತಿಯಲ್ಲಿ ಗುರುತಿಸುವಂತೆ ಹೊರಪಡಿಸಲಾಗುವುದಿಲ್ಲ.

ಧ್ವನಿ ಮುದ್ರಣ**:** ನಿಮ್ಮ ಉತ್ತರ ಹಾಗು ಅಭಿಪ್ರಾಯಗಳನ್ನು ಧ್ವನಿ ಮುದ್ರಣ ಯಂತ್ರದ ಮೂಲಕ ಉಲ್ಲೇಖಿಸಲಾಗುವುದು. ಈ ರೀತಿ ತೆಗೆದುಕೊಂಡಿರುವ ಧ್ವನಿ ಮುದ್ರಣವನ್ನು ಅಧ್ಯಯನದ ನಂತರ ಅಳಿಸಲಾಗುವುದು.

ಪರಿಣಾಮ**:** ಈ ಅಧ್ಯಯನದ ಪರಿಣಾಮವನ್ನು ಮೇಲಿನ ಅಧಿಕಾರಿಗಳಿಗೆ ಜಿಲ್ಲ, ತಾಲ್ಲೂಕು ಹಾಗು ಹಳ್ಳಿಗಳ ಮಟ್ಟದಲ್ಲಿ ಪಿ.ಐ.ಪಿ ಮಾಡುವುದರಲ್ಲಿ ಯಾವ ರೀತಿಯ ತೊಂದರೆಗಳು ಹಾಗು ಅಡಚಣೆಗಳು ಉಂಟಾಗುತ್ತವೆ ಎಂದು, ಮತ್ತು ಯಾವ ರೀತಿಯ ಬದಲಾವಣೆಗಳನ್ನು ತರಬೇಕು ಎಂಬುದರ ಬಗ್ಗೆ ತಿಳಿಸಲು ಉಪಯೋಗಿಸಲಾಗುವುದು. ಅದರೊಂದಿಗೆ,ಜಿಲ್ಲಾ ಮಟ್ಟದ ಅಧಿಕಾರಿಗಳ ತರಬೇತಿಯಲ್ಲೂ ಉಪಯೋಗಿಸಲಾಗುವುದು. ಪರಿಣಾಮಗಳ ಪಕ್ಷಿನೋಟವನ್ನು ನಿಮಗೆಕೊಡಲಾಗುವುದು.
ಹೆಚ್ಚು ಮಾಹಿತಿಗಾಗಿ, ಇವರನ್ನು ಸಂಪರ್ಕಿಸಿ: ಡಾ || ಪ್ರಶಾಂತ್ ಎನ್.ಎಸ, ಪಿ.ಎಚ್.ಡಿ ವಿದ್ಯಾರ್ಥಿ, ಇನ್ಸ್ಟಿಟ್ಯೂಟ್ ರ, ಬೆಂಗಳೂರು - ೫೬೦೦೪೫. ದೂ: ೯೪೪೯೫ ೯೯೫೬೬.ಈಮೈಲ್:

ಸಮ್ಮತಿ

ನಾನು ಮೇಲಿರುವ ವಿಚಾರವನ್ನು ಓದಿ ತಿಳಿದು, ಈ ಸಂಶೋಧನೆಗೆ ಸಂದರ್ಶನ ನೀಡಲು ಒಪ್ಪಿದ್ದೇನೆ. ನಾನು ಹೇಳುವ ಮಾತುಗ ಗೌಯತೆಯನ್ನು ಕಾಪದಲಾಗುತ್ತದೆಂದು ತಿಳಿಸಲಾಗಿದೆ.
ನನ್ನ ಮಾತುಗಳ ಧ್ವನಿಮುದ್ರಣಕ್ಕೆ ಒಪ್ಪಿದ್ದೇನೆ. ಹೌದು/ಇಲ್ಲ

ಸಹಿ:
ದಿನಾಂಕ:

DATA FILE: \[redacted]Phd survey\Survey_dhm_20Oct2011.rec
File label: SUrvey DHM

File size: 11 kb
Last revision: 20. Oct 2011 4:57 PM
Number of fields: 130
Number of records: 0
Checks applied: Yes (Last revision 20. Oct 2011 6:20 PM)

Fields in data file:

No.	Name	Variable label	Field type	Width	Checks	Value labels
1	id	automatic id number	ID number	5		
2	a1	respondent number	Number	3	Must enter Legal: 100-300	
3	a2	interviewer name	Number	1	Must enter Legal: 0-11	interview 1: Pra 2: Kur 3: Bhee 4: Mah 5: Other
4	a3	date	Date (dmy)	10	Must enter	
5	a4	time taken(in minutes)	Number	2	Must enter Legal: 0-90	
6	a5	person doing data entry	Number	1	Must enter Legal: 0-3	dataentry 1: Srinivas 2: Other
7	a6	data checked	Number	1	Must enter Legal: 0-2	yesno 0: Blank 1: Yes 2: No
8	b1	The purpose of the NRHM PIP	Number	1	Must enter Legal: 0-4	
9	b2	If I were in charge of NRHM	Number	1	Must enter Legal: 0-5	
10	b3	At the PHC level	Number	1	Must enter Legal: 0-4	
11	b4	At the taluka level	Number	1	Must enter Legal: 0-5	
12	b5	Which statement best summarises	Number	1	Must enter Legal: 0-6	
13	b6	For every PIP	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
14	b7	PIPs can be used to bring about	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
15	b8	Districts need technical guidance	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
16	b9	Talukas need	Number	1	Must enter	likert

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	technical guidance			Legal: 0-5	0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
17 b10	PHCs need technical guidance	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
18 b11	PIP preparation at taluka level	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
19 b12	I am able to negotiate	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
20 b13	In this year's PIP	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
21 b14	the activities that we included	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
22 b15	After the NRHM PIP process	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
23 b16	After the submission of PIP	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
24 b17	In my district, most of my colleagus	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
25 b18	In my district, most PHCs	Number	1		
26 b19	In my facility	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d

#	Var	Label	Type	Width	Validation	Format
27	b20	I am able to discuss	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
28	c1	it is difficult for me	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
29	c2	I would not leave my present	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
30	c3	I would be very happy to spend	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
31	c4	I will not leave the organisation	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
32	c5	Even if it were to my advantage	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
33	c6	I really feel as if my organisation	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
34	c7	Right now staying in this organisation	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
35	c8	I do not feel a strong sense	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
36	c9	I think that there are very	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
37	c10	I do not feel emotionally	Number	1	Must enter Legal: 0-5	likert 0: Blank

						1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
38	c11	I would feel guilty if I	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
39	c12	I do not feel like part	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
40	c13	This organisation deserves	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
41	c14	I might consider working	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
42	c15	I would not consider	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
43	c16	This organisation has	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
44	c17	Too much of my	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
45	c18	I owe a great	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
46	d1	I can solve difficult	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
47	d2	If someone opposes me	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
48	d3	It is easy for me to	Number	3	Must enter Legal: 0,01,10,20,	

					30,40,50,60,70,80, 90,100	
49	d4	I am confident that	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
50	d5	Thanks to my strategic	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
51	d6	I can solve most	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
52	d7	I can remain calm	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
53	d8	When I am confronted	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
54	d9	If I am in trouble	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
55	d10	No matter what	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
56	e1	district	Number	1	Must enter Legal: 0-2	
57	e2	taluka	Number	3	Must enter Legal: 0-16	taluka 0: Blank 1: Tumkur 2: Gubbi 3: Tiptur 4: Turuvekere 5: CNhalli 6: Kunigal 7: Madhugiri 8: Pavagada 9: Koratagere 10: Sira 11: Raichur 12: Sindhanur 13: Manvi 14: Lingsugur 15: Devadurga 16: Other
58	e3	primary designation	Text	34	Must enter	
59	e4	How long have you (in years)	Number	2	Must enter Legal: 0-35	
60	e51	concepts in public health	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
61	e52	leadership	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
62	e53	planning	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
63	e54	human resources planning and motivation	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked

64	e55	administrative procedures	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
65	e56	health and hospital management	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
66	e57	HMIS	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
67	e58	health and hospital management	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
68	e59	financial and medicolegal	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
69	e60	teamwork	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
70	e61	emergency obstetric care	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
71	e62	role of PRI	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
72	e63	nrhm pip	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
73	e64	supportive supervision	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
74	e65	quality in health care	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
75	e66	other topic not listed	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
76	e6	have you attended the	Number	1	Must enter Legal: 0-3	
77	e7	if yes which components	Number	1	Must enter Legal: 0-4	
78	e8	in the swasthya karnataka	Number	1	Must enter Legal: 0-12	
79	e9	have you been visited	Number	1	Must enter Legal: 0-3	
80	e10	if yes how many times	Number	2	Must enter Legal: 0-50	
81	f1	the content of the classroom	Number	1	Must enter Legal: 0-6	
82	f2	after attending the classes	Number	1	Must enter Legal: 0-6	
83	f3	after the classes, I can	Number	1	Must enter Legal: 0-6	
84	f4	the visits ...skills	Number	1	Must enter Legal: 0-6	
85	f5	the visits ...implement	Number	1	Must enter Legal: 0-6	
86	f6	the visits ...discuss	Number	1	Must enter Legal: 0-6	
87	f7	working on	Number	1	Must enter	

#	Field	Description	Type	Length	Checks	Labels
		assignments			Legal: 0-6	
88	f8	because of the discussion	Number	1	Must enter Legal: 0-6	
89	f9	After the training programme	Number	1	Must enter Legal: 0-3	
90	f10a	reasons given yes or no	Number	1	Must enter Legal: 0-2 Jumps: 0>f11,2>f11	yesno 0: Blank 1: Yes 2: No
91	f10b	reason given 1	Text	78	Must enter	
92	f10bb	reason given 1 continued	Text	78		
93	f10c	reason given 2	Text	78	Must enter	
94	f10cc	reason given 2	Text	78		
95	f11	if you answered no	Number	1	Must enter Legal: 0-7 Jumps: 0>f12,1>f12, 2>f12,3>f12,4>f12, 5>f12,7>f12	
96	f11a	Other Please specify in the space below	Text	78	Must enter	
97	f11b	Please specify	Text	78		
98	f12	after the training programme	Number	1	Must enter Legal: 0-3	
99	f13a	reasons given yes or no	Number	1	Must enter Legal: 0-2 Jumps: 0>f14,2>f14	yesno 0: Blank 1: Yes 2: No
100	f13b	reason given 1	Text	78	Must enter	
101	f13bb	reason given 1 continued	Text	78		
102	f13c	reason given 2	Text	78	Must enter	
103	f13cc	reason given 2	Text	78		
104	f14	if you answered no	Number	1	Must enter Legal: 0-7 Jumps: 0>g1,1>g1, 2>g1,3>g1,4>g1,5>g1, 7>g1	
105	f14a	Other Please specify in the space below	Text	78	Must enter	
106	f14b	Please specify	Text	78		
107	g1	my supervisor helps	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
108	g2	my supervisor encourages	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
109	g3	my supervisor	Number	1	Must enter	likert

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		leaves			Legal: 0-5	0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
110	g4	my supervisor encourages me to learn	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
111	g5	my supervisor does not explain	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
112	g6	my supervisor knows my reaction	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
113	g7	my supervisor helps me take	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
114	g8	my supervisor does not give	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
115	g9	my supervisor trusts	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
116	g10	my supervisor recognises	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
117	g11	my supervisor is always	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
118	g12	my supervisor decides	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
119	g13	my supervisor finds fault	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a

						2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
120	g14	my supervisor and I	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
121	h1	sex	Number	1	Must enter Legal: 0-2	sex 1: Male 2: Female 9: Unknown
122	h2	dob	Date (dmy)	10	Must enter	
123	h3	in what type of locality	Number	1	Must enter Legal: 0-6	
124	h4	educational qualifications	Number	1	Must enter Legal: 0-6	
125	h5	in case of mbbs	Number	1	Must enter Legal: 0-2	
126	h6	year of joining	Number	4	Must enter Legal: 1950-2011	
127	h7	how many years	Number	2	Must enter Legal: 0-35	
128	h8	type of employment	Number	1	Must enter Legal: 0-2	
129	h9	if holding any additional	Text	49	Must enter	
130	h10	type of appointment	Number	1	Must enter Legal: 0-2	

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Questionnaire for health managers on training programmes, planning and supervision

Greetings from Institute of Public Health, Bangalore!

This survey has been designed by Institute of Public Health, Bangalore (IPH) to better understand the factors that influence management of health facilities and health care in your district and taluka.

The study is for research purposes only and the information that you provide in this questionnaire will help us gain a better understanding of district health management and help inform policy makers.

Please read the following carefully before starting the questionnaire.

1) The success of this research depends on frank and honest answers. We would like to assure you that your individual responses would be held in complete confidence.
2) We are interested in your personal views on the questions and hence there are NO right or wrong answers. So please respond frankly to all questions.

All answers will be kept confidential.

FOR OFFICE USE To be filled in by the interviewer/facilitator AFTER FINISHING THE SURVEY. NOT FOR RESPONDENTS		
A1	Respondent number	
A2	Interviewer/Facilitator name	
A3	Date (DD/MM/YY eg. 26/12/2011)	
A4	Time taken (To be filled up at the end of the interview – **in minutes**)	
A5	Name of person doing data entry	
A6	Data entry checked by	

For any clarifications regarding this survey, please contact the facilitator who is administering this survey or contact:
Dr. Prashanth NS, Institute of Public Health, Bangalore. Phone: ***(080)*** [redacted] *or* [redacted]

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B. What do you think about NRHM PIP and planning?

This section helps us understand your opinions about NRHM PIP and its use.

Please tick only ONE statement on the right hand side that BEST describes how you feel about the statement on the left hand side.

