PN-ACB-035

TECHNICAL ASSISTANCE TO INDIA FOR PVOH AND WACH ACTIVITIES

May 19-30, 1997

Robert S. Northrup, M.D.

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ACRONYMS

AIIMS	All Indian Institute of Medical Sciences
BASICS	Basic Support for Institutionalizing Child Survival
CA	Cooperating Agencies
EPI	Expanded Program on Immunization
HSA	Health Services Assessment
IIHMR	Indian Institute of Health Management Research
INTRAH	International Training in Health
IMA	Indian Medical Association
LR	Literature Review
MBBS	Indian equivalent of M.D. degree in U.S.
MODE	Mode Research Private Limited
MOH	Ministry of Health
MP	Madhya Pradesh (state)
NGO	Non-Governmental Organization
OR	Operations Research
ORS	Oral Rehydration Salts
PACT-CRH	Program for Advancement of Commercial Technology-Child & Reproductive Health
PVOH	Private Voluntary Organizations for Health
RFP	Request for Proposal
SPAA	PVO working in Deoghar, Bihar
SRI	Social & Rural Research Institute
SWACH	Survival for Women and Children Foundation
UNFPA	United Nations Fund for Population Activities
UP FP	Utar Pradesh - Family Planning
USAID	United States Agency for International Development
WACH	Women and Child Health
WHO	World Health Organization

PURPOSE OF TRIP

1. PVOH operations research on rural private practitioners—Workshop report on studies and results, technical assistance to Dr Pathak, IIHMR-Jaipur.

2. WACH contracting negotiations and technical discussions for bridging activities—Literature review and health services assessment.

BRIEF SUMMARY

Northrup provided input during the practice presentation sessions for the OR investigators from Kurji Holy Family Hospital (Patna, Bihar) and IIHMR on May 21, and assisted them with improving their presentations. On the next day he chaired the session on those studies, participated in the discussion, and provided a summary global perspective on the presentations and on the subject of efforts to improve private practitioner care. On May 26-27, he assisted Pathak at IIHMR in Jaipur in drafting final reports and publications and in preparing for the final survey analysis.

Regarding WACH bridging activities, Northrup met with USAID and INTRAH to review overall progress with Dr. Goyal (IIHMR), Dr. Viswanathan (SRI), and Drs. Lalit Nath, Rajiv Bahl, and Nita Bhandari on the literature review, and with SRI (once) and MODE (twice) regarding their health services assessment (HSA) proposals. Significant clarification of the purposes and desired methodologies for the HSA was achieved in preparation for the submission of revised proposals from both firms by June 19 and 20 respectively. Northrup also met with INTRAH staff and consultants regarding the protocol review bridging activity.

Northrup also reviewed the results of the national IMA survey on diarrhea case management with Dr. Sobti, and prepared a draft discussion for a future publication.

DETAILED REPORT

Arriving near midnight on May 20, 1997, Northrup attended the review sessions for the private practitioner workshop presentations on Wednesday, the following day. The presentations were less than ideal, particularly that by Dr. Pathak (who has indeed not finished the evaluation survey), but this made it all the better when, with some hard work Wednesday after the presentations and later in the evening, the presenters revised and dramatically improved their overhead transparencies and focused, improved, and cut down their presentations. As a result, they did a much better job on Thursday for the actual workshop. Attendance at the workshop was very good, with four MOH persons, the Ford Foundation, and a number of others in attendance, a total about 40 persons. Northrup chaired the private practitioner session (see agenda, Appendix A) during which the Kurji team (Sister Ann, Omprakash Verma, Dr. Mishra

from SPAA, Sarbani Chakraborty (BASICS consultant to Kurji), and Dr. Pathak (IIHMR) presented their work and results (Appendixes B and C). Discussion was lively, including discussion of the ethics of working with unlicenced practitioners. One may conclude that useful dissemination of the BASICS private practitioner oriented quality improvement innovations took place. Lots of interest in the methods, particularly our unique approach to training/behavior change, was evident.

At the workshop, Northrup met with Dr. Neena Raina (SWACH), who had supervised a study of reproductive tract infections which was presented. She indicated that she was planning to submit a proposal for the HSA, its lateness was caused by a delay in the RFP reaching her. This was confirmed subsequently by Mr. Bhutiani. Dr. Raina also described her organization's own substantial experience with village doctors, including some experience in training them in diarrhea treatment, with substantial success.

Later on Thursday, Northrup had a meeting with USAID and INTRAH staff to review the current status of WACH and the WACH bridging activities. The agreement is still not signed at the state level—this contrasts with what had been understood earlier, when BASICS had thought the project had been approved at the state level, but was awaiting national-level approval. Apparently the state level thinks the project and technical aspects are acceptable, but is still arguing about using a NGO as the implementing agency. Rajani Ved reported that the MP/MOH has now approved, in principle, the NGO idea, but is trying to put restrictions and control measures in place so as to in essence put the NGO under the MOH's thumb. USAID is fighting to retain a functional degree of freedom and is ready to give up the project rather than let the government throttle it as it has the UP/FP project. A deadline has been set by USAID for fielding the project—apparently August or September—which if not achieved, will result in the evaporation of the project entirely. This means that signing by MP has to occur within a very few weeks, or a timely startup will be impossible. Some sort of news should be available soon, either a green light or a cancellation.

An updating of the list of bridging activities was apparently sent to BASICS early in May, although Northrup had not received it prior to his departure. During the meeting this updating memo was reviewed. Various activities were discussed and the situation, in particular on the literature review (LR) and the HSA, etc., were reviewed. BASICS is in arrears with regard to the preparation of an updated budget for our efforts overall and should prepare something in draft in response to that item on the list immediately. BASICS is the only CA which has not filed its updated budget with Rajani Ved. Overall, the meeting was positive, although recognizing the delays in schedule which have already occurred due to the back and forth process with RFPs and proposals for the various diagnostic activities.

Northrup met with Dr. Goyal from IIHMR. Goyal is indeed planning to submit a proposal for the LR. His plans were reviewed and possible alternatives discussed.

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On Friday morning Northrup met with Stanley Musgrave and Dr. S. N. Mukherjee (an Ob/Gyn retired professor), as well as with other INTRAH staff (Meenakshi, Rashmi, Siobhan) who are involved in the protocol review activity, another of the bridging activities. They reviewed the sources of protocols currently available and the format and content of the product which has been planned. After some extensive discussion, a focused and practical format for the results was agreed upon. In Northrup's impression, this will be a very useful exercise and will produce a "best-compromise" set of protocols for use as standards for clinical and educational activities by health workers in WACH.

On Friday afternoon, Northrup met with MODE (Desajh, Talwar, Sushana) and reviewed their proposal with them. He had faxed a copy of comments to them prior to the meeting (see Appendix D). The comments emphasized the need to have a technical medical objective assessment of actual case management procedures, as well as in-depth interviews and focus groups. The discussion was very positive and productive, with good evidence of understanding and willingness to be responsive on their part. He also discussed verbally with them questions that they had regarding their community diagnosis survey proposal.

Saturday, Northrup met with Hema Viswanathan from SRI, following preparation of comments in writing (Appendix E). Again the meeting was characterized by good feeling and interchange, with the strong impression on his part as to her full understanding of what BASICS wanted and her willingness to make the effort to revise the proposal and to enlist an appropriate team of technical experts in order to strengthen the medical assessment component of the HSA. They agreed to a due date for the revised proposal, June 20, 1997. On the negative side, Viswanathan noted that she is going to shift her primary responsibility to running the Bombay (Mumbai) office of the parent commercial marketing company. She will acquire a house there, while her family will remain in her current house in Delhi. She will continue to spend time in Delhi and to manage SRI, but on a part-time basis only, with substantial distractions from her new responsibilities in Bombay. There is presently no senior investigator with substantial experience in the Delhi office at present to take over her managerial function, and she will be recruiting someone for that role. Knowing this information, BASICS must concern itself with the question as to whether SRI can perform at the level and scope of activities laid out in their proposal.

In the early afternoon, Saturday, Northrup met with Dr. Sobti. The survey results from the national IMA survey on diarrhea case management practices among IMA members are now drafted into a combination of verbiage and tables (Appendix F). The results are very interesting, showing a generally good level of knowledge and practices relative to diarrhea and ORS among Indian practitioners, and a clear, statistically significant improvement in the level of knowledge related to participation in training about these topics (either the massive IMA training or other training on the same topic). They exchanged new receipts and money as per earlier receipts. Dr. Sobti confirmed that he will analyze the data from Madhya Pradesh practitioners for use in planning WACH training efforts and work with the private sector.

Later that afternoon Northrup met again with Viswanathan at SRI, along with Dr. Lalit Nath, Dr. Nita Bhandari, and Dr. Rajiv Bahl. This is the team which Hema has recruited to carry out the child health and neonatal health portions of the LR. They reviewed a draft proposal which the team had prepared and discussed possible variations, as well as the need for restrictions related to a limited budget. It appears likely that they will come in with a budget which will be in the range of $20,000 to $25,000 for the LR, an amount well in excess of what USAID has budgeted for this activity. With the HSA, in its new, more medical character leading to a budget probably in the $30,000 range, BASICS will have a much larger demand for the WACH field support funds than in the past.

On Sunday, May 25, Northrup met with Stanley Musgrave to discuss the possibility of his working with us as a local part-time technical representative to facilitate the effective and timely completion of the bridging activities. Musgrave is quite comfortable with BASICS characterization of his potential role, that of monitor and quality supervisor, as well as possibly to serve as someone to pull things together into a formulation for direct application to WACH planning after various study efforts have been completed by the contractors, whoever they may turn out to be. He will be in Washington the morning of June 17 (Tuesday) and will be available to meet with BASICS that morning.

On Monday morning, May 26, Northrup went to Jaipur and spent the next two days working with Dr. Pathak and his assistant J.P. Singh at IIHMR reviewing the current draft report and suggesting revisions and additional analyzes, planning in more detail the final assessment household and practitioner surveys, planning a proposal to USAID for some additional funds to complete the activities and reports (apparently there is some unconsumed PVOH budget which might be available), and planning the preparation of papers for publication. Some comments and draft sections were prepared in writing (Appendix G). Northrup also met with Dr. Rushikesh Maru, the IIHMR director, to review his plans for development of IIHMR as an institution and as a potential resource for BASICS activities in India. IIHMR is about to become a designated WHO cooperating center in district management, and is also discussing with UNFPA the possibility of a project in which a whole district would be managed by IIHMR as a model. The institute is planning to add seven to eight faculty members in the next half year and is focusing on having in-depth strength in the areas of health finance (three persons) and reproductive and child health (eight persons).

On Wednesday, May 28, Northrup reviewed documents and met again with Dr. Sobti regarding the diarrhea survey. Northrup agreed to draft a discussion and also to ask Dr. Pathak to analyze specifically for MBBS practitioner behaviors in order to use the results to improve those behaviors in the IMA membership. He also met a second time with MODE (Ms. Dosajh, Ms. Sushana) and a consultant they have been negotiating with to take a leading role in the medical component of the study, Dr. Singh, an additional professor of Community Medicine at AIIMS. He has extensive experience and speaks knowledgeably of activities of the kind we are planning. If he is ultimately brought in to the team, he should add the skills and perspective which are needed to transform the MODE proposal into the more medically oriented assessment activity

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which BASICS and MotherCare have in mind. It was agreed that their due date for submission of the revised proposal would be June 19, 1997.

On Thursday, Northrup met with Dr. Jon Rohde and Ms. Lucia Tabor to discuss PACT-CRH private sector work and to obtain his (Rohde's) perspective on our projected MP activities. Northrup also spoke briefly with John Rogosch and Rekha Masilimani at USAID. Northrup prepared his trip report from the visit and dealt with logistical complications regarding his departure flight (delayed by seven hours). The following morning (May 30), Dr. Northrup left for Washington.

TASKS REQUIRING FOLLOW-ON ACTION

1. Review final report on Kurji studies when submitted by Sarbani Chakraborty. Discuss with her between June 2-6. Facilitate preparation of papers for publication.

2. Maintain contact with Dr. Pathak to facilitate timely completion of activities.

3. Support IIHMR proposal for some additional funds with Dr. Ved.

4. Draft papers for publication from IIHMR study.

5. Draft paper for publication from Sobti national diarrhea survey.

6. Respond to further analyses on MP diarrhea case management by private practitioners.

7. Send EPI protocols to INTRAH to add to the available protocols.

8. Prepare updated report for USAID on bridging activities. Submit updated budget and financial report to USAID.

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APPENDIXES

APPENDIX A

AGENDA

TECHNICAL ASSISSTANCE UNIT, PVOH-II PROJECT
INDIAN INSTITUTE OF HEALTH MANAGEMENT RESEARCH, JAIPUR
TENTATIVE AGENDA FOR THE WORKSHOP ON OPERATIONS RESEARCH STUDIES
ON: MAY 22, 1997
AT INDIA INTERNATIONAL CENTER,
40, MAX MULLER ROAD, NEW DELHI.

TIME	PRESENTATION TOPIC	PRESENTED BY:
9.00 - 9.15 A.M	REGISTRATION	
9.15 - 9. 30 AM	INTRODUCTION AND WELCOME	Dr. R.S. Goyal
9. 30 - 10.10 AM	STRENGTHENING OF PRIVATE MEDICAL PRACTIONERS (BIHAR)	KURJI HOLY FAMILY HOSPITAL, PATNA.
10.10 -10. 50 AM	STRENGTHENING OF PRIVATE MEDICAL PRACTIONERS. (RAJASTHAN)	INDIAN INSTITUTE OF HEALTH MANAGE MENT RESEARCH. JAIPUR
10. 50 - 11. 30 AM	DISCUSSION	DISCUSSENT: ~~Dr. Rameshwar Sharma Director, State Institute of Health & Family Welfare, Jaipur.~~
11. 30 - 11. 45 AM	TEA BREAK	
11.45 - 12.10 PM	REPRODUCTIVE TRACT INFECTION- HARAYANA	SWACH FOUNDATION, CHANDIGARH.
12.10 - 12. 50 PM	REPRODUCTIVE TRACT INFECTION (TAMIL NADU)	TNVHA, CHENNAI.
12. 50 - 01. 30 PM	DISCUSSION	DISCUSSENT: Dr. Shreen Jijeebhai, Mumbai.
01 30- 01.45 PM	WRAP UP	Ms. Rekha Masilamani Chief, Health Service Division, USAID, Delhi
01 . 45	LUNCH	

APPENDIX B

DRAFT REPORT ON THE OPERATIONS RESEARCH PROJECT BY KURJI HOLY FAMILY HOSPITAL

IMPROVING PRIVATE HEALTH PROVIDERS CASE MANAGEMENT OF ARI, DIARRHEA AND FEVER

OPERATIONS RESEARCH PROJECT, BIHAR, INDIA

KURJI HOLY FAMILY HOSPITAL, PATNA, BIHAR
SPAA, DEOGHAR, BIHAR
ADHAR, BETTIAH, BIHAR
THE BASICS PROJECT, VIRGINIA, USA

FINAL PROJECT REPORT
(FIRST DRAFT)

MAY 5, 1997

Executive Summary

Between May 1996 and May 1997, an operations research project was undertaken to study the short-term effectiveness of new health system approaches for improving child morbidity and mortality in rural Bihar. The study focused on private health providers (PHPs), and strategies for involving them in Bihar's unfinished agenda for child survival. Studies show that private practitioners provide the bulk of care in rural Bihar, and in areas where infant and child mortality rates are very high. At a time when government resources are constrained, involving private providers in reducing the burden of disease from childhood illnesses is a cost-effective and sustainable approach

A second and related objective of the OR study was to determine whether community-based NGOs could function in a new role of liaison and facilitator between the community and the providers. This would require a shift from their previous role as direct deliverers of health services. The study was carried out by three Bihar-based non-governmental organizations (NGOs) with technical assistance from the BASICS Project, USA, and IIHMR, Jaipur, India. The Kurji Holy Family Hospital functioned as a support service organization (SSO) working directly with community-based NGOs (SPAA and ADHAR). The study was carried out in 60 villages in *West Champaran* district *(Bettiah)* and 50 villages in *Dumka* district of Bihar.

The first step in the research process was a baseline assessment in the areas chosen for the study. A total of 600 households in *Bettiah* and *Dumka* were interviewed on topics such as socioeconomic status, health status of under-five children, household utilization of private health providers (PHPs), and mothers and PHPs case management practices for childhood illnesses (ARI, diarrhea and fever). The baseline assessment found: (i) the majority of households in the research area have poor socioeconomic status, (ii) under-five children suffer from multiple illnesses, particularly ARI + fever, and ARI+diarrhea + fever, (iii) household utilization of PHPs is high (86%), (iv) mothers and PHPS performed well on some case management practices, and poorly on others (v) the case management practices on which they performed poorly were closely related to mortality from childhood illnesses.