B1	The purpose of the NRHM PIP is to…	1☐ Evaluate the performance of my facility during the year 2☐ Collect data for planning at district or state level 3☐ Planning of all activities of my facility for the year 4☐ Assessment of performance of NRHM in my facility during year
B2	If I were in charge of NRHM, the most peripheral level at which I would make the PIP would be at….	1☐ State 2☐ District 3☐ Taluka 4☐ PHC 5☐ Village health and sanitation committee
B3	At the PHC level, PIP should be made by…	1☐ PHC MO and LHV 2☐ PHC MO and all field staff 3☐ PHC staff, ARS and PRI members 4☐ PIP should not be prepared at PHC level
B4	At the taluka level, PIP should be made by…	1☐ THO and BPMU staff 2☐ THO, BPMU along with all PHC MOs 3☐ THO, BPMU and AMO 4☐ THO, BPMU, AMO, ARS and PRI members 5☐ PIP should not be made at taluka level

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B5	***Please read each of the statements carefully.*** Which statement best summarises how you feel about the role of NRHM PIP in your work	1☐ The role of the PIP is to collect data from village level to district level and submit to state so that micro-level data is available at the state level 2☐ The PIP is a plan for my facility/taluka/district based on situation analysis which helps identify problems and find solutions 3☐ PIP is one of the important requirements for obtaining resources through NRHM that must be satisfied by all health facilities in the district 4☐ PIP is time-consuming and does not really help me in my routine work through the year 5☐ PIP helps me budget activities based on my need and guides all my programmes and activities through the year 6☐ Not sure

		Strongly agree	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**
B6	For every PIP, we must do a situation analysis as the first step before proceeding with the planning	☐	☐	☐	☐	☐
B7	PIPs can be used to bring about improvement in the quality of care of facilities	☐	☐	☐	☐	☐
B8	Districts need technical guidance in carrying out a situation analysis for the PIP	☐	☐	☐	☐	☐
B9	Talukas need technical guidance in carrying out a situation analysis for PIP	☐	☐	☐	☐	☐
B10	PHCs need technical guidance in carrying out situation analysis for PIP	☐	☐	☐	☐	☐
B11	PIP preparation at taluka level improves teamwork among doctors, nurses and BPMs	☐	☐	☐	☐	☐
B12	I am able to negotiate the priorities of my facility with my superiors so that they could be included in the district PIP	☐	☐	☐	☐	☐

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		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
B13	In this year's PIP (December 2010), we collected data to do a situation analysis for my facility	☐	☐	☐	☐	☐
B14	The activities that we included in the PIP were based on a situation analysis of my facility	☐	☐	☐	☐	☐
B15	After the NRHM PIP process has started, problems in my facility are being better identified than before	☐	☐	☐	☐	☐
B16	After the submission of PIP, I come to know soon about the financial allocation for my facility	☐	☐	☐	☐	☐
B17	In my district, most of my colleagues at the taluka level were actively involved in preparing the PIP this year	☐	☐	☐	☐	☐
B18	In my district, most PHCs were also actively involved in preparing the PIP	☐	☐	☐	☐	☐
B19	In my facility, all the staff participated in preparing the PIP	☐	☐	☐	☐	☐
B20	I am able to discuss and negotiate with Panchayat members regarding utilisation of the various joint funds (untied funds/ARS funds and other joint signatory funds)	☐	☐	☐	☐	☐

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C. How do you relate to your organisation?

In this section, we ask you questions about how you feel about your organisation. For this section, "ORGANISATION" means your hospital/taluka/district depending on where you work.

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
C1	It is difficult for me to leave the organization right now, even if I wanted to leave	☐	☐	☐	☐	☐
C2	I would not leave my present organisation right now because of a sense of obligation	☐	☐	☐	☐	☐
C3	I would be very happy to spend rest of my career in this organization	☐	☐	☐	☐	☐
C4	I will not leave the organisation right now mainly because there are not many choices available	☐	☐	☐	☐	☐
C5	Even if it were to my advantage, I do not feel it would be right to leave the organisation now	☐	☐	☐	☐	☐
C6	I really feel as if my organisation's problems are my own	☐	☐	☐	☐	☐
C7	Right now, staying in this organisation is both a necessity and a desire.	☐	☐	☐	☐	☐
C8	I do not feel a strong sense of "belonging" to my organisation	☐	☐	☐	☐	☐
C9	I think that there are very few options for me to consider leaving this organisation	☐	☐	☐	☐	☐
C10	I do not feel emotionally attached to this organisation	☐	☐	☐	☐	☐
C11	I would feel guilty if I leave this organisation right now	☐	☐	☐	☐	☐
C12	I do not feel like "part of a family" at my workplace	☐	☐	☐	☐	☐

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		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
C13	This organization deserves my loyalty	☐	☐	☐	☐	☐
C14	I might consider working elsewhere if I had not already put so much of myself into this organisation	☐	☐	☐	☐	☐
C15	I would not consider leaving the organisation right now because I feel a sense of obligation to the people in this organisation	☐	☐	☐	☐	☐
C16	This organisation has a great deal of personal meaning for me	☐	☐	☐	☐	☐
C17	Too much of my personal life would be disturbed if I wanted to leave this organisation right now	☐	☐	☐	☐	☐
C18	I owe a great deal to my organization	☐	☐	☐	☐	☐

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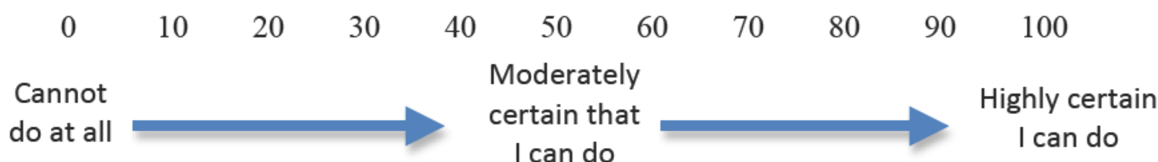
D. How confident are you with respect to your efficacy at dealing with PRI member demands?

Think about a situation such as a conflict with a PRI or community member making what you feel are unreasonable demands on your time/staff or resources.

Given that you face such circumstances routinely, *please rate how certain you are that you can do each of the things described below by circling the number from 0 – 100 that best captures your degree of confidence.*

Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:

0 10 20 30 40 50 60 70 80 90 100



		CIRCLE BASED ON THE SCALE GIVEN ABOVE										
D1	I can solve difficult problems if I try hard enough	0	10	20	30	40	50	60	70	80	90	100
D2	If someone opposes me, I can find ways to get what I want	0	10	20	30	40	50	60	70	80	90	100
D3	It is easy for me to stick to my aims and accomplish my goals	0	10	20	30	40	50	60	70	80	90	100
D4	I am confident that I could deal efficiently with unexpected events	0	10	20	30	40	50	60	70	80	90	100
D5	Thanks to my strategic nature, I know how to handle unexpected situations	0	10	20	30	40	50	60	70	80	90	100

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D6	I can solve most problems if I invest the necessary effort	0	10	20	30	40	50	60	70	80	90	100
D7	I can remain calm when facing difficulties because I can rely on my coping abilities	0	10	20	30	40	50	60	70	80	90	100
D8	When I am confronted with a problem, I can usually find several solutions	0	10	20	30	40	50	60	70	80	90	100
D9	If I am in trouble, I can usually think of something to do	0	10	20	30	40	50	60	70	80	90	100
D10	No matter what comes my way, I'm usually able to handle it	0	10	20	30	40	50	60	70	80	90	100

E: What was the nature of training programmes in your district?

For those in Tumkur district, please answer this section with respect to the Swasthya Karnataka training programme.

		Response *Tick your response wherever there is a box. Elsewhere, please write your response*
E1	District	1☐ Tumkur 2☐ Raichur
E2	Taluka where your work	
E3	Primary designation	
E4	How long have you held your present designation *(In years, including period on contract. Write <1 if held for less than one year)*	

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E5	Which among these topics were covered in the training programmes you attended in the **last two years (2009-2011)?** ***Circle how many ever topics that apply***	1 ☐ Concepts in public health 2 ☐ Leadership 3 ☐ Planning 4 ☐ Human resources planning & Motivation 5 ☐ Administrative procedures 6 ☐ Health and hospital management 7 ☐ HMIS 8 ☐ Health and hospital management 9 ☐ Financial and medico-legal procedures 10 ☐ Teamwork 11 ☐ Emergency Obstetric Care 12 ☐ Role of PRI in health system 13 ☐ NRHM PIP planning 14 ☐ Supportive supervision 15 ☐ Quality in health care 16 ☐ Other topic not listed here
If you have not participated in the Swasthya Karnataka Training Programme, then skip the rest of this section and proceed to Section F on the next page		
E6	Have you attended the Swasthya Karnataka training programme?	1 ☐ YES 2 ☐ NO 3 ☐ Not sure
E7	**IF YES,** which components of the Swasthya Karnataka training programme have you attended?	1 ☐ Contact classes 2 ☐ Discussion with Swasthya Karnataka trainers during visits to my facility/institution 3 ☐ Both 4 ☐ Not sure
E8	In the Swasthya Karnataka training programme, how many classes did you attend? (Max N=12) ***(Each class consisted of one or more consecutive days of contact sessions)***	
E9	Have you been visited by Swasthya Karnataka trainers at your facility for helping you apply what was covered in the classes?	1 ☐ YES 2 ☐ NO 3 ☐ Don't know
E10	**IF YES,** how many times have you been visited by Swasthya Karnataka trainers in the last two years?	

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F. What do you think about the training programmes in your district?

Please respond to this section **based on your experience with the Swasthya Karnataka programme.** If you have not attended the Swasthya Karnataka programme, then please respond keeping in mind the training programmes in your district that dealt with **NRHM PIP planning or supervision in the last two years.**

Tick the response that best captures what you think about each statement.

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
F1	The content of the classroom teaching during the training programmes were relevant to my work	☐	☐	☐	☐	☐	☐
F2	After attending the classes, my knowledge on the topics taught improved	☐	☐	☐	☐	☐	☐
F3	After the classes, I can better understand the importance of NRHM PIP in managing the services under my responsibility	☐	☐	☐	☐	☐	☐
F4	The visits by trainers motivated me to apply new skills learnt during the training	☐	☐	☐	☐	☐	☐
F5	The visits by the trainers motivated me to implement changes to improve in my institution	☐	☐	☐	☐	☐	☐
F6	The visits by trainers to my workplace help me to discuss problems I faced in applying what is taught in classroom training programmes	☐	☐	☐	☐	☐	☐
F7	Working on assignments given during the training along with my colleagues and subordinates improved teamwork in my organisation.	☐	☐	☐	☐	☐	☐
F8	Because of the discussion with my colleagues and subordinates during trainers' visit, their confidence in me as a manager increased	☐	☐	☐	☐	☐	☐

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F9	After the training programme, did you make any changes to improve the preparation or implementation of the PIP?	1 ☐ YES 2 ☐ NO 3 ☐ Not sure
F10	**If you answered YES to the previous question,** In the space provided, please give up to TWO examples of improvements you introduced in the preparing/implementing NRHM PIP after the training programme.	1) 2) ☐ Not applicable because I answered NO/Not sure to Question F9
F11	**If you answered NO to F9,** What were the main reasons for not making any improvements in the PIP preparation or implementation? ***(Tick as many as appropriate)***	1 ☐ The training did not provide any help in improving the PIP 2 ☐ There are several constraints in the organisation that prevent me from improving the PIP 3 ☐ I do not have the necessary technical skills/knowledge to bring about improvements 4 ☐ This is not within my powers to make such changes 5 ☐ I am not involved in PIP preparation 6 ☐ Other – Please specify in the space below 7 ☐ This question is **not applicable** to me because I answered YES to F9
F12	After the training programme, did you make any changes in the way you conduct supervisory visits?	1 ☐ YES 2 ☐ NO 3 ☐ Not sure

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F13	**If you answered YES to the previous question,** In the space provided, please give TWO examples of how you improved your supervision practices after the training programme.	1) 2) ☐ Not applicable because I answered NO/Not sure to Question F9
F14	**If you answered NO to F12,** What were the main reasons for not making any improvements in your supervision practices? ***(Tick as many as appropriate)***	1 ☐ The training did not provide any help in improving supervision of staff 2 ☐ There are several constraints in the organisation that prevent me from changing supervision practices 3 ☐ I do not have the necessary technical skills/knowledge to bring about improvements 4 ☐ It is not within my power to make such changes 5 ☐ I do not supervise anybody 6 ☐ Other – Please specify in the space below 7 ☐ This question is **not applicable** to me because I answered YES to F12

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G. WHAT ARE YOUR OPINIONS ABOUT SUPERVISION BY YOUR IMMEDIATE SUPERIOR?

This section is about your experience with supervision and supervision visits. For this section, your supervisor is the person you **report to**, and who supervises your work. This is usually an officer one rank above you. For example, a BPM is supervised by THO, while THO's are supervised by DHO. DHO's and programme officers are supervised by Directors or Joint Directors respectively. PHC MOs are supervised by THOs.

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
G1	My supervisor helps me solve work-related problems such as implementation issues with new schemes or problems with PRI members	☐	☐	☐	☐	☐
G2	My supervisor encourages us to speak up when we have a different opinion on a decision he has taken	☐	☐	☐	☐	☐
G3	My supervisor leaves it entirely up to me to decide how to go about doing my job	☐	☐	☐	☐	☐
G4	My supervisor encourages me to learn new things related to my work	☐	☐	☐	☐	☐
G5	My supervisor does not explain his or her actions or decisions	☐	☐	☐	☐	☐
G6	My supervisor knows my reaction to various issues at work	☐	☐	☐	☐	☐
G7	My supervisor helps me take important decisions	☐	☐	☐	☐	☐
G8	My supervisor does not give me a chance to make important decisions on my own	☐	☐	☐	☐	☐
G9	My supervisor trusts my actions and *vice versa*	☐	☐	☐	☐	☐
G10	My supervisor recognises and praises good performance	☐	☐	☐	☐	☐
G11	My supervisor is always around checking on how I am working	☐	☐	☐	☐	☐

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		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
G12	My supervisor decides and tells me what to do and how to do	☐	☐	☐	☐	☐
G13	My supervisor finds fault in most of what I do	☐	☐	☐	☐	☐
G14	My supervisor and I both respect each other	☐	☐	☐	☐	☐

H. Please tell us about yourself.

		Response
H1	Sex	1 ☐ Male 2 ☐ Female
H2	Date of birth DD/MM/YYYY (eg. 26/12/2011)	
H3	In what type of locality did you go to high school?	1 ☐ Rural (Village/Hobli) 2 ☐ Semi-rural (Taluka town) 3 ☐ Semi-urban (District HQ excluding Bangalore, Mysore, Mangalore, Hubli-Dharwad, Tumkur and Belgaum) 4 ☐ Urban except Bangalore (Mysore, Mangalore, Hubli-Dharwad, Tumkur and Belgaum) 5 ☐ Bangalore 6 ☐ Other place outside Karnataka

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H4	Educational qualifications **(TICK AS MANY THAT APPLY)**	1☐ MBBS 2☐ PG medical degree (MD/MS, Diploma etc) 3☐ Nursing degree (Bachelor/Diploma) 4☐ Management degree (MBA/BBM or equivalent) 5☐ Other graduate degree 6☐ Other degree not mentioned above
H5	In case of MBBS, what type of medical college did you study in?	1☐ Private medical college 2☐ Government medical college
H6	Year of joining service	
H7	How many years have you worked in this district?	____________ Years
H8	Type of employment (Presently)	1☐ Permanent in this post 2☐ Temporarily in-charge
H9	If holding any additional charge, mention which post	____________ ☐ No additional charge held
H10	Type of appointment	1☐ Contract 2☐ Regular

Thank you for your time and patience

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Interview guide

Greetings and introduce

Explanation about the research

Consent for recording the interview.

1) As a ______(Designation)_____, what is your role in the PIP?

Notes: *This question should ideally provide information on knowledge of the interviewee about the PIP process under NRHM. It should also reveal the interviewee's perceived involvement in the PIP. If interviewee suggests minimum role, ask whether he thinks he should be involved. What prevented him from involving.*

2) How was the PIP for this year for your district prepared?

Tags: Can you explain the whole process from the beginning?

Notes: This question is the key question of the interveiw, which is expected to capture the role played by the interviewee in this year's PIP. Details of when the process began, what obstacles were met and how s/he went about the process needs to be captured. Also, the interviewee's perceptions about who were involved in the PIP, and their roles should emerge.

Probes: When did you start (Probe for communication from directorate)?

Who was involved and what was the nature of involvement? Also, according to you, have everybody been involved to the extent needed?

(Probe specifically for PHCs, VHSCs, ANMs, ASHAs, Anganwadi workers and people from other departments – primary education, women and child development if they are left out by the interviewee)

How did you begin the process of making the plan? Who took the lead within the district to make the plan?

Tags: Meetings, orientation, other communication, emails. Outcomes of these.

What were the difficulties you faced in the process of making PIP(Probe for orientation on involvement)

Tags: time constraints, lack of consensus, poor understanding on process by some, role conflicts

How did you feel about the process of making the PIP this year?

What do you feel about the PIP?

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3) Under NRHM according to guidelines, the district is supposed to involve communities right from village to the top administration in the district. What do you think of such a process?

Notes: This question is expected to capture the attitudes of the interviewee to bottom-up planning, his perceptions about the feasibility of such a process and encourage the participant to reflect on how such a process can be implemented, if at all. If interviewee agrees flatly to such a process, we need to discuss what s/he means by “participation” and “involvement”. What is the extent of involvement of communities that they expect, if at all they do see a role. The interviewer adopts a tone that questions the need for bottom-up planning to bring out the attitudes towards this.

Probes: Probe for feasibility in the district/area and attitudes towards involvement of various health staff and officials at all levels in planning in general.

Is it necessary to involve communities right from village level? Does this help in making an effective plan?

Can you suggest a better approach to planning at district/taluka/PHC/village/area level?

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How does capacity-building of health managers work? A realist evaluation study protocol

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Abstract

Introduction

There has been a lot of attention on the role of human resource management interventions to improve delivery of health services in low and middle income countries. However, studies on this subject are few due to limited research on implementation of programmes and methodological difficulties in conducting experimental studies on human resource interventions. We present the protocol of an evaluation of a district-level capacity-building intervention to identify the determinants of performance of health workers in managerial positions and to understand how changes.

Methods and analysis

The aim of this study is to understand how capacity-building works. We will use realist evaluation to evaluate an intervention in Karnataka, India. The intervention is a capacity-building programme that seeks to improve management capacities of health managers at district and sub-district levels through periodic classroom-based teaching and mentoring support at the workplace.

We conducted interviews and reviewed literature on capacity building in health to draw out the programme theory of the intervention. Based on this, we formulated hypothetical pathways connecting the expected outcomes of the intervention (planning and supervision) to the inputs (contact classes and mentoring). We prepared a questionnaire to assess elements of the programme theory - organisational culture, self-efficacy and supervision. We shall conduct a survey among health managers as well as collect qualitative data through interviews with participants and non-participants selected purposively based on their planning and supervision

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performance. We will construct explanations in the form of context-mechanism-outcome configurations from the results. This will be iterative and we will use a realist evaluation framework to refine the explanatory theories that are based on the findings to explain and validate an improved theory on "what works for whom and under what conditions".

Discussion

The scope for applying realist evaluation to study human resource management interventions in health are discussed.

Introduction

Health worker availability has been associated with better coverage of programmes such as vaccination as well as better outcomes such as reduced child and maternal mortality [1, 2]. Although the relationship between availability of health service providers and improved mortality outcomes appears straightforward, it is not easy to establish. Issues of health worker performance and their motivation and the contextual factors that shape an enabling environment for health service providers to perform effectively continue to be poorly understood [3]. Early studies exploring associations between health worker availability and health outcomes reported results ranging from "no significant association with infant mortality" to positive associations with infant and maternal mortality and even surprisingly, in one study, an adverse association between doctor availability and infant and perinatal mortality, termed 'doctor anomaly' [4–6]. Using improved data and design, more recent cross-country regression-based analysis has shown a positive relation between health worker

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availability and reduced child and maternal mortality, and improved vaccination coverage [7, 8].

The 2006 World Health Report drew attention to the human element in the delivery of health care services by focussing on the health workforce. It identified the forces driving the health workforce (health needs, health systems and contextual factors), and the related workforce challenges (numbers, skill mix, distribution and working conditions) [9]. A well-performing workforce is considered to be a combination of staff being available (retained and present) and staff being competent (productive and responsive) [9]. In order to ensure such conditions, the report suggested policymakers to adopt *good* human resource management (HRM) within the health services. Human resources management (HRM) is the management of people in an organisation. It includes the policies, practices and activities at the disposal of managers to ensure the availability of staff in their number, with skills needed to discharge their functions and having the motivation to accomplish the organisation's objectives [10].

Sub-optimal performance of health workers is a serious issue requiring urgent attention as it is linked to morbidity and mortality, and reviews having shown that health worker performance is critical to achieving good health outcomes across health conditions, age groups and to achieve the health-related millennium development goals [11, 12]. The world health report suggested four “practical and low-cost instruments” of which supportive, yet firm supervision and lifelong learning are important for a competent and responsive health workforce.

However, the difference made by *good* HRM in achieving better performance and outcomes of health services is poorly researched. There are serious knowledge and evidence gaps on what kinds of interventions work. This is mainly due to

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methodological challenges on measuring HRM practices and performance, and the paucity of studies on district level interventions on health workforce from low and middle income countries, where the need for such evidence is most pressing [3, 12]. On the other hand, several reviews highlight the need for evaluations that can improve our understanding of "how" such interventions work so that HRM interventions may be better designed and implemented [1, 3, 13]. Despite the relevance of this question to policymakers as well as health care organisation managers, there are few studies[14].

HRM interventions are implemented within existing health systems. Context matters: what works in one setting does not necessarily work in another setting in the same country and may perhaps even not work in the same setting at another moment in time. Evidence on effectiveness of HRM interventions is either scanty or flawed due to poorly designed research [15].

Experience from action research in capacity building initiatives in 25 of the (then) 28 Indian states as well as performance reviews of the Indian government's flagship health programme, National Rural Health Mission (NRHM) highlight the need for systemic capacity-building on one hand and scientific evaluations of how interventions work (or do not) on the other [16–18]. Paul et al. reviewed several studies at both national and local level to identify gaps in the Indian health care system; they recommend (among others) "…interventions and research to improve decentralised district-level planning in health services". Given the lack of institutional capacity to utilise financial or technical inputs especially at the district level, increased health spending even on appropriate services may not lead to actual provision of services [19]. Our study intends to address the evidence gap (how do

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district level training interventions improve performance?) and will contribute to the evidence base for better design of health workforce interventions.

In this paper, we present the protocol of an evaluation of a district-level capacity-building intervention in Karnataka State (India) that aims at responding to the effectiveness question, but also to the causality question. Inspired by principles of realist evaluation, this study focuses on identifying the determinants of performance of health workers in managerial positions, and to understand how changes are brought about.

The capacity-building intervention we assess aims to improve the capacity of health managers to conduct the planning and supervision of health services. These managers are posted at district and sub-district (*taluka*) levels (a *taluka* is an administrative sub-division of a district, with population ranging from 100,000 to 200,000). It does so by combining classroom-based lectures with in-service ‘mentoring’, where trainers and faculty visit participants in their workplace to further build on the classroom teaching and help participants apply the teaching in their working environment.

Methods

Aim

We will carry out an evaluation study of a capacity-building intervention at district level in Karnataka state (figure 1). The aim of the study is to understand how capacity building in district health management works. This study will first describe the structure and nature of the intervention and, second, design tools to determine whether and how it brought about the changes that it sought to bring about and through what mechanisms these changes were achieved.

Figure 1 Map of India showing Karnataka state (shaded red) in south India

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Study objectives

1. To determine if a district level capacity-building programme is associated with improvement of planning and supervision practices in Tumkur district, Karnataka state
2. To identify and describe the plausible mechanisms for changes in planning and supervision practices, if any
3. To develop recommendations for better design and implementation of capacity-building interventions for health services managers in Karnataka
4. To contribute to the development of a methodological framework for the scientific evaluation of complex HRM interventions at local health care system level

Research question

Based on these objectives, we framed the following research questions (one main question with three sub-questions) to be addressed in the study as follows:

"How does a training programme for health managers at district level that consists of contact classes and mentoring have an impact on their planning and supervision practices?"

1. What are the interventions' elements that are associated with improvement of planning and supervision practices?
2. Was there an association between greater participation in the intervention (classroom training and mentoring) and improved planning and/or supervision practices?

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3. How might a training programme change management practices of health managers with respect to the preparation of annual plans and supportive supervision?

Setting

The study will be conducted in two districts (i.e. local health care system) of the state of Karnataka in India (figure 2). Karnataka is one of the average-performance states in India with respect to health outcomes – the 'average' is concealing wide disparities between districts. For instance, in 2008, coverage of immunisation for children was over 90% in Kodagu district, while it was below 50% in Raichur district [20]. The study will take place in Tumkur and Raichur district. Of the 30 districts in Karnataka, Tumkur is the fourth largest in terms of population (total population - 2,681,449 people) and the third largest district in Karnataka in terms of size (total area - 10,597 sq. km) with only 20% urban population and at least half the population recognised as being below the poverty line [21, 22]. The district has 10 *talukas*. In view of its large size, average socio-economic indices and 'average' health performance in terms of its outcomes, Tumkur could be considered a typical district of Karnataka. The government classifies Raichur district in northern Karnataka as having several *talukas* that are 'backward', but it ranked 14th among the (then) 27 districts in terms of health indicators. On the same index, Tumkur was ranked ninth [23]. These two districts are purposively selected, as they are roughly comparable to each other in terms of health management and outcomes.

Figure 2 Map of Karnataka state showing Tumkur district (shaded blue) and Raichur district (shaded green)

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The intervention

In 2009, Tumkur district was chosen to pilot a capacity-building programme. The programme was implemented by a consortium, *Swasthya Karnataka* consisting of five Indian non-governmental organisations, in partnership with the government of Karnataka (see figure 3 for structure of the capacity-building programme, key actors involved and timeline). The programme consists of 12 modules on public health management topics, delivered through classroom teaching for two or three days per month in a residential training programme for all staff involved in management of health services at taluka and district levels, along with mentoring of these participants on a monthly basis at their workplace. One of the main objectives of the intervention was to improve planning and supervision practices of health managers through providing knowledge of public health planning principles, improving their skills in planning and supervision as well as bringing about a *can-do* attitude towards organisational change. The programme began in August 2009; the monthly contact classes for health managers ended in January 2011 and mentoring is in progress as of December 2011.

Figure 3 Schematic showing the structure of the capacity-building intervention in Tumkur along with key actors and timeline

Study design

Marchal [24] reviewed the methodological debate around the use of (quasi-) experimental study designs in complex interventions and scientific evaluations in health systems research. He builds a case for using the realist evaluation approach in research on complex interventions in health systems. He presents the results of a

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realist evaluation of the role of workforce management in well-performing health care organisations and identified some mechanisms underlying the better performance of these well-performing hospitals [24]. In line with this approach, we will carry out a realist evaluation of the capacity-building programme in Tumkur, using a mix of quantitative and qualitative methods. The characteristics of the intervention that support the choice of realist evaluation are presented in the discussion (see below).

Our study design is determined by the following considerations:

1. Classical controlled (quasi-) experimental designs are limited to answering *whether* a particular intervention (usually measured as treatment variables) was associated with an observed pre-defined outcome. They do not answer the questions *how*, *why*, and *under what conditions* the intervention worked (or did not). Besides enabling an understanding of the changes in planning and supervision practices in course of the intervention, the study design should also generate valid explanations for why and how the results observed were achieved.
2. HRM interventions are implemented in existing health system settings. Hence, the researcher cannot *manipulate* all treatment variables for the purposes of testing *a priori* hypotheses, either because the context of the intervention does not support this or for ethical reasons. Although hypothesis testing should be central to discovery of the mechanisms, such hypotheses should be derived from the possibilities permitted by the context within which the intervention is being implemented.

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In order to understand whether, and how the intervention produces a change in managerial practices at the district level, we will carry out the study in six steps. In figure 4, a schematic shows the sequence of steps (steps A, B1-2, C, D, E and F) with the questions that will be addressed at each step and the corresponding methods. The various phases of our study design follow the logic presented in the six-step framework developed by Van Belle et al [25]. The six steps they describe refer to a theory-driven evaluation where evaluators reconstruct the assumptions based on which the programme was designed (programme theory) in order to *refine* it through *testing* and verifying. Based on this process, an improved programme theory is developed, which explains how the intervention and outcome are related. Realist evaluation is a type of theory-driven evaluation [26] that generates a theory explaining the mechanisms through which the outcomes were brought about in a given context. We found the steps used by Van Belle et al. useful to organise and describe the steps in this study. The steps A-F below refer to the steps in our design as shown in figure 4; the six steps of Van Belle et al. are referred to as numbers (steps 1-6; see figure 5). The scope of the evaluation and appropriateness of realist evaluation (corresponding to step 1 of Van Belle framework) is presented in the Discussion section (see below).

Figure 4 Study design showing steps A to F

Figure 5 Six steps proposed by Van Belle and colleagues [21]

The study starts with a reconstruction of the initial programme theory of the intervention (step A in figure 4) corresponding to steps 1 and 2 of the Van Belle framework. A *programme theory* that may be presented in the form of a *logic model*

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is a reconstruction of the assumptions and steps through which the intervention is expected to reach the expected outcomes. An initial programme theory will be the starting point for the study by providing a basis for the questions and tools of the subsequent qualitative and quantitative data collection phases. In figure 6, a simplified hypothetical causal chain based on the programme theory is presented. It links the intervention inputs (contact classes and mentoring) to the expected outputs (improved planning and supervision practices).

Figure 6 Hypothetical pathways to change based on initial reconstruction of programme theory and literature

In steps B and C, we will use a mix of qualitative and quantitative methods to understand the process of planning and supervision and whether and how it changed in the course of the intervention[27]. In step B, we will measure perceptions about training, planning and supervision, organizational commitment, self-efficacy in problem-solving and nature of supervision among participants and non-participants through a survey in Raichur and Tumkur districts of Karnataka. Organisational change in health services is an outcome of individual, institutional and contextual factors. Existing theories of behavioural change in health services conceptualise that interventions operate at one or more of these three spheres of influence (figure 7).

Figure 7 Theories of behavioural change in health services in relation to their sphere of influence

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A hypothetical causal pathway (figure 6) that links the intervention inputs and the outputs, and a review of literature (figure 7) on what we know about HRM interventions were used to choose the variables and design the tools for the survey.

In step C, we will use qualitative methods to document and understand the changes in planning and supervision practices before, during and after the intervention in Tumkur district. In this phase, we will also determine the contextual factors that influence planning and supervision in the district, especially other programmes initiated by the state health authorities that have similar or overlapping objectives with the intervention. The National Rural Health Mission (NRHM) is a nation-wide initiative of the Indian government that seeks to improve district level planning and supervision and implements this through the creation of a district and taluka programme management unit. NRHM introduced technical and human resource inputs into the health system in the form of decentralised annual action plans and placement of young management professionals at taluka and district levels for planning and supervision of the plans.