Using the results of the baseline assessment, interventions focusing on training PHPs, contracting with them to ensure that providers practiced appropriate case management practices, and monitoring of provider behavior were formulated. Two training seminars (diarrhea, ARI and fever) were organized in Bettiah and Dumka. The PHP participation rate at these training seminars was greater than 50%. Participation rates in Dumka were higher than in Bettiah for both seminars. The training was followed by distribution of job aids (checklists) among providers and contracting with them to practice targeted case management behaviors. Monitoring of provider behavior was initiated two weeks after the contracts were completed, and continued up to the time of the final evaluation.

The evaluation of the training session indicates the following: (i) the training sessions were very well received by the PHPs, (ii) the diarrhea training session changed knowledge of case management practices, specially regarding the use of ORS/SSS for combating dehydration (iii) the ARI training session was much less successful at changing knowledge of how to diagnose and treat ARI and fever, (iv) the seminars have generated demand among PHPs for additional training.

Provider participation in contracting was high (100% in both Bettiah and Dumka). However, in both areas, providers refused to adhere with selected behaviors. Refusal was related to provider perceptions regarding the relevance of the case management practices for specific cases. For example, providers mentioned that they would not recommend continuation of breastfeeding in cases where the mother was ill. This was because they believed that the mother's viruses would enter the child's body causing more illness. This is important information, and percentions harbored by providers, and their effects on selective application of case management knowldge should be given more attention in the future.

The main results of the operations research are as follows:

(a) In both Bettiah and Dumka, the interventions produced positive changes in providers disease-specific and non disease-specific case management practices. The analysis of pre and post intervention results for disease-specific case management practices indicate that in Dumka, which had a higher number of ARI + fever and ARI cases, provider performance on measuring respiration with a watch or time improved significantly (+57%). Other important ARI and fever related case management practices on which improvement were seen in Dumka are as follows: checking fever with a thermometer (+23%), taking the child's clothing off for examination (+27%), and counseling mothers about danger signs (+21%). Unfortunately, provider performance on checking the child's chest with a stethescope for ARI cases recorded negative changes (-40%). It is possible that providers believe that checking the chest with a stethescope, and measuring respiration with a watch are interchangable case management practices. In Bettiah, where the majority of children suffered from diarrhea and fever, change was recorded in checking fever with a thermometer (+27%), feeling the abdomen (+25%), asking about the history of diarrhea (+7%), and vomiting (+7%), and recommending ORS/SSS (+50%).

(b) In both Bettiah and Dumka, substantial positive changes were seen in non-disease specific case management practices. Some of these practices include: asking about the history of the illness, asking about the care given at home, counseling regarding how to administer medicine, and types of foods and fluids to be given during the illness. In Bettiah and Dumka, 33% and 44% improvement was seen in asking about the history of illness, and asking about the care given at home respectively. Changes were seen in all counseling practices. Statistical comparison of mean scores for examination and counseling practices demonstrate that the differences before and after the intervention are statistically significant ($<.05$).

(c) Comparison of pre and post intervention results for providers participating in the interventions with providers not participating in the interventions produced interesting results. The results demonstrate that providers who did not participate in the interventions also improved their perfromance on most case management practices. Since the non-intervention group was is close proximity to, and in frequent contact with providers participating in the inteventions and CHWS, these changes are most likely attributable to these interaction. However, the providers in the intervention group improved their performance much more than did the providers in the control group. The differences were particularly large for important case management practices such as measuring respiration with a watch or timer (Dumka), asking for the child's immunization card, recommending immunization, counseling mothers on how to administer medicine, and types

of fluids to give during illness, danger signs to look out for, and asking if the mother had any questions (Bettiah and Dumka).

(d) From the perspective of program formulation, it is relevant to know if implementing both interventions together is more effective than implementing one or the other. Results from Bettiah and Dumka indicate that providers who participated in both the interventions (training + contracting) did not necessarily perform better than those providers who only participated in the contracting. In Dumka the training was marginally more effective, with providers participating in both interventions performing better than their counterparts (only contracting) on 12 out of 22 case management practices (54%) In Bettiah, those who had participated in training + contracting performed better than their counterparts on only 9 out of 23 case management practices (39%).

(e) One of the unexpected and highly positive effects of the interventions is provider participation in community health activities such as health education, and joint meetings with CHWs to discuss strategies for improving community health. Sixty-three percent of providers in Dumka participated in *Mahila Mandal* meetings compared with 22% in Bettiah. Provider participation in CHW meetings in Dumka was also higher than in Bettiah (45% for Dumka compared with 22% for Bettiah). In both Bettiah and Dumka, the topics most commonly discussed by providers in *Mahila Mandal* meetings include: use of ORS during diarrhea, water and sanitation, approaches to preventing childhood illnesses, and women's health.

(f) Finally, results from a multivariate analysis of changes in case management scores for selected providers and background characteristics such as education, professional qualifications and experience did not find any of the correlations statistically significant. Additionally, the R-square for the model was only 43% indicating that background characteristics explained less than half of the changes in provider case management scores. The sample size for these analyzes were very small (15 in Bettiah and Dumka). This might have affected the validity of the results obtained from the multivariate analysis.

Micro studies in other parts of India indicate that the profile of private providers in other states of India matches that of private providers targeted in the OR study. Poor households in other states of India such as Madhya Pradesh, Rajasthan and Uttar Pradash share many of the socioeconomic characteristics of the households included in the study. These factors make the results of the study generalizable, and replicable in other states of India. In the direct utilization of study results for project formulation, the following lessons learned from the OR study should be taken into account:

(a) It is important to phase activities appropriately, and allocate adequate time for each activity. For example, there should be enough time to fully analyze the results of the baseline assessment before designing interventions such as training seminars. This will allow program planners to design well-targeted and cost-effective training programs. Time should be allocated for periodic process evaluation of the interventions, and modification of interventions as necessary.

(b) During baseline data collection, every effort should be made to compile detailed

information on the magnitude of poor case management practices among providers, and the determinants of these behaviors. Understanding the nature of the problem, and its complexity is closely related to formulating focused interventions that will have optimal impact. In the absence of such efforts, there is a danger that interventions will not be cost-effective

(c) In replicating the results of the study elsewhere, the important role of the CHWs and the organizations to which they belong should be taken into account. Both community-based NGOs involved in the study have been working in Bettiah and Dumka for 5-10 years. The CHWs are known to the communities and the providers, as are the NGOs. Therefore, the foundation on which to implement the interventions was already present. If this infrastructure is not available, then 6 months to 12 months may be required to build the relationships before the interventions can be successfully implemented.

APPENDIX C

DRAFT REPORT ON THE OPERATIONS RESEARCH PROJECT BY THE INDIAN INSTITUTE OF HEALTH MANAGEMENT RESEARCH

DRAFT REPORT

11 HR 2/3 CT

5/91

Documents

1. Discuss priority topics for final evaluation.
2. Prepare drawing tables of pre/post comparisons.
3. ~~Date~~ Draft outlines of discussion section of final report.
4. Draft titles + outlines of papers for publication.
5.

IMPROVING HEALTH SERVICE DELIVERY IN VILLAGES BY IMPLEMENTING A MODEL OF NETWORKING AMONG LOCALLY AVAILABLE HEALTH PROVIDERS, COMMUNITY ORGANISATIONS AND BENEFICIARIES

(An Operations Research Project under the PVOH-II Scheme)

A Draft Report on the Base-line Survey Results and Subsequent Intervention

PRASANTA PATHAK, Ph.D.
Associate Professor

J.P. SINGH
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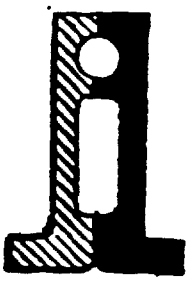
Robert S. Northrup, M.D.
USAID Technical Officer



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Areas of critical concern which need more than just revision:

1. Add section on care seeking of mothers (at what stage mother took care outside)
2. Analyze for trained + untrained (formal vs informal + unqualified) by ~~link~~ relating provider survey with VCRs so that practitioner quality tables can be created to show unqualified doing practices!!
3. Nature of the requirements for the pregnancy related component (page ~~26~~ 26-26) Need clarification!!
4. Clarification of which providers were interviewed and which were represented in VCR information — (see 2 above) — page 25-27.