The data from steps B and C will be analysed and interpreted together in step D to understand the relationships between the elements of the initial hypothetical causal chain. This will result in an improved theory linking the inputs, intermediate steps and the effect of contextual factors. We will then formulate – in step E – explanatory context-mechanism-outcome configurations based on the interpretation in step D that will be validated through a fresh round of data collection using qualitative methods. An iterative analysis of findings from steps C, D and E will be conducted so as to build an internally consistent and valid explanation in step F on "what elements of the

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intervention worked, for whom and under what conditions". The last three steps in our study (steps D, E and F) correspond to the last three steps of the Van Belle framework.

Methods and tools

Realist evaluation is method-neutral; it allows for the use of mixed methods, whereby the choice of data collection and analysis methods is determined by the nature of the research questions and of the programme theory [28]. The methods and tools for data collection are determined by each step (qualitative or quantitative) and the nature of questions asked at this step (see schematic in figure 4). A summary of the tools and expected outcomes at each step is shown in Table 1.

Table 1: Details of the tools, sampling and expected outcomes

Step	Methods/tools	Sampling/selection of respondents	Analysis and expected outcome
Step A Reconstruction of programme theory	Desk review of intervention design, proposal, annual district level plans, reports and interviews with the people who designed and are implementing the intervention. Review of theories of behavioural change in health services	Not applicable for review of documents; purposive sampling for interviews	- Initial programme theory and a hypothetical causal pathway linking intervention inputs and expected outcomes - Summary of theories of organisational change in relation to their spheres of influence
Steps B1 and B2 Data collection – quantitative (process)	Construct survey questionnaire based on a review of theories of behavioural change in health care organisations and reconstruction of initial programme theory from step A	All health managers in intervention and control district who agree to participate (about 100 in all; about 60 in Tumkur and 40 in Raichur)	Key outcome variables for survey - Attitudes to training programmes and district planning - Organisational commitment - Self-efficacy - Attitude towards receiving and providing supervision Statistical analysis to determine relationship among variables and effect of exposure to

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			intervention
Step C Data collection – qualitative (context and outcomes)	Assess action plans before, during and after intervention; assess performance and outcomes using routine institutional data and interview participants and non-participants at district and taluka level to understand changes in the course of three years	Purposive, based on exposure to intervention	Analysis of the qualitative data to understand how planning and supervision practices changed in the course of the intervention as well as how other contextual determinants influenced these changes
Step D Analysis (context-mechanism-outcome configurations)	Analyse findings from B2 and C to understand the relationship between various elements in the hypothetical causal chain and the contribution of contextual factors to the outcomes observed	Desk review and joint analysis of findings	Further refining of the initial programme theory by the improved understanding from the application of qualitative and quantitative methods
Steps E & F (Validation and refining the theory)	Formulate context-mechanism-outcome configurations and verify through fresh data collection as well as re-looking at the earlier findings (steps B2 and C)	Purposive sampling of participant and non-participant health managers in both districts	An internally consistent and valid explanation of "what components of the intervention worked, for whom and under what conditions"

The questionnaire used in the survey (step B) includes six modules (modules B to G in supplementary file 1) to measure attitude towards planning and training programmes, organisational commitment, self-efficacy and supportive nature of supervision. The module on organisational commitment (module C in supplementary file 1) is adapted from two versions of the Meyer and Allen organisational commitment questionnaire that have been tested and validated in public services in south Asian settings [29–31]. A five-point Likert scale is used to grade responses. Self-efficacy in managing conflict situations usually faced by managers of health services is measured with a ten-item scale based on the Bandura scale[32] that was developed for use across cultures and has been demonstrated to have cross-cultural equivalence across several languages [33–36]. The supportive nature of supervision is

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measured using 14 items on a five-point Likert scale. We adopted eight items that measure supportive supervision and four items measuring non-controlling supervision from Oldham and Cummings, which in turn is based on the Michigan organizational assessment package [37, 38]. We added two items to measure controlling supervision. The questionnaire will be piloted among public health experts and *taluka*-level health managers. The pilot will be used to improve the understandability of the questions because some of the tools have not been tested earlier among south Indian health services staff. Exposure of participants to the intervention, type of participation and their performance during and immediately after the training programme and mentoring will be captured through analysis of secondary data from attendance records, monthly reports of the training programme and visit notes by mentors.

In step C, we will conduct document review, compile routine health information data on performance, conduct interviews using a semi-structured interview guide (supplementary file 2) and undertake non-participant observation.

Sampling

The survey (step B) will be conducted among all health managers in the district. For the purpose of this study, a health manager is defined as a health worker in the government services, who is managing a facility, team or institutions at the *taluka* or district level. The questionnaire will be administered among the health managers in the two study districts, Tumkur and Raichur. They will be invited to participate voluntarily in the study. The first author (NSP) or one of two trained data collectors will visit the health managers their place of work after obtaining an appointment at a time convenient to them to ensure good recruitment. The data collectors will be

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trained to answer questions about the questionnaire and the nature of the study, as well as to clarify doubts arising in the course of filling the questionnaire.

In steps C and E, we will carry out purposive sampling; in step C, we will choose respondents for interviews in order to interview people ranging from no exposure to the intervention to people who have participated most in the intervention. In step E, data collection will be done through participant observation and will be iterative in nature. It will be based on the findings of steps B2 and C. We shall select participant health managers purposively in Tumkur district as well as non-participant health managers with similar outcomes from Raichur district to understand which ones among them achieved organisational change and to what extent this was facilitated (or not) by the capacity-building programme or individual, systemic or contextual factors (see figure 7).

Analysis

The quantitative data from the questionnaire will be examined (step B2) and descriptive parametric measures for organisational commitment, self-efficacy and nature of supervision will be calculated. Participation in training and mentoring (exposure) among the health managers in Tumkur district will be measured through secondary documents (attendance and mentoring notes). We will apply statistical tests of differences between groups to determine the degree of association between exposure to training and the measures of organisational commitment, self-efficacy and nature of supervision.

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We will analyse interview transcripts (step C) using content analysis to understand the process of planning at district and *taluka* levels. We will use triangulation by systematically sorting through the qualitative data from the observation notes, interviews and secondary document analysis to find common themes or categories by eliminating overlapping areas.

The results of the qualitative and quantitative phases will then be analysed together (step D) to develop plausible explanatory context-mechanism-outcome configurations that explain who performs better with respect to planning and supervision in response to a training-mentoring programme in a district. The result from the analysis of participant observation field notes (step E) will be used to validate this framework and refine the initial programme theory. This phase of joint quantitative and qualitative analysis will be iterative – we will refine the framework through purposive participant observation visits and interviews. By taking into consideration the context within which a given outcome was observed, and testing and validating explanatory configurations of these three (context, mechanism and outcome), we will explain how the intervention brought about the changes observed in planning and supervision practices.

Ethics

The protocol of this study was approved by the Institutional Review Board of the Institute of Tropical Medicine, Antwerp and by the Institutional Ethics Committee of Institute of Public Health, Bangalore.

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All participants shall be made aware of their participation in the study through formal correspondence. They will have the option to decline participation in the study, and it will be ensured that non-participation will not affect further participation in the training programme. In addition, written consent shall be obtained for each interview. The study proposal shall be shared with the state health authority and permission shall be sought to access routine health data, reporting formats and meeting proceedings.

Questionnaires and interview transcripts shall be coded to ensure confidentiality of all ideas/opinions expressed by participants in the course of the study. None of the study outcomes shall identify participants by name or exact designation to avoid potential professional or personal harm to the participants in view of opinions/ideas expressed by them.

The language of interaction with participants will be either English or Kannada (the local language in the state of Karnataka) in function of their preference; this would be established at the beginning of the interaction. Consent forms shall be made available in both English and Kannada (supplementary files 3 and 4) and the participant will have a choice to read and understand the nature of study in the language of their choice and decide accordingly. The content shall also be orally explained to the participant by the trained data collector in the case of the self-administered questionnaire and the interviewer in the case of interviews. All interviews shall be conducted at a time and venue indicated by the participant with prior appointment. The approval for audio recording of interviews shall be sought separately in addition to the consent for taking notes of the interview.

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The participant shall have the right to revoke or withdraw consent to part or all of what he has expressed during the study period. In case of collection of any document outside of public domain (for example privileged communication between district authorities), a permission letter shall be obtained from the authorised official.

There is no interaction with patients in the course of the study.

Quality control

All the data from the qualitative data collection methods will be organised on Nvivo software with clear documentation of the procedures adopted and consistent file naming. Analysis of the interview transcripts, categorisation and analysis will be crosschecked by two researchers.

For each survey respondent, the data collector will check the questionnaire for completeness. Before data entry, a member of the study team will scan all questionnaires for errors. The data will be entered into a spreadsheet using a software for programmed data entry (Epidata) with in-built validity checks and error detection (supplementary file 5)[39].

Discussion

HRM interventions at the district level are complex; the outputs are produced as a result of interactions between several actors and institutions within a given context resulting in a web of processes, which are difficult to map in a straightforward, linear manner. It is being increasingly recognised that such interventions present a

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methodological challenge [40, 41]. This study intends to improve our understanding of scientific evaluation of complex interventions in HRM in health. The capacity-building programme in Tumkur has all the features of a complex intervention as described by the new guidance of the Medical Research Council (MRC) on developing and evaluating complex interventions. The guidance lists some dimensions of complexity – "the number of and interactions between components within the experimental and control interventions (if identified), number and difficulty of behaviours required by those delivering or receiving the intervention, number of groups or organisational levels targeted by the intervention, number and variability of outcomes and degree of flexibility or tailoring of the intervention permitted". The latest 2008 guidance of MRC, while acknowledging the limitations of experimental designs, notes that inclusion of a process evaluation in complex interventions "is a good investment to explain discrepancies between expected and observed outcomes, to understand how context influences outcomes, and to provide insights to aid implementation". The recent guidance builds on the experience gained in understanding the limitations of the earlier experimental designs and suggests the use of a "more flexible, and less linear model of the process, giving due weight to the development and implementation phases, as well as to evaluation" [42]. This is further reinforced by Campbell et al. [40] who emphasise the need to use a mix of qualitative and quantitative evidence that needs to be applied to an (often) iterative process of framework development and testing.

Realist evaluation of HRM interventions

Conduct of trial-based studies in social systems has limitations in view of the lack of 'control' over the contextual and operational factors that affect the observations.

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Although a potentially verifiable causal chain that connects an intervention and a hypothesised outcome linked together through sequential steps is often appropriate for scientific evaluation, the responses of social systems to new approaches are very often difficult to 'reduce' to such a testable succession of steps with cause-effect relationships [25, 26, 43]. Increasingly, social programme evaluations have been encouraged to look beyond the "successionist" format of experimental design that is well suited for classical bio-medical research. At the first WHO health systems research symposium at Montreux in 2010, a strong call was made to strengthen the evidence base for capacity development through "proper evaluation of capacity development initiatives" and use of multi-method approaches to overcome the difficulties imposed by the complexity of human resources in health interventions [44, 45]. Realist evaluation precisely posits that programmes are embedded in social systems and stresses the importance of understanding *what works for whom and under what conditions*. It offers a framework to design scientific evaluations of human resource interventions. Based on a review of literature on choice of methods for complex interventions, Marchal [24] reports that experimental or quasi-experimental designs "are indicated when the effectiveness of an intervention should be tested" and are by themselves inadequate to answer and explain how interventions work, an analysis supported by several other reviews [40, 43, 46].

Health worker practices are complex behaviours that are determined by various individual, systemic or institutional and contextual factors [12]. In their review of theories of behavioural change in health services, Rowe et al. [12] question the premise that poor organisational performance in health is merely due to the lack of knowledge and skills. They encourage studies to move beyond the old paradigm "that

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most performance problems can be solved by training alone". In the Tumkur capacity-building intervention, a reconstruction of the assumptions of the intervention and how it sought to change planning and supervision practices is established. The outcomes (i.e. better planning and supervision practices) are determined by several factors at the individual (improved knowledge and skills), institutional (competence, enabling environment, motivation to apply/change) and contextual (other programmes or interventions with similar objectives and many other contextual factors that may facilitate or discourage organisational change) levels. In order to understand *how* the programme worked, we will further build and refine these hypothetical pathways based on a review of literature and the study findings to arrive at context-mechanism-outcome configurations.

Realist evaluation presents a scientific approach towards understanding mechanisms through which social interventions work. According to Pawson and Tilley [47], "Programs work (have successful 'outcomes') only insofar as they introduce the appropriate ideas and opportunities ('mechanisms') to groups in the appropriate social and cultural conditions ('contexts')". By building and testing such Context (C)-Mechanism (M)-Outcome (O) or CMO configurations within the *talukas*, it is possible to generate an internally consistent and externally valid knowledge of how such interventions work in a given context to produce an observed outcome [26].

Existing theories on behavioural change in health services can be divided into those that explain change at or between individual, institutional or contextual levels, and thus evaluations must consider all these levels while trying to explain behavioural change (figure 7). The variables we chose to measure (attitude towards training,

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organisational commitment, self-efficacy, nature of supervision) have all been linked to behavioural change and improvement in organisations and a preliminary desk review of the training reports and documents suggests that these are also linked to the intervention in Tumkur.

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Figures

Figure 1

Short title: Map of India showing Karnataka (shaded red) in south India

Legend: Map from Wikimedia Commons/User:Nichalp licensed under Creative Commons Attribution-Share Alike 3.0

Figure 2

Short title: Map of Karnataka showing Tumkur district(shaded blue) and Raichur district (shaded green)

Legend: Map from Wikimedia Commons/User:Planemad licensed under Creative Commons Attribution-Share Alike 3.0

Figure 3

Short title: Schematic showing the structure of the capacity-building intervention in Tumkur along with key actors and timeline

Figure 4

Short title: Study design showing steps A to F

Figure 5

Short title: Six steps proposed by Van Belle et al [21]

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Figure 6

Short title: Hypothetical pathways to change based on initial reconstruction of programme theory and literature

Figure 7

Short title: Theories of behavioural change in health services in relation to their sphere of influence

Supplementary files

Supplementary file 1

File format: questionnaire_final.pdf

Title: Questionnaire for health managers on training programmes, planning and supervision

Description: The questionnaire measures attitudes to training programmes, organisational commitment, self-efficacy and nature of supervision of health managers

Supplementary file 2

File format: ssi_guide.pdf

Title: semi-structured interview guide

Description: An interview guide with probes to understand process of planning and attitudes towards planning

Supplementary file 3

File format: consent_eng.pdf

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Title: Consent form (English)

Description: A blank consent form (English) used to obtain consent for interviews

Supplementary file 4

File format: consent_kan.pdf

Title: Consent form (Kannada)

Description: A blank consent form in the Kannada (local language) used to obtain consent for interviews

Supplementary file 5

File format: epidata_val.pdf

Title: epidata checks

Description: epidata format showing the validity and checks for data entry

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(In English)

Institute of Public Health
#250, Masters Cottage, 2nd C Main, 2nd C Cross, Girinagar I Phase, Bangalore – 560 045
www.iphindia.org **Phone: +91** [redacted]

Information sheet

Background: Institute of Public Health, Bangalore is a non-profit public health institute in Bangalore involved in training, research, consultancy and advocacy. The Institute has recently begun a training programme for the district and taluka health team in Tumkur.

About the study: The Institute is undertaking a study in your district to understand the process of planning, specifically the NRHM Programme Implementation Plan for 2010. The study will involve interviews and focus group discussions with people in the health department at district, taluka, PHC and village level. The study will also involve interviews with non-health personnel in the district who have been involved in making the NRHM PIP. In addition, policy makers within the state as well as national level will be interviewed.

Why the study? The study is being undertaken to understand the operational problems that happen in implementing the process of NRHM PIP as per the guidelines. We also hope to understand the problems that people face in the field and inform policy makers about it.

Anonymity and confidentiality of all views and opinions expressed during the interviews is guaranteed. The aim of the study is not to find fault with the process in your district, but to understand and document issues and problems with the process of PIP preparation itself, and on trying to find out how this can be improved. All original recordings of the interviews shall be destroyed after transcription and interviewees shall not be identified in any report or publication.

Audio recording will be done to help in capturing all the views and opinions expressed. The audio will be destroyed after transcribing. Complete anonymity and confidentiality of the individuals is guaranteed.

Outcome: The study findings will be used to inform policy-makers about the operational issues in PIP preparation. The findings will also help streamline and improve the process in the coming years. In addition, the findings will be used to inform training programmes and workshops for district health personnel in other district training programmes. A brief of the findings will be shared with you after the study.

For further information, please contact: Dr. Prashanth NS, PhD Fellow, Institute of Public Health, Bangalore. Phone: [redacted]

Informed Consent

I have read and understood the details provided to me about the study through the information sheet above. I hereby consent to participate in the study with the understanding that my views and opinions shall be treated as anonymous.

I also agree to record my opinions. Yes/No.

Signature:
Date:

For peer review only

(In Kannada)

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ಮಾಹಿತಿ ಚೀಟಿ

ಹಿನ್ನೆಲೆ : ಇನ್ಸ್ಟಿಟ್ಯೂಟ್ ಆಫ್ ಪಬ್ಲಿಕ್ ಹೆಲ್ತ್ , ಬೆಂಗಳೂರು ಒಂದು ಸಮುದಾಯ ಆರೋಗ್ಯದ ಬಗ್ಗೆ ತರಬೇತಿ, ಸಂಶೋಧನೆ ಹಾಗ ಸಮಾಲೋಚನೆಯಲ್ಲಿ ತೊಡಗಿರುವ ಸಂಸ್ಥೆ. ಈ ಸಂಸ್ಥೆ ತುಮಕೂರಿನಲ್ಲಿ ಜಿಲ್ಲಾ ಹಾಗು ತಾಲೂಕು ಆರೋಗ್ಯ ಸಂಸ್ಥೆಗಳಲ್ಲಿ ಸೇವೆ ಸಲ್ಲಿಸುತ್ತಿರುವ ಸಿಬ್ಬಂದಿಗೆ ತರಬೇತಿ ನೀಡುತ್ತಿದೆ.

ಸಂಶೋಧನೆ : ನಮ್ಮ ಸಂಸ್ಥೆಯು ನಿಮ್ಮ ಜಿಲ್ಲೆಯಲ್ಲಿ ನಕಾಶೆ ಮಾಡುವುದರ ಬಗ್ಗೆ , ಅದರಲ್ಲೂ ರಾಷ್ಟ್ರೀಯ ಗ್ರಾಮೀಣ ಆರೋಗ್ಯ ಅಭಿಯಾನದ ಅಡಿಯಲ್ಲಿ ೨೦೧೦ ವರ್ಷದ ಪಿ ಐ ಪಿ ಯಾವ ರೀತಿ ಮಾಡಲಾಯಿತು ಎಂಬುದರ ಬಗ್ಗೆ ತಿಳಿಯಲು ಒಂದು ಸಂಶೋಧನೆ ನಡೆಸುತ್ತಿದೆ. ಈ ಸಂಶೋಧನೆ ಪಿ ಐ ಪಿ ಮಾಡುವುದರಲ್ಲಿ ನಿಮ್ಮೆಲ್ಲರಿಗೆ ಯಾವ ರೀತಿ ತೊಂದರೆ ಹಾಗು ಅಡಚಣೆಗಳು ಬರುತ್ತವೆ ಎಂದು ತಿಳಿಯಲು ಮಾಡುತ್ತಿದ್ದೇವೆ. ಸಂಶೋಧನೆಯಲ್ಲಿ ತಪ್ಪು ಕಂಡುಹಿಡಿಯುವುದಾಗಲಿ, ಅಥವಾ ಕೊರತೆಗಳು ಕಂಡುಹಿಡಿಯುವುದಕ್ಕಾಗಲೀ ಮಾಡುತ್ತಿಲ್ಲ. ನಾವು ಈ ಕುರಿತು ಜಿಲ್ಲಾ, ತಾಲ್ಲೂಕು, ಪಿ ಎಚ್ ಸಿ ಹಾಗು ಹಳ್ಳಿಗಳ ಮಟ್ಟದಲ್ಲಿ ಆರೋಗ್ಯ ಸೇವೆಗಳ ಸಿಬ್ಬಂದಿಯೊಂದಿಗೆ ಸಂದರ್ಶನ ನಡೆಸುತ್ತೇವೆ. ಜೊತೆಗೆ, ಜಿಲ್ಲಾ ಮಟ್ಟದಲ್ಲಿ ಪಿ ಐ ಪಿ ಯಲ್ಲಿ ತೊಡಗಿದ್ದ ಅಧಿಕಾರಿಗಳೊಂದಿಗೂ ಸಂದರ್ಶನ ಮಾಡುತ್ತೇವೆ. ನಂತರ, ರಾಷ್ಟ್ರ ಮಟ್ಟದಲ್ಲಿ ಹಾಗು ಕೇಂದ್ರ ಸರಕಾರದ ಮಟ್ಟದಲ್ಲಿ ಎನ್.ಆರ್.ಎಚ್.ಎಂ ಅಧಿಕಾರಿಗಳೊಂದಿಗೂ ಸಂದರ್ಶಿಸುತ್ತೇವೆ.

ಏಕೆ : ಪಿ.ಐ.ಪಿ ಮಾಡುವುದರಲ್ಲಿ ಹಲವಾರು ತೊಂದರೆಗಳು ಮತ್ತು ಅಡಚಣೆಗಳು ಕಂಡುಬರುತ್ತವೆ. ಆದರೆ ಪ್ರತಿ ವರ್ಷ ಪಿ.ಐ.ಪಿ ಇಡೀ ದೇಶದಲ್ಲಿ ಒಂದೇ ರೀತಿಯಲ್ಲಿ ಮಾಡಲಾಗುತ್ತದೆ. ಈ ಸಂಶೋಧನೆಯ ಮುಖಾಂತರ ನಾವು ಜಿಲ್ಲ, ತಾಲ್ಲೂಕು ಹಾಗು ಕೆಳ ಮಟ್ಟದಲ್ಲಿ ಆಗುವ ತೊಂದರೆಗಳನ್ನು ಅರಿತು, ಇವನ್ನು ನಿವಾರಿಸುವುದಕ್ಕೆ ಯಾವ ಕ್ರಮ ಕೈಗೊಳ್ಳಬೇಕೆಂದು ಮೇಲಿನ ಅಧಿಕಾರಿಗಳ ಮುಂದೆ ಇಡುತ್ತೇವೆ.

ಅನಾಮಧೇಯತ್ವ ಹಾಗು ಗೌಪ್ಯತೆ : ಸಂದರ್ಶನದಲ್ಲಿ ವ್ಯಕ್ತ ಪಡಿಸಿರುವ ಎಲ್ಲಾ ಅಭಿಪ್ರಾಯಗಳ ಗೌಪ್ಯತೆ ಕಾಪಾಡಲಾಗುವುದು . ಹಾಗೂ ಎಲ್ಲಾ ಅಭಿಪ್ರಾಯಗಳು ಅನಾಮಧೇಯವಾಗಿ ಅಧ್ಯಯಿಸಲಾಗುವುದು . ಮೊದಲೇ ತಿಳಿಸಿರುವಂತೆ, ಈ ಸಂದರ್ಶನ ಪಿ.ಐ.ಪಿ ಯಲ್ಲಿ ಆಗುವ ಅಡಚಣೆಗಳು ಹಾಗು ತೊಂದರೆಗಳನ್ನು ಅರ್ಥ ಮಾಡಿಕೊಂಡು ನಿವಾರಿಸಲು ಮಾಡಲಾಗುತ್ತಿದೆ; ತಪ್ಪು ಕಂಡುಹಿಡಿಯುವುದಕ್ಕಲ್ಲ. ನಿಮ್ಮ ಅಭಿಪ್ರಾಯಗಳನ್ನು ನಿಮ್ಮ ಹೆಸರಿನಿಂದ ಯಾವುದೇ ರೀತಿಯಲ್ಲಿ ಗುರುತಿಸುವಂತೆ ಹೊರಪಡಿಸಲಾಗುವುದಿಲ್ಲ.

ಧ್ವನಿ ಮುದ್ರಣ**:** ನಿಮ್ಮ ಉತ್ತರ ಹಾಗು ಅಭಿಪ್ರಾಯಗಳನ್ನು ಧ್ವನಿ ಮುದ್ರಣ ಯಂತ್ರದ ಮೂಲಕ ಉಲ್ಲೇಖಿಸಲಾಗುವುದು. ಈ ರೀತಿ ತೆಗೆದುಕೊಂಡಿರುವ ಧ್ವನಿ ಮುದ್ರಣವನ್ನು ಅಧ್ಯಯನದ ನಂತರ ಅಳಿಸಲಾಗುವುದು.

ಪರಿಣಾಮ**:** ಈ ಅಧ್ಯಯನದ ಪರಿಣಾಮವನ್ನು ಮೇಲಿನ ಅಧಿಕಾರಿಗಳಿಗೆ ಜಿಲ್ಲ, ತಾಲ್ಲೂಕು ಹಾಗು ಹಳ್ಳಿಗಳ ಮಟ್ಟದಲ್ಲಿ ಪಿ.ಐ.ಪಿ ಮಾಡುವುದರಲ್ಲಿ ಯಾವ ರೀತಿಯ ತೊಂದರೆಗಳು ಹಾಗು ಅಡಚಣೆಗಳು ಉಂಟಾಗುತ್ತವೆ ಎಂದು, ಮತ್ತು ಯಾವ ರೀತಿಯ ಬದಲಾವಣೆಗಳನ್ನು ತರಬೇಕು ಎಂಬುದರ ಬಗ್ಗೆ ತಿಳಿಸಲು ಉಪಯೋಗಿಸಲಾಗುವುದು. ಅದರೊಂದಿಗೆ,ಜಿಲ್ಲಾ ಮಟ್ಟದ ಅಧಿಕಾರಿಗಳ ತರಬೇತಿಯಲ್ಲೂ ಉಪಯೋಗಿಸಲಾಗುವುದು. ಪರಿಣಾಮಗಳ ಪಕ್ಷಿನೋಟವನ್ನು ನಿಮಗೆಕೊಡಲಾಗುವುದು.
ಹೆಚ್ಚು ಮಾಹಿತಿಗಾಗಿ, ಇವರನ್ನು ಸಂಪರ್ಕಿಸಿ: ಡಾ || ಪ್ರಶಾಂತ್ ಎನ್.ಎಸ, ಪಿ.ಎಚ್.ಡಿ ವಿದ್ಯಾರ್ಥಿ, ಇನ್ಸ್ಟಿಟ್ಯೂಟ್ ...ರ, ಬೆಂಗಳೂರು - ೫೬೦೦೪೫. ದೂ: ೯೪೪೮೫ ೯೯೫೬೬.ಈಮೈಲ್:

ಸಮ್ಮತಿ

ನಾನು ಮೇಲಿರುವ ವಿಚಾರವನ್ನು ಓದಿ ತಿಳಿದು, ಈ ಸಂಶೋಧನೆಗೆ ಸಂದರ್ಶನ ನೀಡಲು ಒಪ್ಪಿದ್ದೇನೆ. ನಾನು ಹೇಳುವ ಮಾತುಗ ಗೌಯತೆಯನ್ನು ಕಾಪದಲಾಗುತ್ತದೆಂದು ತಿಳಿಸಲಾಗಿದೆ.
ನನ್ನ ಮಾತುಗಳ ಧ್ವನಿಮುದ್ರಣಕ್ಕೆ ಒಪ್ಪಿದ್ದೇನೆ. ಹೌದು/ಇಲ್ಲ

ಸಹಿ:
ದಿನಾಂಕ:

DATA FILE: \[redacted]Phd survey\Survey_dhm_20Oct2011.rec
File label: SUrvey DHM

File size: 11 kb
Last revision: 20. Oct 2011 4:57 PM
Number of fields: 130
Number of records: 0
Checks applied: Yes (Last revision 20. Oct 2011 6:20 PM)

Fields in data file:

No.	Name	Variable label	Field type	Width	Checks	Value labels
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2	a1	respondent number	Number	3	Must enter Legal: 100-300	
3	a2	interviewer name	Number	1	Must enter Legal: 0-11	interview 1: Pra 2: Kur 3: Bhee 4: Mah 5: Other
4	a3	date	Date (dmy)	10	Must enter	
5	a4	time taken(in minutes)	Number	2	Must enter Legal: 0-90	
6	a5	person doing data entry	Number	1	Must enter Legal: 0-3	dataentry 1: Srinivas 2: Other
7	a6	data checked	Number	1	Must enter Legal: 0-2	yesno 0: Blank 1: Yes 2: No
8	b1	The purpose of the NRHM PIP	Number	1	Must enter Legal: 0-4	
9	b2	If I were in charge of NRHM	Number	1	Must enter Legal: 0-5	
10	b3	At the PHC level	Number	1	Must enter Legal: 0-4	
11	b4	At the taluka level	Number	1	Must enter Legal: 0-5	
12	b5	Which statement best summarises	Number	1	Must enter Legal: 0-6	
13	b6	For every PIP	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
14	b7	PIPs can be used to bring about	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
15	b8	Districts need technical guidance	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
16	b9	Talukas need	Number	1	Must enter	likert

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		technical guidance			Legal: 0-5	0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
17	b10	PHCs need technical guidance	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
18	b11	PIP preparation at taluka level	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
19	b12	I am able to negotiate	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
20	b13	In this year's PIP	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
21	b14	the activities that we included	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
22	b15	After the NRHM PIP process	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
23	b16	After the submission of PIP	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
24	b17	In my district, most of my colleagus	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
25	b18	In my district, most PHCs	Number	1		
26	b19	In my facility	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d