   THIS IS THE MAJOR CURRENT DEFICIENCY IN THE STUDY - MUST BE ABLE TO SEPARATE DATA ON QUALIFIED ALLOPATHIC FROM UNQUAL ALLO + ISM + OTHER — must include ANM with QUAL ALLO
5. Need to include items not mentioned by provider in provider survey results (ref. to ~~std~~ standards of WHO/UNICEF)
6. Need to add to methodology section several critical items (p 8)
7. Injection tables may be from more than one visit
8. Need for more detailed ~~and~~ description of ~~the~~ behavior change process (Training, behavior monitoring, monitoring & feedback) for all three groups of ~~subjects~~

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ACKNOWLEDGEMENT

This project is an operations research project, implemented under the PVOH-II Scheme of Govt. of India, sponsored by the USAID. The authors first of all like to thank Dr. R.S. Goyal and Dr. R.K. Pal, present and ex-coordinators respectively of the PVOH-II (TAU), who gave us the scope to implement the project. Lot of thanks to the USAID office in New Delhi for providing valuable technical assistance through Dr. Robert S. Northrup who is an excellent medical professional cum visiting consultant to this project. In fact, his expertise has been really essential to fine-tune the child health management aspects of the project. His benevolent contributions have improved the quality of the project to a great extent.

The other medical expertise that I have utilised has come from Dr. (Mrs.) Saroj Acharya, a gynaecologist/obstetrician, practising in Jaipur. She was at our Institute earlier. My sincere thanks to her for devoting good amount of her valuable time in shaping the project. She was also a resource person in the trainings, conducted during intervention period.

Our special thanks and appreciation go to Mr. S.P. Agarwal, Project Director of the Bhoruka Charitable Trust (BCT). His support was vital for implementing the project. Also, the two PVOH-II coordinators at BCT, namely Mr. Amitabha Banerjee and Mr. Anup Badola, have given cooperation. Special thanks to both of them. We must thank Mr. Balwan Singh and Mr.Bhika Ram, the two most active persons at BCT, without the cooperation of whom, the intervention would have become really difficult. Our appreciation goes to the survey team of the BCT, efficiently led by Mr. Prakash Birla.

We express our special gratitude to all the resource persons who gave training. They include Dr. M.L. Charan, Dr. S. Daiya, both from BCT, and Dr. Mohan Lal Meena, from Rajgarh Govt. hospital.

Prof. R.M. Maru, Director of our Institute has continuously shown interest in this project and suggested improvement time to time. Similar encouragement has come from Prof. S.D. Gupta, Dean of our Institute. We express our sincere gratitude to both of them.

Full cooperation has come from the Computer Section, the Administration and the Accounts Divisions. Our special thanks to Mr. K. Mohan, Manager (Computer Section), Mr. C.K. Wadhwa, Ms. Piya and Ms. Rekha in the Computer Section. My special appreciation goes to Mrs. Sudha Behal who has done an excellent typing.

PRASANTA PATHAK, Ph.D.
PROJECT CO-ORDINATOR

IMPROVING HEALTH SERVICE DELIVERY IN VILLAGES BY IMPLEMENTING A MODEL OF NETWORKING AMONG LOCALLY AVAILABLE HEALTH PROVIDERS, COMMUNITY ORGANISATIONS AND BENEFICIARIES

1.0) INTRODUCTION

Availability of qualified medical practitioners at door-step in villages is a rare phenomenon in India. Qualified practitioners are available only at CHCs, PHCs, private/government clinics/dispensaries, nursing homes and hospitals which are mostly located remotely. However, the local health providers, which include the ANMs, the MPWs, the indigenous system of medicine (ISM) practitioners, the unqualified practitioners, the trained and the untrained dais are amply available at door-steps in almost all the Indian villages. In fact, they are the first-line health providers whom the villagers approach after failing to get cured the disease problems through home treatments. They also act as an interface between the formal sector of qualified practitioners and the consumers of medical and health services i.e. the beneficiaries. The vital role, they play in-between, is, however, neither systematised nor controlled by definite rules and regulations. Systematising the delivery of health services by this informal service sector is essential for improving the health service system in its totality.

The question, is how such services could be systemized so that its quality could be ensured and also its utilization could be made more effectively. Present operations research study tries to answer this question by applying a model of networking among the local health providers, the community groups and the beneficiaries at selected villages in Rajgarh block of Churu district in Rajasthan. It also attempts to explore the scope of utilizing a local influential private voluntary organization (PVO) as a catalyst cum co-ordinator in the networking effort. The PVO chosen for our study, is Bhoruka Charitable Trust (BCT), situated at Bhorugram in the Rajgarh block. The organization is providing various social and health services since 1962. The obvious basic assumption in this study is that a systematically organized medical and health information sharing through networking among all functioning

health service providers and community groups will help improvement in the quality of available medical and health services at door-step and more effective utilization of the available service facilities.

2.0) RATIONALE

While the government health providers have its own inherent limitations in attending to all public health problems, the voluntary and the private health providers, including both the qualified and semi-qualified, have immense scope to attend to the public health problems that are unattended by government health providers. They are, in fact, part of the total health system and could be conveniently utilized as resource facilities, available almost at door-steps in many village. Such facilities are already functional independently in different villages. What basically is absent at present in many situations is that these are not working in an organized way with systematic links in-between. In any case, organizing the private and the voluntary health service facilities is essential to make it function systematically with necessary mutual understanding about certain uniform scientific norms of service provision.

Methodology of organizing in this context, however, is not known. Also, it is not known how effectively these facilities could be integrated with the health service consumers or the community groups, representating the consumers, so that the latter get the best possible service under given resource and environmental constraints.

Present study gains importance in this context. It attempts to develop a methodology where a locally influential PVO is made to play the role of a catalyst cum co-ordinator in the effort of organizing the local health providers and integrating its functioning in consonance with the needs of the consumers. Given that the local health providers are predominantly semi-qualified or unqualified in respect of their medical/health profession and the consumers seek health services more as per the existing social beliefs and customs that the scientifically established facts, the development of the networking methodology demands particular emphasis on improving the quality of service and also greater utilization of the available health services. The purpose behind involving a local influential PVO in developing and

implementing the methodology is that it is one of the most important stakeholders in implementing major health and developmental projects in the study areas. Its services are already recognized by various local private as well as voluntary health service facilities. The villagers in the project area are also well acquainted with the credibility of the PVO. Besides, the PVO has ~~got the~~ long term interest to sustain the development ~~in~~ the area. ~~Additionally, it is thought that~~ the PVO can as well supervise and monitor implementation of the methodology quite closely,

3.0) STUDY OBJECTIVES

A. **General Objective:**

Improving the quality of locally available health care services as also the level of its utilization by appropriate networking among the local health care providers, the community groups and the community members.

B. **Specific Objectives:**

1) Identify the key health care providers (both preventive and curative) whom the community members consult for solving the most common health problems and assess their service quality and utilization level.

ii) Develop a model of information sharing through networking among the local health care providers, the community groups and the community members by involving a locally dominant and resourceful PVO as a catalyst cum coordinator.

iii) Test the effectiveness of the model towards improving health seeking behaviour of the community members, greater information sharing among the stakeholders, better case management at home ~~as well as outside, enhanced interaction with qualified health care providers~~ and ~~greater~~ concern over quality of the ~~available health~~ services.

iv) Test the effectiveness of the model in capacity building of the catalyst cum coordinating PVO -- particularly in terms of organizational, motivational and educational capabilities.

v) Evaluate the feasibility of the model in a larger service area.

4.0) METHODOLOGY

4.1) Target Groups:

~~Considerations on the~~ manageability of the study within given time and financial ~~constraints have restricted~~ the focus of the study to ~~only~~ three most common child health problems viz. diarrhoea, fever/malaria and respiratory problems/pneumonia and also mother health problems related to pregnancy. ~~It is worth mentioning at this place that~~ the World Health Organization (WHO) and the UNICEF ~~have already~~ ~~set~~ specific standards for effective management of ~~the~~ three child health problems (ref.to the document entitled "Management of Childhood Illness " by WHO Division of Diarrhoeal and Acute Respiratory Disease Control and UNICEF).

4.2) Study Design:

The geographical coverage of the study has been kept restricted to 60 villages in the Rajgarh block of the Churu district in Rajasthan -- 40 under the USAID-funded Private Voluntary Organizations for Health, Scheme-II (PVOH-II) and 20 outside the Scheme. The study design, as shown in the following table, is quasi-experimental with 20 villages under the PVOH-II as control, another 20 villages under the PVOH-II as case and 20 non-PVOH-II villages as modified case.