27	b20	I am able to discuss	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
28	c1	it is difficult for me	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
29	c2	I would not leave my present	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
30	c3	I would be very happy to spend	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
31	c4	I will not leave the organisation	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
32	c5	Even if it were to my advantage	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
33	c6	I really feel as if my organisation	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
34	c7	Right now staying in this organisation	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
35	c8	I do not feel a strong sense	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
36	c9	I think that there are very	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
37	c10	I do not feel emotionally	Number	1	Must enter Legal: 0-5	likert 0: Blank

#	Variable	Label	Type	Width	Validation	Values
						1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
38	c11	I would feel guilty if I	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
39	c12	I do not feel like part	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
40	c13	This organisation deserves	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
41	c14	I might consider working	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
42	c15	I would not consider	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
43	c16	This organisation has	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
44	c17	Too much of my	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
45	c18	I owe a great	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
46	d1	I can solve difficult	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
47	d2	If someone opposes me	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
48	d3	It is easy for me to	Number	3	Must enter Legal: 0,01,10,20,	

#	Variable	Label	Type	Length	Validation	Values
					30,40,50,60,70,80, 90,100	
49	d4	I am confident that	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
50	d5	Thanks to my strategic	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
51	d6	I can solve most	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
52	d7	I can remain calm	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
53	d8	When I am confronted	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
54	d9	If I am in trouble	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
55	d10	No matter what	Number	3	Must enter Legal: 0,01,10,20, 30,40,50,60,70,80, 90,100	
56	e1	district	Number	1	Must enter Legal: 0-2	
57	e2	taluka	Number	3	Must enter Legal: 0-16	taluka 0: Blank 1: Tumkur 2: Gubbi 3: Tiptur 4: Turuvekere 5: CNhalli 6: Kunigal 7: Madhugiri 8: Pavagada 9: Koratagere 10: Sira 11: Raichur 12: Sindhanur 13: Manvi 14: Lingsugur 15: Devadurga 16: Other
58	e3	primary designation	Text	34	Must enter	
59	e4	How long have you (in years)	Number	2	Must enter Legal: 0-35	
60	e51	concepts in public health	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
61	e52	leadership	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
62	e53	planning	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
63	e54	human resources planning and motivation	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked

64	e55	administrative procedures	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
65	e56	health and hospital management	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
66	e57	HMIS	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
67	e58	health and hospital management	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
68	e59	financial and medicolegal	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
69	e60	teamwork	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
70	e61	emergency obstetric care	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
71	e62	role of PRI	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
72	e63	nrhm pip	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
73	e64	supportive supervision	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
74	e65	quality in health care	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
75	e66	other topic not listed	Number	1	Must enter Legal: 0,1	tickbox 0: Blank or no tick 1: Ticked
76	e6	have you attended the	Number	1	Must enter Legal: 0-3	
77	e7	if yes which components	Number	1	Must enter Legal: 0-4	
78	e8	in the swasthya karnataka	Number	1	Must enter Legal: 0-12	
79	e9	have you been visited	Number	1	Must enter Legal: 0-3	
80	e10	if yes how many times	Number	2	Must enter Legal: 0-50	
81	f1	the content of the classroom	Number	1	Must enter Legal: 0-6	
82	f2	after attending the classes	Number	1	Must enter Legal: 0-6	
83	f3	after the classes, I can	Number	1	Must enter Legal: 0-6	
84	f4	the visits ...skills	Number	1	Must enter Legal: 0-6	
85	f5	the visits ...implement	Number	1	Must enter Legal: 0-6	
86	f6	the visits ...discuss	Number	1	Must enter Legal: 0-6	
87	f7	working on	Number	1	Must enter	

#	Variable	Label	Type	Width	Rules	Values
		assignments			Legal: 0-6	
88	f8	because of the discussion	Number	1	Must enter Legal: 0-6	
89	f9	After the training programme	Number	1	Must enter Legal: 0-3	
90	f10a	reasons given yes or no	Number	1	Must enter Legal: 0-2 Jumps: 0>f11,2>f11	yesno 0: Blank 1: Yes 2: No
91	f10b	reason given 1	Text	78	Must enter	
92	f10bb	reason given 1 continued	Text	78		
93	f10c	reason given 2	Text	78	Must enter	
94	f10cc	reason given 2	Text	78		
95	f11	if you answered no	Number	1	Must enter Legal: 0-7 Jumps: 0>f12,1>f12, 2>f12,3>f12,4>f12, 5>f12,7>f12	
96	f11a	Other Please specify in the space below	Text	78	Must enter	
97	f11b	Please specify	Text	78		
98	f12	after the training programme	Number	1	Must enter Legal: 0-3	
99	f13a	reasons given yes or no	Number	1	Must enter Legal: 0-2 Jumps: 0>f14,2>f14	yesno 0: Blank 1: Yes 2: No
100	f13b	reason given 1	Text	78	Must enter	
101	f13bb	reason given 1 continued	Text	78		
102	f13c	reason given 2	Text	78	Must enter	
103	f13cc	reason given 2	Text	78		
104	f14	if you answered no	Number	1	Must enter Legal: 0-7 Jumps: 0>g1,1>g1, 2>g1,3>g1,4>g1,5>g1, 7>g1	
105	f14a	Other Please specify in the space below	Text	78	Must enter	
106	f14b	Please specify	Text	78		
107	g1	my supervisor helps	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
108	g2	my supervisor encourages	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
109	g3	my supervisor	Number	1	Must enter	likert

	leaves			Legal: 0-5	0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
110 g4	my supervisor encourages me to learn	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
111 g5	my supervisor does not explain	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
112 g6	my supervisor knows my reaction	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
113 g7	my supervisor helps me take	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
114 g8	my supervisor does not give	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
115 g9	my supervisor trusts	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
116 g10	my supervisor recognises	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
117 g11	my supervisor is always	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
118 g12	my supervisor decides	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a 2: Agree 3: Neither a nor d 4: Disagree 5: Strongly d
119 g13	my supervisor finds fault	Number	1	Must enter Legal: 0-5	likert 0: Blank 1: Strongly a

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                                                               2: Agree
                                                               3: Neither a nor d
                                                               4: Disagree
                                                               5: Strongly d

120 g14      my supervisor     Number      1     Must enter    likert
             and I                               Legal: 0-5    0: Blank
                                                               1: Strongly a
                                                               2: Agree
                                                               3: Neither a nor d
                                                               4: Disagree
                                                               5: Strongly d

121 h1       sex               Number      1     Must enter    sex
                                                 Legal: 0-2    1: Male
                                                               2: Female
                                                               9: Unknown

122 h2       dob               Date (dmy)  10    Must enter

123 h3       in what type of   Number      1     Must enter
             locality                            Legal: 0-6

124 h4       educational       Number      1     Must enter
             qualifications                      Legal: 0-6

125 h5       in case of mbbs   Number      1     Must enter
                                                 Legal: 0-2

126 h6       year of joining   Number      4     Must enter
                                                 Legal: 1950-2011

127 h7       how many years    Number      2     Must enter
                                                 Legal: 0-35

128 h8       type of           Number      1     Must enter
             employment                          Legal: 0-2

129 h9       if holding any    Text        49    Must enter
             additional

130 h10      type of           Number      1     Must enter
             appointment                         Legal: 0-2
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September 2011

Questionnaire for health managers on training programmes, planning and supervision

Greetings from Institute of Public Health, Bangalore!

This survey has been designed by Institute of Public Health, Bangalore (IPH) to better understand the factors that influence management of health facilities and health care in your district and taluka.

The study is for research purposes only and the information that you provide in this questionnaire will help us gain a better understanding of district health management and help inform policy makers.

Please read the following carefully before starting the questionnaire.

1) The success of this research depends on frank and honest answers. We would like to assure you that your individual responses would be held in complete confidence.
2) We are interested in your personal views on the questions and hence there are NO right or wrong answers. So please respond frankly to all questions.

All answers will be kept confidential.

FOR OFFICE USE To be filled in by the interviewer/facilitator AFTER FINISHING THE SURVEY. NOT FOR RESPONDENTS		
A1	Respondent number	
A2	Interviewer/Facilitator name	
A3	Date (DD/MM/YY eg. 26/12/2011)	
A4	Time taken (To be filled up at the end of the interview – **in minutes**)	
A5	Name of person doing data entry	
A6	Data entry checked by	

For any clarifications regarding this survey, please contact the facilitator who is administering this survey or contact:
Dr. Prashanth NS, Institute of Public Health, Bangalore. Phone: ***(080)*** [redacted] *or* [redacted]

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B. What do you think about NRHM PIP and planning?

This section helps us understand your opinions about NRHM PIP and its use.

Please tick only ONE statement on the right hand side that BEST describes how you feel about the statement on the left hand side.

B1	The purpose of the NRHM PIP is to…	1☐ Evaluate the performance of my facility during the year 2☐ Collect data for planning at district or state level 3☐ Planning of all activities of my facility for the year 4☐ Assessment of performance of NRHM in my facility during year
B2	If I were in charge of NRHM, the most peripheral level at which I would make the PIP would be at….	1☐ State 2☐ District 3☐ Taluka 4☐ PHC 5☐ Village health and sanitation committee
B3	At the PHC level, PIP should be made by…	1☐ PHC MO and LHV 2☐ PHC MO and all field staff 3☐ PHC staff, ARS and PRI members 4☐ PIP should not be prepared at PHC level
B4	At the taluka level, PIP should be made by…	1☐ THO and BPMU staff 2☐ THO, BPMU along with all PHC MOs 3☐ THO, BPMU and AMO 4☐ THO, BPMU, AMO, ARS and PRI members 5☐ PIP should not be made at taluka level

For any clarifications regarding this survey, please contact the facilitator who is administering this survey or contact:
Dr. Prashanth NS, Institute of Public Health, Bangalore. Phone: ***(080)***

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B5	***Please read each of the statements carefully.*** Which statement best summarises how you feel about the role of NRHM PIP in your work	1☐ The role of the PIP is to collect data from village level to district level and submit to state so that micro-level data is available at the state level 2☐ The PIP is a plan for my facility/taluka/district based on situation analysis which helps identify problems and find solutions 3☐ PIP is one of the important requirements for obtaining resources through NRHM that must be satisfied by all health facilities in the district 4☐ PIP is time-consuming and does not really help me in my routine work through the year 5☐ PIP helps me budget activities based on my need and guides all my programmes and activities through the year 6☐ Not sure

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
B6	For every PIP, we must do a situation analysis as the first step before proceeding with the planning	☐	☐	☐	☐	☐
B7	PIPs can be used to bring about improvement in the quality of care of facilities	☐	☐	☐	☐	☐
B8	Districts need technical guidance in carrying out a situation analysis for the PIP	☐	☐	☐	☐	☐
B9	Talukas need technical guidance in carrying out a situation analysis for PIP	☐	☐	☐	☐	☐
B10	PHCs need technical guidance in carrying out situation analysis for PIP	☐	☐	☐	☐	☐
B11	PIP preparation at taluka level improves teamwork among doctors, nurses and BPMs	☐	☐	☐	☐	☐
B12	I am able to negotiate the priorities of my facility with my superiors so that they could be included in the district PIP	☐	☐	☐	☐	☐

For any clarifications regarding this survey, please contact the facilitator who is administering this survey or contact: Dr. Prashanth NS, Institute of Public Health, Bangalore. Phone: [redacted]

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		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
B13	In this year's PIP (December 2010), we collected data to do a situation analysis for my facility	☐	☐	☐	☐	☐
B14	The activities that we included in the PIP were based on a situation analysis of my facility	☐	☐	☐	☐	☐
B15	After the NRHM PIP process has started, problems in my facility are being better identified than before	☐	☐	☐	☐	☐
B16	After the submission of PIP, I come to know soon about the financial allocation for my facility	☐	☐	☐	☐	☐
B17	In my district, most of my colleagues at the taluka level were actively involved in preparing the PIP this year	☐	☐	☐	☐	☐
B18	In my district, most PHCs were also actively involved in preparing the PIP	☐	☐	☐	☐	☐
B19	In my facility, all the staff participated in preparing the PIP	☐	☐	☐	☐	☐
B20	I am able to discuss and negotiate with Panchayat members regarding utilisation of the various joint funds (untied funds/ARS funds and other joint signatory funds)	☐	☐	☐	☐	☐

For any clarifications regarding this survey, please contact the facilitator who is administering this survey or contact:
Dr. Prashanth NS, Institute of Public Health, Bangalore. Phone: (

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C. How do you relate to your organisation?

In this section, we ask you questions about how you feel about your organisation. For this section, "ORGANISATION" means your hospital/taluka/district depending on where you work.

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
C1	It is difficult for me to leave the organization right now, even if I wanted to leave	☐	☐	☐	☐	☐
C2	I would not leave my present organisation right now because of a sense of obligation	☐	☐	☐	☐	☐
C3	I would be very happy to spend rest of my career in this organization	☐	☐	☐	☐	☐
C4	I will not leave the organisation right now mainly because there are not many choices available	☐	☐	☐	☐	☐
C5	Even if it were to my advantage, I do not feel it would be right to leave the organisation now	☐	☐	☐	☐	☐
C6	I really feel as if my organisation's problems are my own	☐	☐	☐	☐	☐
C7	Right now, staying in this organisation is both a necessity and a desire.	☐	☐	☐	☐	☐
C8	I do not feel a strong sense of "belonging" to my organisation	☐	☐	☐	☐	☐
C9	I think that there are very few options for me to consider leaving this organisation	☐	☐	☐	☐	☐
C10	I do not feel emotionally attached to this organisation	☐	☐	☐	☐	☐
C11	I would feel guilty if I leave this organisation right now	☐	☐	☐	☐	☐
C12	I do not feel like "part of a family" at my workplace	☐	☐	☐	☐	☐

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		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
C13	This organization deserves my loyalty	☐	☐	☐	☐	☐
C14	I might consider working elsewhere if I had not already put so much of myself into this organisation	☐	☐	☐	☐	☐
C15	I would not consider leaving the organisation right now because I feel a sense of obligation to the people in this organisation	☐	☐	☐	☐	☐
C16	This organisation has a great deal of personal meaning for me	☐	☐	☐	☐	☐
C17	Too much of my personal life would be disturbed if I wanted to leave this organisation right now	☐	☐	☐	☐	☐
C18	I owe a great deal to my organization	☐	☐	☐	☐	☐

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D. How confident are you with respect to your efficacy at dealing with PRI member demands?

Think about a situation such as a conflict with a PRI or community member making what you feel are unreasonable demands on your time/staff or resources.

Given that you face such circumstances routinely, *please rate how certain you are that you can do each of the things described below by circling the number from 0 – 100 that best captures your degree of confidence.*

Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:

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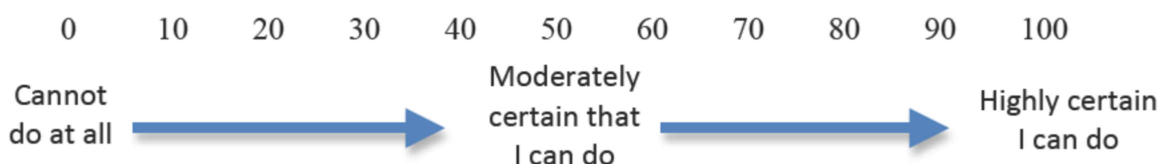

		CIRCLE BASED ON THE SCALE GIVEN ABOVE										
D1	I can solve difficult problems if I try hard enough	0	10	20	30	40	50	60	70	80	90	100
D2	If someone opposes me, I can find ways to get what I want	0	10	20	30	40	50	60	70	80	90	100
D3	It is easy for me to stick to my aims and accomplish my goals	0	10	20	30	40	50	60	70	80	90	100
D4	I am confident that I could deal efficiently with unexpected events	0	10	20	30	40	50	60	70	80	90	100
D5	Thanks to my strategic nature, I know how to handle unexpected situations	0	10	20	30	40	50	60	70	80	90	100

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D6	I can solve most problems if I invest the necessary effort	0	10	20	30	40	50	60	70	80	90	100
D7	I can remain calm when facing difficulties because I can rely on my coping abilities	0	10	20	30	40	50	60	70	80	90	100
D8	When I am confronted with a problem, I can usually find several solutions	0	10	20	30	40	50	60	70	80	90	100
D9	If I am in trouble, I can usually think of something to do	0	10	20	30	40	50	60	70	80	90	100
D10	No matter what comes my way, I'm usually able to handle it	0	10	20	30	40	50	60	70	80	90	100

E: What was the nature of training programmes in your district?

For those in Tumkur district, please answer this section with respect to the Swasthya Karnataka training programme.

		Response *Tick your response wherever there is a box. Elsewhere, please write your response*
E1	District	1☐ Tumkur 2☐ Raichur
E2	Taluka where your work	
E3	Primary designation	
E4	How long have you held your present designation *(In years, including period on contract. Write <1 if held for less than one year)*	

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E5	Which among these topics were covered in the training programmes you attended in the **last two years (2009-2011)?** ***Circle how many ever topics that apply***	1 ☐ Concepts in public health 2 ☐ Leadership 3 ☐ Planning 4 ☐ Human resources planning & Motivation 5 ☐ Administrative procedures 6 ☐ Health and hospital management 7 ☐ HMIS 8 ☐ Health and hospital management 9 ☐ Financial and medico-legal procedures 10 ☐ Teamwork 11 ☐ Emergency Obstetric Care 12 ☐ Role of PRI in health system 13 ☐ NRHM PIP planning 14 ☐ Supportive supervision 15 ☐ Quality in health care 16 ☐ Other topic not listed here
If you have not participated in the Swasthya Karnataka Training Programme, then skip the rest of this section and proceed to Section F on the next page		
E6	Have you attended the Swasthya Karnataka training programme?	1 ☐ YES 2 ☐ NO 3 ☐ Not sure
E7	**IF YES,** which components of the Swasthya Karnataka training programme have you attended?	1 ☐ Contact classes 2 ☐ Discussion with Swasthya Karnataka trainers during visits to my facility/institution 3 ☐ Both 4 ☐ Not sure
E8	In the Swasthya Karnataka training programme, how many classes did you attend? (Max N=12) ***(Each class consisted of one or more consecutive days of contact sessions)***	
E9	Have you been visited by Swasthya Karnataka trainers at your facility for helping you apply what was covered in the classes?	1 ☐ YES 2 ☐ NO 3 ☐ Don't know
E10	**IF YES,** how many times have you been visited by Swasthya Karnataka trainers in the last two years?	

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F. What do you think about the training programmes in your district?

Please respond to this section **based on your experience with the Swasthya Karnataka programme.** If you have not attended the Swasthya Karnataka programme, then please respond keeping in mind the training programmes in your district that dealt with **NRHM PIP planning or supervision in the last two years.**

Tick the response that best captures what you think about each statement.

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
F1	The content of the classroom teaching during the training programmes were relevant to my work	☐	☐	☐	☐	☐	☐
F2	After attending the classes, my knowledge on the topics taught improved	☐	☐	☐	☐	☐	☐
F3	After the classes, I can better understand the importance of NRHM PIP in managing the services under my responsibility	☐	☐	☐	☐	☐	☐
F4	The visits by trainers motivated me to apply new skills learnt during the training	☐	☐	☐	☐	☐	☐
F5	The visits by the trainers motivated me to implement changes to improve in my institution	☐	☐	☐	☐	☐	☐
F6	The visits by trainers to my workplace help me to discuss problems I faced in applying what is taught in classroom training programmes	☐	☐	☐	☐	☐	☐
F7	Working on assignments given during the training along with my colleagues and subordinates improved teamwork in my organisation.	☐	☐	☐	☐	☐	☐
F8	Because of the discussion with my colleagues and subordinates during trainers' visit, their confidence in me as a manager increased	☐	☐	☐	☐	☐	☐

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F9	After the training programme, did you make any changes to improve the preparation or implementation of the PIP?	1 ☐ YES 2 ☐ NO 3 ☐ Not sure
F10	**If you answered YES to the previous question,** In the space provided, please give up to TWO examples of improvements you introduced in the preparing/implementing NRHM PIP after the training programme.	1) 2) ☐ Not applicable because I answered NO/Not sure to Question F9
F11	**If you answered NO to F9,** What were the main reasons for not making any improvements in the PIP preparation or implementation? ***(Tick as many as appropriate)***	1 ☐ The training did not provide any help in improving the PIP 2 ☐ There are several constraints in the organisation that prevent me from improving the PIP 3 ☐ I do not have the necessary technical skills/knowledge to bring about improvements 4 ☐ This is not within my powers to make such changes 5 ☐ I am not involved in PIP preparation 6 ☐ Other – Please specify in the space below 7 ☐ This question is **not applicable** to me because I answered YES to F9
F12	After the training programme, did you make any changes in the way you conduct supervisory visits?	1 ☐ YES 2 ☐ NO 3 ☐ Not sure

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F13	**If you answered YES to the previous question,** In the space provided, please give TWO examples of how you improved your supervision practices after the training programme.	1) 2) ☐ Not applicable because I answered NO/Not sure to Question F9
F14	**If you answered NO to F12,** What were the main reasons for not making any improvements in your supervision practices? ***(Tick as many as appropriate)***	1 ☐ The training did not provide any help in improving supervision of staff 2 ☐ There are several constraints in the organisation that prevent me from changing supervision practices 3 ☐ I do not have the necessary technical skills/knowledge to bring about improvements 4 ☐ It is not within my power to make such changes 5 ☐ I do not supervise anybody 6 ☐ Other – Please specify in the space below 7 ☐ This question is **not applicable** to me because I answered YES to F12

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G. What are your opinions about supervision by your immediate superior?

This section is about your experience with supervision and supervision visits. For this section, your supervisor is the person you **report to**, and who supervises your work. This is usually an officer one rank above you. For example, a BPM is supervised by THO, while THO's are supervised by DHO. DHO's and programme officers are supervised by Directors or Joint Directors respectively. PHC MOs are supervised by THOs.

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
G1	My supervisor helps me solve work-related problems such as implementation issues with new schemes or problems with PRI members	☐	☐	☐	☐	☐
G2	My supervisor encourages us to speak up when we have a different opinion on a decision he has taken	☐	☐	☐	☐	☐
G3	My supervisor leaves it entirely up to me to decide how to go about doing my job	☐	☐	☐	☐	☐
G4	My supervisor encourages me to learn new things related to my work	☐	☐	☐	☐	☐
G5	My supervisor does not explain his or her actions or decisions	☐	☐	☐	☐	☐
G6	My supervisor knows my reaction to various issues at work	☐	☐	☐	☐	☐
G7	My supervisor helps me take important decisions	☐	☐	☐	☐	☐
G8	My supervisor does not give me a chance to make important decisions on my own	☐	☐	☐	☐	☐
G9	My supervisor trusts my actions and *vice versa*	☐	☐	☐	☐	☐
G10	My supervisor recognises and praises good performance	☐	☐	☐	☐	☐
G11	My supervisor is always around checking on how I am working	☐	☐	☐	☐	☐

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		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
G12	My supervisor decides and tells me what to do and how to do	☐	☐	☐	☐	☐
G13	My supervisor finds fault in most of what I do	☐	☐	☐	☐	☐
G14	My supervisor and I both respect each other	☐	☐	☐	☐	☐

H. Please tell us about yourself.

		Response
H1	Sex	1 ☐ Male 2 ☐ Female
H2	Date of birth DD/MM/YYYY (eg. 26/12/2011)	
H3	In what type of locality did you go to high school?	1 ☐ Rural (Village/Hobli) 2 ☐ Semi-rural (Taluka town) 3 ☐ Semi-urban (District HQ excluding Bangalore, Mysore, Mangalore, Hubli-Dharwad, Tumkur and Belgaum) 4 ☐ Urban except Bangalore (Mysore, Mangalore, Hubli-Dharwad, Tumkur and Belgaum) 5 ☐ Bangalore 6 ☐ Other place outside Karnataka

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H4	Educational qualifications **(TICK AS MANY THAT APPLY)**	1☐ MBBS 2☐ PG medical degree (MD/MS, Diploma etc) 3☐ Nursing degree (Bachelor/Diploma) 4☐ Management degree (MBA/BBM or equivalent) 5☐ Other graduate degree 6☐ Other degree not mentioned above
H5	In case of MBBS, what type of medical college did you study in?	1☐ Private medical college 2☐ Government medical college
H6	Year of joining service	
H7	How many years have you worked in this district?	____________ Years
H8	Type of employment (Presently)	1☐ Permanent in this post 2☐ Temporarily in-charge
H9	If holding any additional charge, mention which post	____________ ☐ No additional charge held
H10	Type of appointment	1☐ Contract 2☐ Regular

Thank you for your time and patience

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Interview guide

Greetings and introduce

Explanation about the research

Consent for recording the interview.

1) As a ______(Designation)_____, what is your role in the PIP?

Notes: *This question should ideally provide information on knowledge of the interviewee about the PIP process under NRHM. It should also reveal the interviewee's perceived involvement in the PIP. If interviewee suggests minimum role, ask whether he thinks he should be involved. What prevented him from involving.*

2) How was the PIP for this year for your district prepared?

Tags: Can you explain the whole process from the beginning?

Notes: This question is the key question of the interveiw, which is expected to capture the role played by the interviewee in this year's PIP. Details of when the process began, what obstacles were met and how s/he went about the process needs to be captured. Also, the interviewee's perceptions about who were involved in the PIP, and their roles should emerge.

Probes: When did you start (Probe for communication from directorate)?

Who was involved and what was the nature of involvement? Also, according to you, have everybody been involved to the extent needed?

(Probe specifically for PHCs, VHSCs, ANMs, ASHAs, Anganwadi workers and people from other departments – primary education, women and child development if they are left out by the interviewee)

How did you begin the process of making the plan? Who took the lead within the district to make the plan?

Tags: Meetings, orientation, other communication, emails. Outcomes of these.

What were the difficulties you faced in the process of making PIP(Probe for orientation on involvement)

Tags: time constraints, lack of consensus, poor understanding on process by some, role conflicts

How did you feel about the process of making the PIP this year?

What do you feel about the PIP?

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3) Under NRHM according to guidelines, the district is supposed to involve communities right from village to the top administration in the district. What do you think of such a process?

Notes: This question is expected to capture the attitudes of the interviewee to bottom-up planning, his perceptions about the feasibility of such a process and encourage the participant to reflect on how such a process can be implemented, if at all. If interviewee agrees flatly to such a process, we need to discuss what s/he means by "participation" and "involvement". What is the extent of involvement of communities that they expect, if at all they do see a role. The interviewer adopts a tone that questions the need for bottom-up planning to bring out the attitudes towards this.

Probes: Probe for feasibility in the district/area and attitudes towards involvement of various health staff and officials at all levels in planning in general.

Is it necessary to involve communities right from village level? Does this help in making an effective plan?

Can you suggest a better approach to planning at district/taluka/PHC/village/area level?