RESEARCH DESIGN

Group of Villages	Description of Villages	Proposed plan of activities		
		A1	A2	A3
I	Twenty villages under PVOH-II, taken as control	Base-line survey	No intervention	End-line survey
II	Twenty villages under PVOH-II, taken as case	- do -	Intervention, mainly by organising number workshops and training sessions	- do -
III	Twenty villages, served by BCT outside PVOH-II, taken as modified case	- do -	- do -	- do -

The main reason behind choosing a modified case group of villages and deviating from the usual ~~quasi~~-experimental design is to check ~~wither~~ the networking methodology, to be developed in this study, is equally effective in improving service

quality and usership in non-PVOH villages, ~~i.e. the villages that are less privileged than the PVOH ones~~. Basically, the design is a generalization over standard quasi-experimental design and has much greater utility in drawing extensive conclusion.

Grouping of the villages into three categories have been done in such a way that health facilities of different types available in one group are more or less similar to those available in any of the other two groups. Epidemiological, socio-economic and cultural characteristics of the villages in all three categories have been assumed similar as all belong to the same block, ~~having~~ more or less uniform geographical and socio-cultural features. Geographical contiguity of the villages in each group has been maintained and the areas for all groups have been delineated in such a way that spill over effect of intervention remains as low as possible.

4.3) Survey Design:

As per the base-line survey report (refer to the Base-line Survey for the Comprehensive Rural Health Development Project Under PVOH-II Scheme at Rajgarh Tehsil: A Report", prepared by the Indian Institute of Health Management Research, Jaipur, December, 1992), covering the eligible couples in the age group of 15-44 years in 1000 households, the dominant causes of sickness in the PVOH-II areas in the second half of June, 1992 were found out to be fever/malaria (16% of the incidences of sickness), gastro-intestinal disorders (15% of the incidences), respiratory ailments (11% of the incidences), diarrhoea/dysentry (8% of the incidences) and measles (8% of the incidences). The reference period was last three months prior to the survey. Of the total incidences of sickness, only about ~~19.5~~% had treatment from Govt. Hospital/PHC/SC and BCT hospital. Nearly 30% had treatment from the ~~traditional~~ practitioners (including Ayurvedic ones) and 10% had it from the chemist shops. The remaining were treated at home.

The report, however, could not give a realistic estimate on the percentage of sicknesses due to pregnancy/delivery related and other gynaecological/obstetrical problems. The percentage was reported as only 2%. This has been expected to be much higher, given that 97% deliveries took place at homes and 90% of it happened under the supervision of untrained persons. Also, it was observed in the survey that

out of the total deaths occurred in the two year period prior to the survey. 25% were due to unknown causes. This is indicative of the weakness in the diagnostic aspects of service delivery.

These observations together gives an overall impression that roughly 30% of the cases of sickness among the children are receiving treatment from the qualified medical practitioners. These practitioners include all those who had formal training in modern/ayurvedic/homeopathic system of medicines. As per the initial understanding of the credibility of the BCT and the extensive services provided by it through involvement of the local people, it was thought during preparation of the study proposal that the percentage could be increased to 60% through nine month intervention. Accordingly, the sample size is calculated.

Diarrhoea, being the rarest among the three focused child diseases, it is decided to choose a sample size of 52 diarrhoeal incidences from each group of villages. The reference period is taken as 15 days prior to the time of survey and the method of sampling has been inverse sampling. The formula, used for finding out the sample size is given in the Appendix. The chosen sample size allows to have 95% confidence on the conclusion to be drawn on the significance of the changes to be brought about through intervention. The calculation of the sample size incorporates necessary corrections, based on the assumption of 30% error due to non-response and the effect of survey design. It has been understood that in the process of identifying the required number of diarrhoeal incidences, other more common disease types focused in the study, would get identified in ample numbers and drawing conclusions with 95% confidence on the changes to be brought about through intervention will be meaningful.

With the intention to improve the quality of services at the ante-natal and natal stages of pregnant women, it was proposed that there would be sufficient intervention effort for raising the percentage of births under trained supervision from the existing 10% to 30%. This has necessitated choosing a sample of at least 22 women who are either currently pregnant or given birth (live or still) in the last six months prior to the survey, from each group of the villages (the formula for

sample size calculation is given in the Appendix). The size of the sample has been worked out after incorporating necessary correction for presumed 30% error due to non-response and design effect.

As per the demographic profile of the study area, as brought out through the referred base-line survey, conducted in 992, it was conjectured in the proposal that about 1550 households would have to be covered in each group of villages during both the pre-intervention and the post-intervention surveys, so as to have the required samples of children and mothers. It was felt essential that these households had to be chosen from villages of all sizes, keeping a match with their population sizes.

4.4) Survey Instruments:

The study objectives necessitate collection of information under two broad heads (1) pattern of home management of the focused child and mother health/disease problems and (2) pattern of management by the health service providers when they come across the focused health/disease problems. While the information under the former category could be had by asking the mothers a combination of structured and unstructured questions, the information under the latter category could best be had by conducting exit interviews on the focused/targeted health service receivers or by observing directly the prescribing behaviour of the health service providers. Both of these methods of data collection are difficult to implement here as most of the rural health service providers do not have clinics or practising chambers of their own, and generally remain busy in providing door-step services. Verbal Case Review (VCR) method has been adjudged the most suitable here as it only needs identifying the diseased mothers or their children in the reference period, and take down in detail the history of how the cases have been managed by the health service providers. A semi-structured questionnaire has been used for VCR.

However, it is not sufficient to just take down the history from the mothers. The reason is that it may get biased by simply the mother's account and also may get afflicted by certain information gaps. Thus, it is planned to collected additional information from the health service providers also with focus of the questions on the

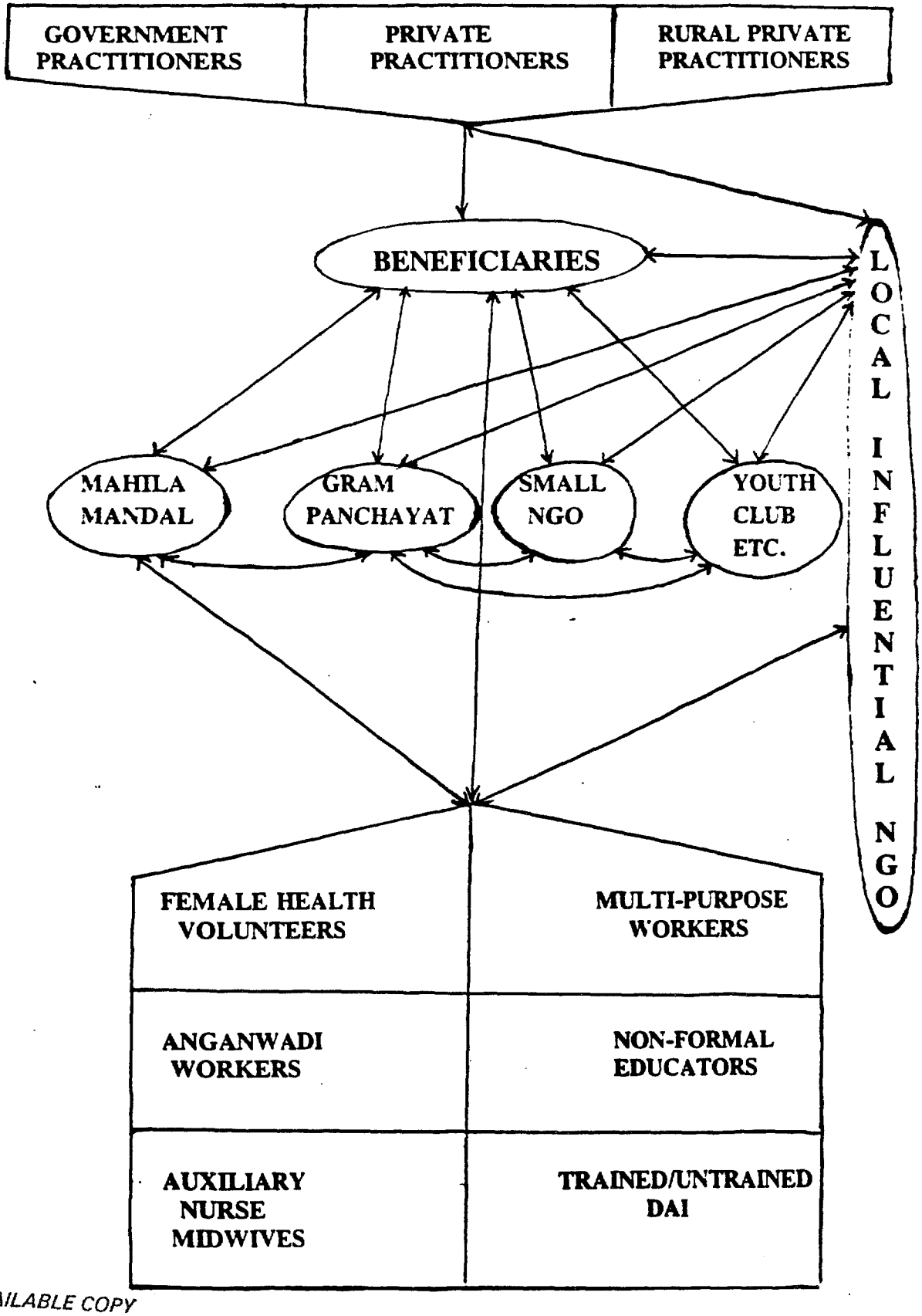
Same health/disease problems of children and mothers. A semi-structured questionnaire is used as the instrument for collecting information from the providers. which is basically complementary to the one just stated above.

The copies of all the instruments, namely, Schedule 1 to 7 and Schedule 66 are provided in the Appendix. Some more modification have been done on the schedules to match the purposes of the end-line survey, which is going on now. These are not given here.

4.5) Proposed Model of Networking:

The BCT. which has been chosen in this study as the catalyst cum coordinating agency. has a strong contingent of Female Health Volunteers (FHVs) in the PVOH-II villages. It also has a sufficiently strong contingent of Non-Formal Educators (NFE) and Anganwadi Workers (AW). Additionally, they have a 30 bedded hospital with two qualified doctors. two nurses. two male health workers and one pharmacist cum tab-technician. Services to far-reach areas are provided by two medical mobile unites (MMUs). The contact of the organization with the community takes place when the mobile clinics give services to different villages or they organise Mahila Mandal meetings or interact through the Anganwadi Workers. They also have occasional contact with the qualified government, private and semi-qualified/unqualified rural private health service providers. Their interactions with certain small local NGOs are quite regular. They also have some contact with the gram panchayat bodies. Keeping in mind the strength of the NGO, the study attempt to see the feasibility of implementing the networking model, shown in Diagram 2. It is proposed that the BCT's role in the networking will be that of a catalyst-cum-coordinator. Exchange of relevant information between any two stakeholders in the network for improving the effectiveness, the efficiency and also the quality of operations/functioning, is the main purpose of networking. The diagram shows the possible directions of information exchange between any two stakeholders. It is possible that one direction means flow of know-how from one stakeholder to another and the opposite direction means flow of feed-back from the receiver of know-how to the source. The two directions may also mean mutual exchange of such information, in which both the stakeholders are interested.

DIAGRAM 2 : A MODEL OF NETWORKING AMONG THE STAKEHOLDERS IN A SERVICE DELIVERY SYSTEM



Currently, whatever networking is existent partially is neither streamlined nor systematized to achieve some pre-designed objectives. Networking between the BCT on one side and Female Health Volunteers (FHV), Anaganwadi Workers (AW), Non-formal Educators (NFE), Trained/Untrained Dai, Mahila Mandal, Small NGOs, Rural Private Practitioners and Beneficiaries on the other side are now existent partially without proper systematization to achieve certain objectives. The methodology, adopted here for strengthening the networking, is involving the BCT as a catalyst-cum-coordinator in bringing all stakeholders together on a common platform, namely, the issues that are of common interest to all, particularly the issues related to mother and child health and work out a plan of sharing relevant information on regular basis systematically to achieve certain objectives.

5.0) FINDINGS

Table 5.01, 5.02 and 5.03 document the age-specific morbidity rates of children of age below 5 years by sex. This with respect to the focused/targeted diseases which occurred in the last 15 days prior to the time of survey. The tables indicate that the children are most susceptible to the diseases at ages below 3 years, with highest susceptibility ~~at the age of 1 year~~. The diseases are reported in general more for the male children, as is apparent from the tables.

TABLE 5.01 : AGE- AND SEX-SPECIFIC MORBIDITY DUE TO DIARRHOEA

Age (yrs)	Total Children			Diseased Children			Morbidity Rate (in '000)		
	Male	Female	Overall	Male	Female	Overall	Male	Female	Overall
0	609 (16)	558 (16)	1167 (16)	37 (35)	28 (35)	65 (35)	61	50	56
1	486 (12)	445 (13)	931 (13)	43 (41)	27 (33)	70 (37)	88	61	75
2	578 (15)	562 (16)	1140 (15)	17 (16)	19 (24)	36 (19)	29	34	32
3	713 (18)	638 (18)	1351 (18)	8 (7)	5 (6)	13 (7)	11	8	10
4	733 (19)	604 (18)	1337 (18)	0 (0)	2 (2)	2 (1)	0	3	1
5	802 (20)	648 (19)	1450 (20)	1 (1)	0 (0)	1 (1)	1	0	1
Total	3921 (100)	3455 (100)	7376 (100)	106 (100)	81 (100)	187 (100)	27	23	25

TABLE 5.02 : AGE- AND SEX-SPECIFIC MORBIDITY OF CHILDREN DUE TO FEVER/MALARIA

Age (yrs)	Total Children			Diseased Children			Morbidity Rate (in '000)		
	Male	Female	Overall	Male	Female	Overall	Male	Female	Overall
0	609 (16)	558 (16)	1167 (16)	41 (30)	25 (30)	66 (30)	67	45	56
1	486 (12)	445 (13)	931 (13)	40 (29)	28 (33)	68 (31)	82	63	73
2	578 (15)	562 (16)	1140 (15)	24 (18)	12 (14)	36 (16)	41	21	31
3	713 (18)	638 (19)	1351 (18)	17 (13)	9 (11)	26 (12)	24	14	19
4	733 (19)	604 (18)	1337 (18)	7 (5)	8 (10)	15 (7)	9	13	11
5	802 (20)	648 (19)	1450 (20)	7 (5)	2 (2)	9 (4)	9	3	6
Total	3921 (100)	3455 (100)	7376 (100)	136 (100)	84 (100)	220 (100)	35	24	30

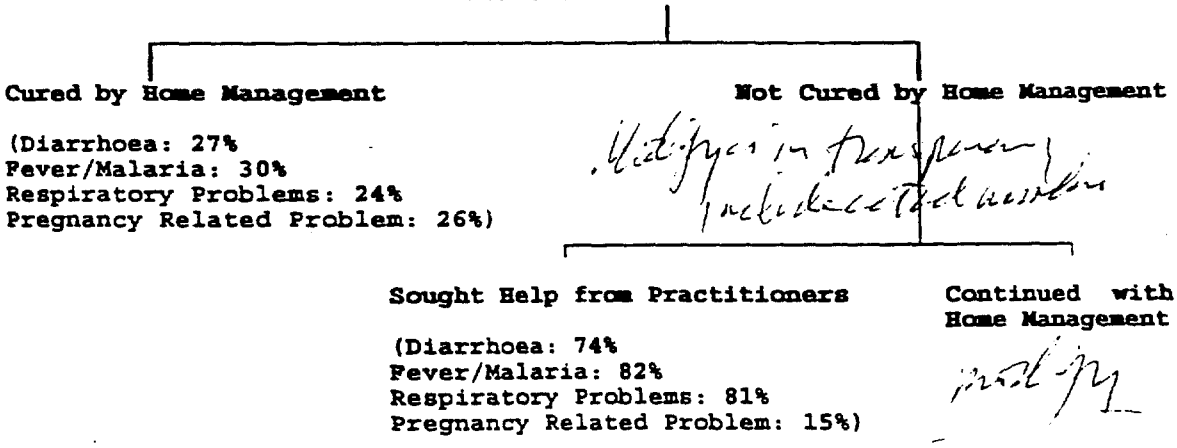
TABLE 5.03 : AGE- AND SEX-SPECIFIC MORBIDITY OF CHILDREN DUE TO RESPIRATORY PROBLEM

Age (yrs)	Total Children			Diseased Children			Morbidity Rate (in '000)		
	Male (%)	Female (%)	Overall (%)	Male (%)	Female (%)	Overall (%)	Male	Female	Overall
0	609 (16)	558 (16)	1167 (16)	28 (38)	15 (35)	43 (37)	46	27	37
1	486 (12)	445 (13)	931 (13)	16 (22)	11 (25)	27 (23)	33	25	29
2	578 (15)	562 (16)	1140 (15)	9 (12)	10 (23)	19 (16)	15	18	17
3	713 (18)	638 (18)	1351 (18)	13 (18)	5 (12)	18 (16)	18	8	13
4	733 (19)	604 (18)	1337 (18)	4 (6)	2 (5)	6 (5)	5	3	4
5	802 (20)	648 (19)	1450 (20)	3 (4)	0 (0)	3 (3)	4	0	2
Total	3921 (100)	3455 (100)	7376 (100)	73 (100)	43 (100)	116 (100)	19	12	16

5.1 Health Seeking Behaviour:

It has been commonly observed that on facing the focused health problems, the mother tries first of all to get it cured at home by some traditional mean or by asking some very known relatives or friends, or even by purchasing some medicines from the nearby general stores or shops without any prescription from a practitioner. If that fails, she consults the local practitioner(s) for help or may even continue managing the problem at home. Diagram 1 depicts this, behavioural aspects of the mothers.