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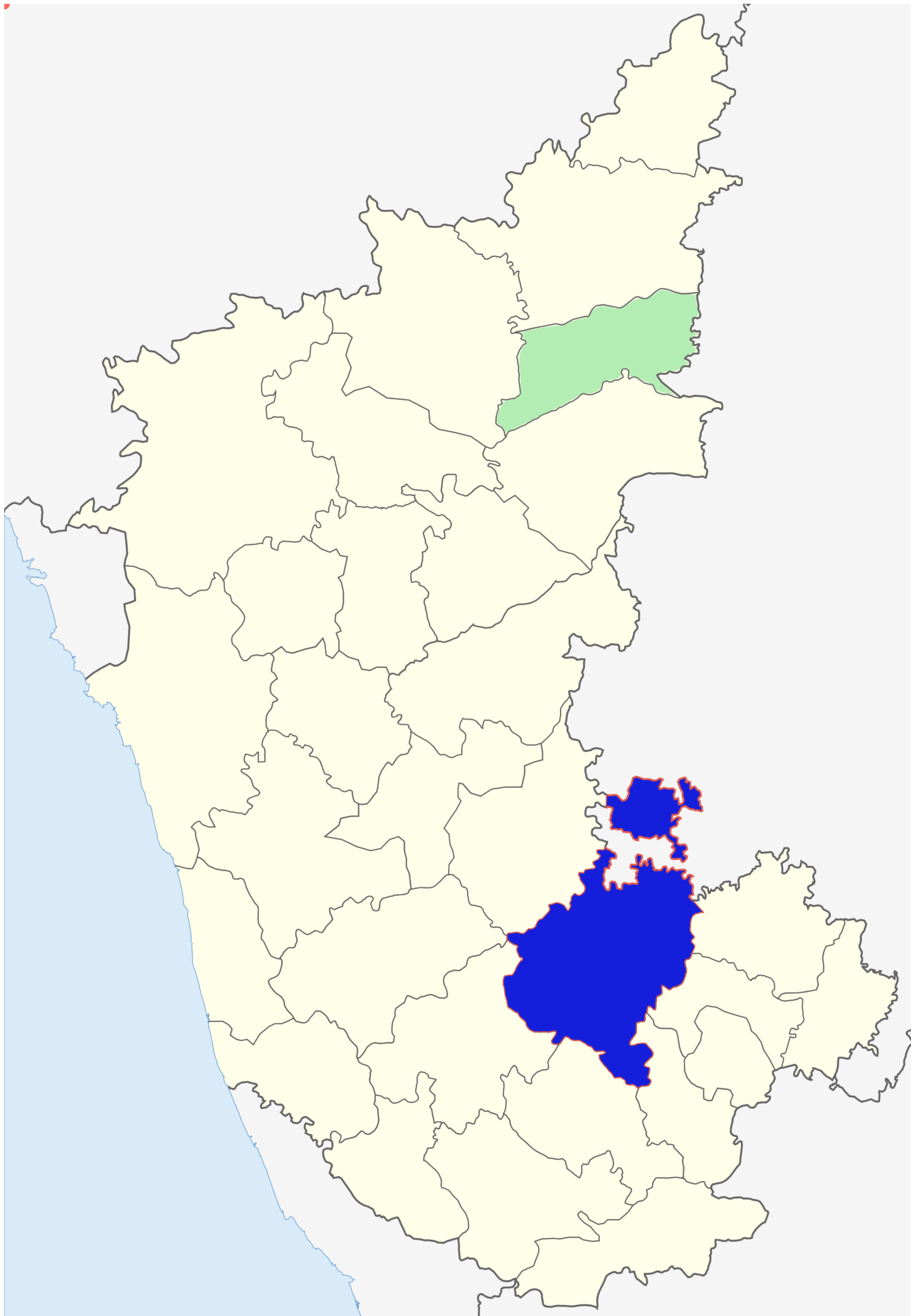
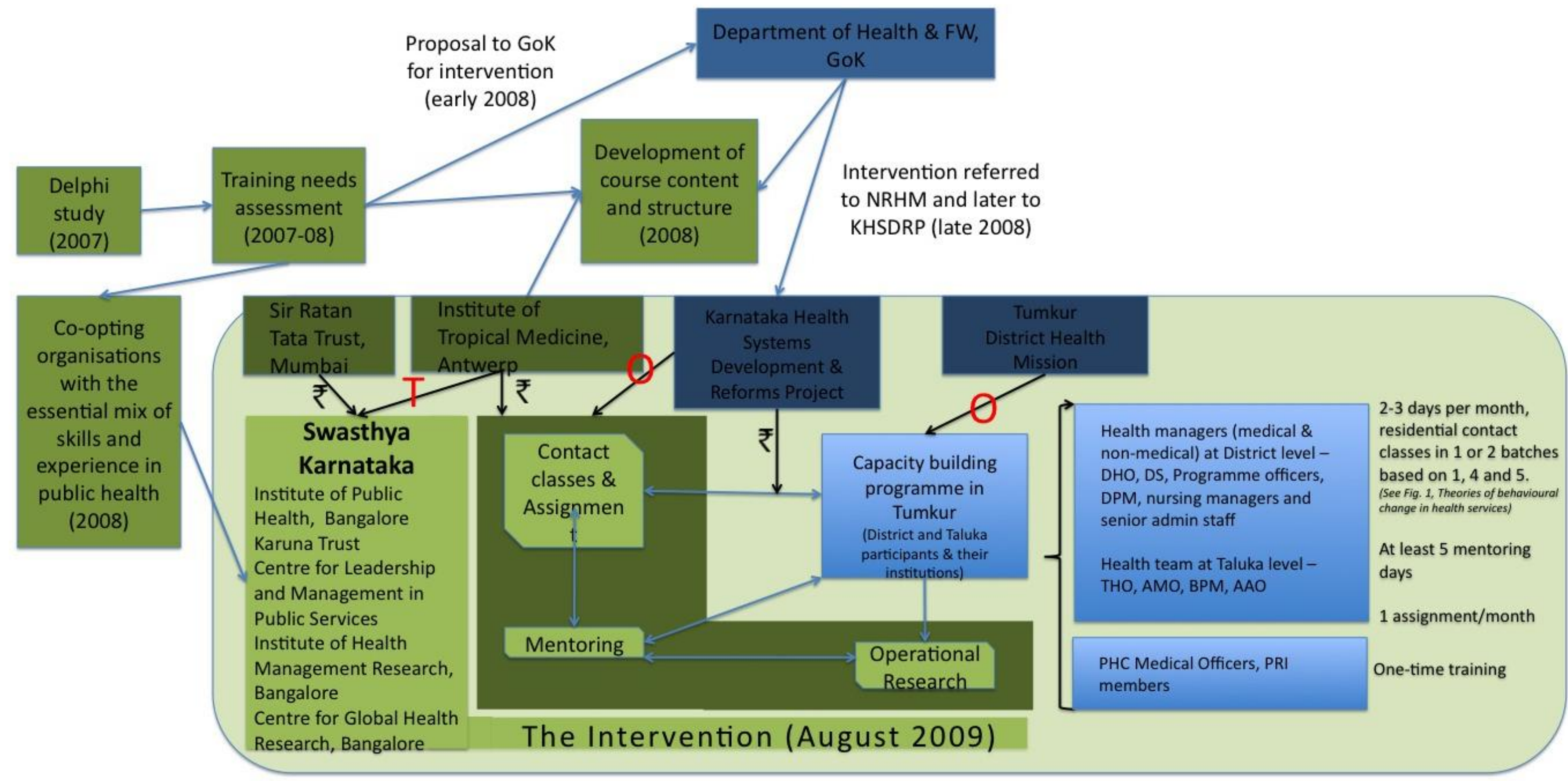


Structure of the intervention in Tumkur with key actors, relationships and timeline



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Legend

Blue – Government actors
Green – Non-Governmental Actors
₹ – Financial support
T – Technical support
O – Oversight
→ – Programme interactions
→ – Non-programmatic intereactions

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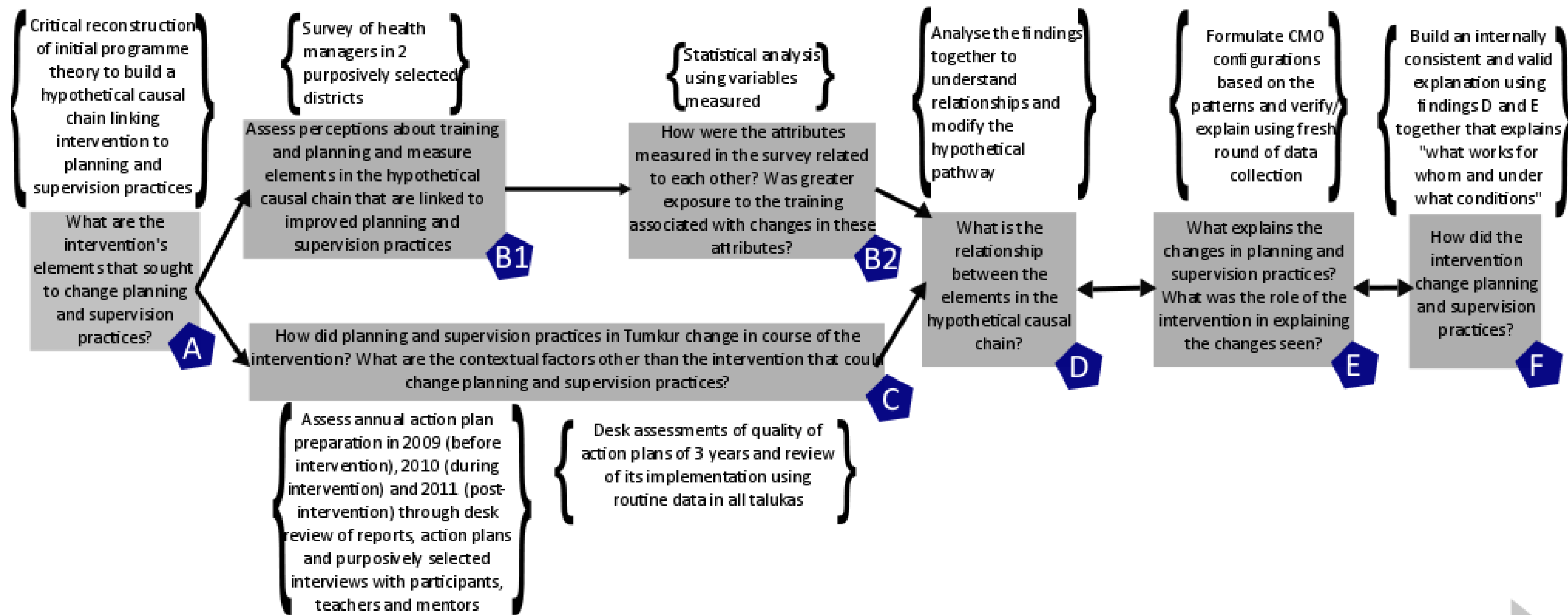

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Step 1	Assessing the scope of the evaluation and the appropriateness of theory-driven evaluation
Step 2	Critical reconstruction of the initial programme theory
Step 3	Choice of data collection methods and development of tools
Step 4	Assessing the initial action model: Evaluating relevance of programme design and degree of implementation
Step 5	Assessing the initial causal model: Establishing the causal mechanisms and contextual factors, and their interactions
Step 6	Translating findings into the refined programme theory

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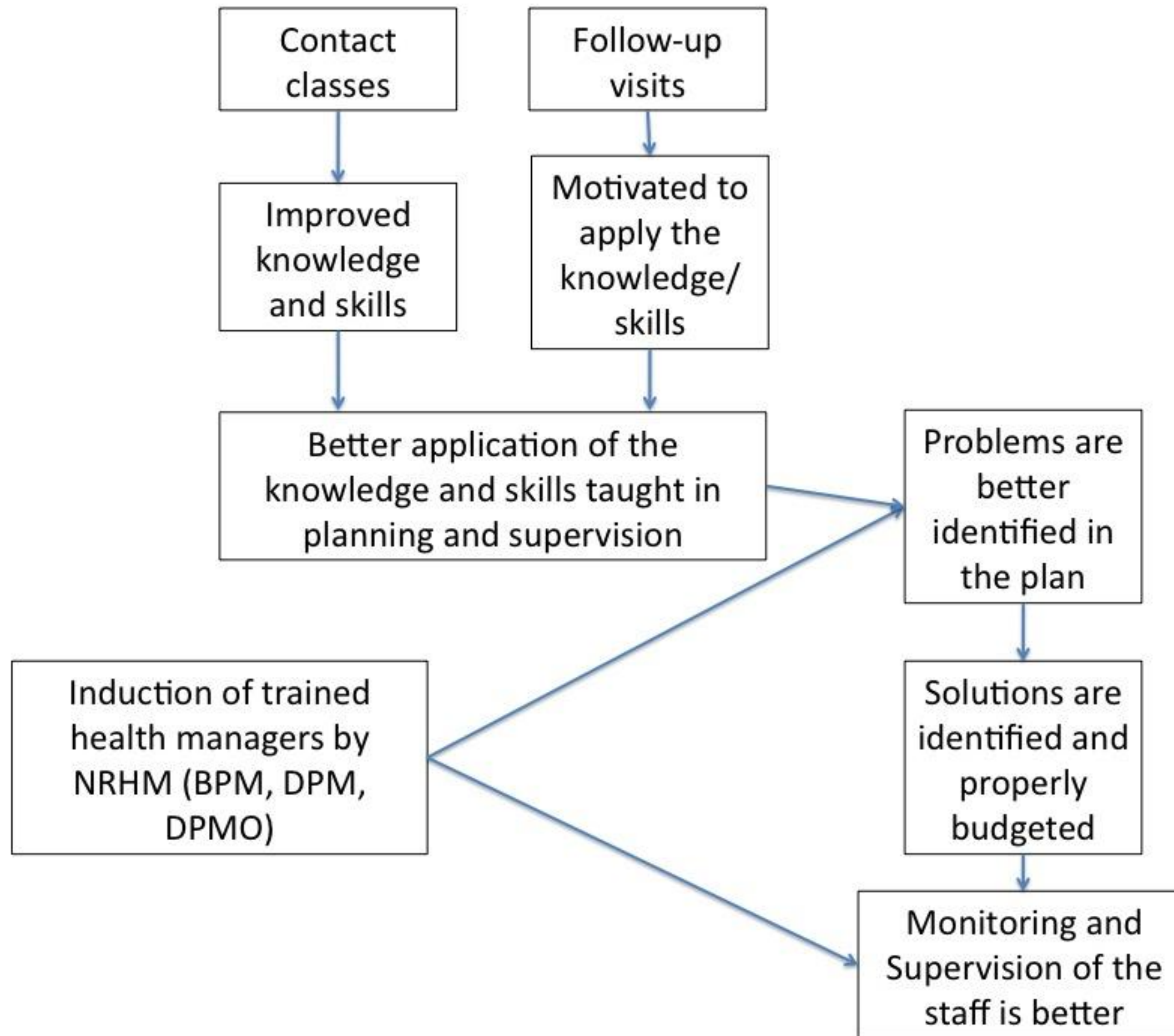

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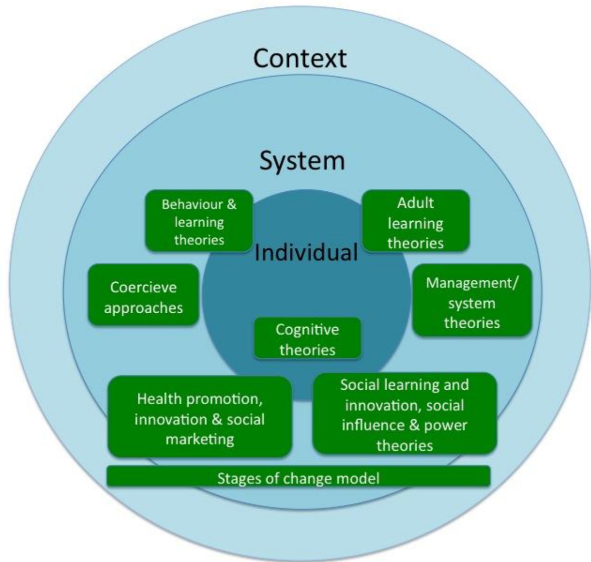
Theories of behavioural change in health services



Theories in relation to sphere of influence
Individual, System and context

Theory	Assumptions	Interventions based on theory
Adult Learning theories	Change occurs when individuals have personal experience with a problem and helped develop the solution	Develop guidelines through local consensus, small-group interactive learning, problem-based learning
Health promotion, innovation and social marketing theories	Behaviours can be changed with clear and attractive products and messages that meet a need of the target audience	Needs assessments, adapting change proposals to meet local needs, creating clear and attractive messages, and disseminating them via multiple channels
Behavioural and learning theories	Behaviours are a result of external stimuli	Audit and feedback, reminders, modelling correct performance, incentives, sanctions, removing factors that are demoralising
Social learning and innovation theories, social influence and power theories	Change occurs through the interaction and influence of important people, and through development of new social norms	Use opinion leaders or respected peers to disseminate guidelines, pressure from patients to use an innovation
Management theories, system theories	Errors can be prevented by improving the design of health systems and processes	Total quality management, total quality improvement approaches, changing structures and tasks
Coercive approaches	Change occurs because of pressure and control	Laws and regulations, licensing, budgeting, complaints procedures, and legal pursuits
Stages of change model, and the PRECEDE model	To change, individuals pass through stages (precontemplation, contemplation of change, preparation for change, action, and maintenance) and different interventions are needed at different stages	Predisposing strategies, to progress from precontemplation to contemplation (education activities, conferences); enabling strategies, to progress from contemplation to action (clinical guidelines); and reinforcing strategies, to progress from preparation to maintenance (audit and feedback, peer review)

Adapted from Rowe *et al*. 2005. How can we achieve and maintain high-quality performance of health workers in low-resource settings? *The Lancet*. 366(9490): 1026-1035.

Institute of Public Health, Bangalore 2010