Diagram 1: Flow Chart on Mother's Health Seeking Behaviour



The practitioners, from whom the mothers seek help, are found to be locally available private practitioners in 88% cases. The remaining practitioners are found qualified and stationed at the near-by urban centres like Rajgarh, Shivani, Hissar and so on. The details of these practitioners, including their practising behaviour, are given in the next section.

5.2 Home Management of Child Health Problems:

Following Table 5.21 gives an idea about how long the children are normally suffering from diarrhoea, fever/malaria and respiratory problems in the study area.

TABLE 5.21 : CHILDREN'S SUFFERING FROM DIARRHOEA, FEVER/MALARIA AND RESPIRATORY PROBLEMS (IN NO. OF DAYS)

No. of days	Diarrhoea (n= 187)* (%)	Fever/Malaria (n = 220)* (%)	Respiratory Problems (n = 116)* (%)
0 - 4	27	27	19
5 - 9	30	29	29
10 - 14	19	17	18
15 - 19	19	23	28
20 and above	5	4	6

* n = Total number of cases identified with particular disease or health problem.

Remark 1: Duration of suffering has been in the range of 0-9 days for nearly 50% of the children irrespective of the disease type.

Remark 2: The period of suffering has been in the range of 10-19 days for 38% diarrhoea-affected, 40% fever/malaria-affected and 46% respiratory problem-affected children.

Remark 3: The means and the standard deviations of the period of suffering due to diarrhoea, fever/malaria and respiratory problems are (9, 6.1), (9, 6.7) and (11, 5.5) respectively.

The symptoms which more than 70% of the mothers noticed ~~in their diarrhoea affected children~~ are (a) change in appetite, (b) change in daily activity, (c) continuity of some symptoms like loose stools, (d) change in stool colour and (e) cramp (ref. to Table 5.22). Danger signs such as unconsciousness or feeling sleepy, vomiting, pus in stool, blood in stool have been noticed by the mothers in 47%, 45%, 26% and 11% cases respectively.

In the cases fever/malaria affected children, the symptoms which 70% or more mothers have noticed are fever, change in appetite and change in daily activity. The danger signs like unconsciousness, vomiting, cramp, trouble in breathing have been observed by the mothers in 44%, 29%, 31% and 23% cases respectively (ref. to Table 5.22).

The mothers of the children ~~who have suffered from~~ cold/cough/respiratory problems have most commonly (in more than 70% cases) noticed the symptoms ~~such as~~ change in appetite, change in activity, cold and cough. The danger signs such as unconsciousness/feeling sleepy and trouble in breathing were noticed by the mothers in 22% and 56% cases respectively.

TABLE 5.22 : SYMPTOMS NOTICED BY THE MOTHERS ON THEIR CHILDREN, SUFFERING FROM DIARRHOEA, FEVER/MALARIA AND RESPIRATORY PROBLEM (IN PERCENT)

Reported Symptoms	Type of Child Health Problems		
	Diarrhoea (n = 187) (%)	Malaria/Fever (n = 220) (%)	Respiratory Problems (n = 116) (%)
1) Change in appetite	78	90	82
2) Change in daily activity	84	92	84
3) Continuity in observed symptoms (eg. continuous loose stools, runny nose, etc.)	78	25	19
4) Cramp	78	31	15
5) Change in colour of stools	71	19	13
6) Vomiting	45	29	18
7) Pus in stools	26	6	43
8) Blood in stools	11	1	1
9) Unconsciousness/feeling sleepy	47	44	22
10) Fever	42	100	60
11) Earache	4	5	7
12) Coughing	15	33	81
13) Cold & cough	10	34	80
14) Trouble in breathing	6	23	56
15) Others	-	4	2

Feeding practice of the mothers when they notice the symptoms in their children is found undesirable in at least 20% cases. Table 5.23 shows that the children, affected by diarrhoea or fever/malaria or respiratory problems, are given less than usual amount of liquid in 27%, 40% and 30% cases respectively. It has also been observed that the children are breast-fed with reduced frequency in 22%, 25% and 19% cases of diarrhoea, fever/malaria and respiratory problems respectively.

TABLE 5.23 : FEEDING PRACTICES OF MOTHERS TO ILL CHILDREN

Feeding Practices	Type of Child Health Problems		
	Diarrhoea (n = 187) (%)	Malaria/Fever (n = 220) (%)	Respiratory Problems (n = 116) (%)
Feeding Practice			
1) Liquid			
a) Gave less amount	27	40	30
b) Gave extra amount	29	17	15
c) Gave usual amount	44	42	55
4) Stopped	0	1	0
2) Breast feeding before illness			
a) Breast feeding usually	81	72	71
b) Not applicable	19	28	29
3) Breast feeding during illness			
a) Increased frequency	10	8	10
b) Same frequency	47	36	41
c) Reduced frequency	22	25	19
d) Stopped breast feeding	2	3	1
e) Not applicable	19	28	29
4) Diet			
a) Breast feeding only	67	54	56
b) Breast feeding & food	11	16	14
c) Food only	21	30	30

Infact, it become immediately clear from Table 5.24 that, in general, the number of times of offering food/milk to the ill children decrease significantly during suffering on account of the focused diseases. The mean and the median of the frequency of offering food/milk are found to be (6,6), (5,5) and (5,5) before the occurrence of diarrhoea, fever/malaria or respiratory problem respectively. The figures come down to the extent of (4,4), (4,4) and (4,3) respectively for the above quoted disease problems. This is in contrast with what actually has been desired ideally.

TABLE 5.24 : FREQUENCY OF OFFERING FOOD/MILK BEFORE AND DURING ILLNESSES OF THE CHILDREN

No. of Times Food/Milk Offered Each Day	Type of Child Health Problems					
	Diarrhoea (n = 187)		Fever/Malaria (n = 220)		Respiratory Problems (n = 116)	
	Before (%)	During (%)	Before (%)	During (%)	Before (%)	During (%)
1	0	1	1	3	1	2
2	2	18	0	22	3	25
3	6	22	6	24	10	27
4	19	27	27	26	23	26
5	22	14	24	15	29	12
6	29	11	21	6	22	4
7	10	4	8	2	4	1
8	11	1	9	1	4	2
9 & above	1	2	4	1	4	1
Total	100	100	100	100	100	100

Home treatment of diarrhoea, fever/malaria and respiratory problems was also not found satisfactory. For example, ORS has been offered to the diarrhoea-affected children in only 35% instances (ref. to Table 5.25). Home made solutions like sagar-salt and lemon-sugar solutions have been used in only 25% and 24% cases respectively. In instances of fever/malaria, the mothers gave tepid water bath to and removed clothing of their children in just 23% and 17% cases respectively. Uses of modern medicines without consulting practitioners, however, are quite high 49% in the cases of diarrhoea, 74% in the cases of fever/malaria and 69% in the cases of respiratory problems. Traditional medicines also are used in 32% to 39% cases.

5.3 ~~Child Health~~ Management by Service Providers as per Mother's Account:

The information on disease management styles of different types of providers has been collected by asking the mothers of the affected children as per VCR method. The expectation from the providers is that they would adopt a stepwise procedure in managing the disease problems. The steps are: (1) history taking. (2) physical examination. (3) diagnosis and treatment and (4) giving advice or counselling. So, the questions also are accordingly put forward to get a systematic and sequential account on what all things have happened when the providers are consulted. The detailed summarization in tabular form of the mothers' account in this context is presented in the Appendix. The specialities of the providers, mentioned in the tables are as per the mother's understanding. Presented below the specific findings from these tables.

A) **History Taking (ref. to Table A1 - A3 in the Appendix)**

1) Only in about 27% cases, the providers have asked about the symptoms.
2) Only in about 19 to 27% cases, the providers enquired about the treatment, provided already at home.
3) Only in about 26% cases, the providers asked at least two questions on the previous treatment given.
4) The providers asked for the child immunization cards in 42 to 48% cases.

Comparison of the history taking behaviour of different types of providers does not allow to come to any definite conclusion that the allopaths are giving better services than the others.

B) **Physical Examination (ref. to Table B1 - B6 in the Appendix)**

1) Child's clothing has been removed/lifted up for examination by the providers in about 42 to 44% cases.
2) The providers have ~~examined the children fully by touching~~ in about 49% diarrhoea cases, 59% cases of fever/malaria and 59% cases of respiratory problems.

3) Examining children's abdomen is common (in about 78% cases) in diarrhoea. The percentages are 54% and 60% in the cases of fever/malaria and respiratory problems.

4) Feeling the temperature by touching is a common practice and has been done in 79% cases of fever/malaria and 77% cases of respiratory problems. However, the temperature is measured by thermometer in just 63% cases. The percentage of diarrhoea cases where temperature has been felt by touching is just 54%.

5) Use of stethoscope is more common (in about 76% cases) when the children suffer from respiratory problems. The percentages are 61% and 53% in fever/malaria and diarrhoea cases respectively.

6) Measuring the breathing rate by making use of a watch or timer has been reported only in 54% and 57% cases of respiratory problems and fever/malaria respectively. The percentage has been just 38% in diarrhoeal cases, which is quite expected.

7) Examination of child throat has been reported by the mothers of respiratory problem affected children in 37% instances. The percentages are in the range of 14 to 19% for the other two child health problems.

8) Examining ears of taking weights are rarely done by the providers. The collected information does not give any indication that allopathic providers are any way better than the other providers in doing various necessary physical examinations; rather it gives more an impression that the providers of indigenous system of medicines (ISM) are sometimes performing better than the allopath in conducting various physical examinations. However, no clear conclusion is possible here as the number cases, treated by the ISM providers are not large enough.

C) **Diagnosis and Treatment (ref. to Table C1-C6 in the Appendix)**

Table C1-C6 in the Appendix summarise in detail how the providers diagnose the health problems and what sort of treatments they provide.

1) Classification of a health problem as mild, moderate and severe is common practice among the providers. For example, they have found the diarrhoeal problem mild, moderate and severe in 50%, 34% and 6% cases respectively. In the case of fever/malaria the corresponding percentages are 53%, 27% and 6% and for the respiratory problem, the percentage are 44%, 29% and 10% respectively. The variation of these percentages among the three focused child health problems is quite less. It is worth mentioning that the mothers most commonly prefer the so called allopathic providers and that might be one reason behind the observed consistency among the above mentioned percentages.

2) The types of the health problem has been detected in most of the cases.

3) Pills/syrup/mixtures have been prescribed in 90% diarrhoeal, 95% fever/malarial and 99% respiratory problems and the number of types of such pills/syrups/mixtures have been maximum two in nearly 80% cases. The number of prescribed pills has been 12 or less in about 55% cases. The average number and the standard deviation have been respectively (8, 6.1) for diarrhoea, (8, 10.3) for fever/malaria and (10, 5.8) for respiratory problem. In the cases of diarrhoea, the mothers have been asked to offer ORS to their children or other home made solutions in only 36% cases.

4) Providers have injected some fluid in 48% to 54% cases of diarrhoea, fever/malaria and respiratory problem. The average number of injection has been unity and the variation in the number of injection from one targeted health problem to another has been quite low. The allopathic and the ISM service providers are tending to prescribe 13 or more pills more frequently than the other service providers. The percentages of cases of diarrhoea, fever/malaria and respiratory problem for which 13 or more pills have been prescribed by the allopathic providers are 22%, 28% and 29% respectively. It might be because they are treating the more serious health problems. However,

it is interesting to note that the providers who are neither allopathic nor ISM are administering 2 or more injections in 46 or more percentage of targeted health problems.

D) **Advice/Counselling (ref to Table D1-D6 in the Appendix)**

Types of advice/counselling from the side of the service providers to the mothers of the affected children are given in Table D1-D6 in the Appendix.

1) Method of administering medicines has been mentioned by the providers in 84% cases or more of the three targeted diseases.
2) The mothers of the suffering children have been asked to keep watch on the danger signs in not more than 9% cases.
3) The time to come for follow-up has been communicated to the mothers only in 14% cases of respiratory problem. For the other two diseases. the percentages were approximately 25%.
4) Regarding the desired diet, the providers have not mentioned anything in 49% cases of diarrhoea, 51% cases of fever/malaria and 59% cases of respiratory problem.
5) Counselling in favour of breast-feeding has been done by the providers in about 69% cases of diarrhoea, 55% cases of fever/malaria and 50% cases of respiratory problem.
6) The providers have recommended/offered immunisation in 50% cases of diarrhoea, 45% cases of fever/malaria and 43% cases of respiratory problem.
7) Hardly the providers have mentioned about the preventive steps to be taken for the future.
8) The mothers of the diarrhoea-affected children have been rarely (only in 1% cases) advised to refrain from using anti-biotics unless there is blood or mucus in the stool.

Allopathic service providers are in general seemed to be taking greater care while advising/counselling the mothers. However, this can only be conclusively claimed if there are much information available on the advising/counselling pattern of the ISM and the other locally available service providers.

5.4) Pregnancy Related Problems:

The focus here is only in such pregnancy related problems which are faced either at the antenatal or at the natal stages of pregnant women. The problems are only perceived so and largely not validated by any qualified practitioners. To have information on it, all those married women have been considered in the age group of 13-49 years who have been either pregnant during the survey or have given birth (live or still) within six months prior to the time of survey. A sample of 82 such women have been interviewed from the three groups of villages. Following table shows that age distribution and the age-specific morbidity rates of women having pregnancy related problems in the antenatal and natal stages. The problems are reported mainly (in about 72% cases) from the age group of 18 to 24 years and the morbidity rates for the two age-groups 18-19 yrs. and 20-24 yrs. are the same 24.

Table 5.41 : Age Distribution and Age-specific Morbidity Rates of Women having Pregnancy Related Problems in the Ante-natal and natal Stages

Age group (yrs.)	Total Married Women No. (%)	Total Married Women with Pregnancy Related Problems No. (%)	Morbidity Rate (per 1000)
13-17	722(10.0)	5 (6.1)	7
18-19	615 (8.5)	15 (18.3)	24
20-24	1832(25.3)	44 (53.6)	24
25-29	1501(20.8)	10 (12.2)	7
30-34	985(13.6)	4 (4.9)	4
35-39	732(10.1)	4 (4.9)	5
40-44	490 (6.8)	- (-)	-
45-49	353 (4.9)	- (-)	-
Total	7230 (100.0)	82 (100.0)	11

5.5) Home Management of Pregnancy Related Problems:

The most common complication which 56% women (who have been mostly in the pregnancy stage) have reported is frequent or persistent pain in the abdomen. The second most common complication is repeated vomiting, reported by 50% women (who have been mostly in the pregnancy stage). The other reported complications have been nausea, shivering, weakness, swelling in legs, waist pain and blood deficiency. In about 86% cases, the duration of suffering from above mentioned complication has been less than six months, mostly in a period of 3 months or less duration.

In about 65% cases, the women have consulted senior family members. 50% of whom are either mother-in-laws or own mothers. The first senior family member, they have preferred to contact has been the mother-in-laws (in 40% cases). Own mother has been the second preferred person (in about 8% cases). In 24% cases, women are advised to consult some doctor, in 23% cases, some herbal treatments have been suggested by the senior family members. Various other suggestions/advice such as (1) taking good food and remain cheerful (2) purchase medicine from general stores, (3) taking sufficient food and also doing less work and so on, have been given by other family members.

Subsequent to getting advice from the senior family members, 24% have consulted doctors and 24% have taken herbal medicines. Others have either purchased medicines on their own or consulted a nurse or started taking sufficient food. Nearly 8% have not done anything. The percentage of the women who have got their problem cured by herbal treatment has been 16%. Similar percentage have been cured by the doctors. Another 4% women have got their problems solved by taking sufficient nourishing food. The remaining women have not got their problem solved.

About 38% of the targeted women who could not get their problems solved, however, have opined that it could be solved through proper treatment. Others think that there is no solution to it. The basic on which 61% of the women opined positively, is the knowledge they have from their relatives and neighbours. Forty one per cent have, in fact, contacted the relatives or the neighbours outside home already, and 38% have gone one step ahead and contacted the doctors, available at nearby urban centres like Hisar, Rajgarh, Sidhmukh and so on. The duration of treatment has ranged from 5 days to 15 days. Two women (about 6% of the women who could not get their problems solved inside their homes), however, have not been in a position to consult doctors either on economic grounds or due to resistance from family. There are another 35% women, having opinion that their problems could be solved, who have not consulted any relative/neighbour/doctor. They think that the problems would be solved after delivering babies.

5.6) **Mother Health Management by Health Service Providers as per Mothers' Account:** Findings on the home management pattern of pregnancy related problems indicate that only about 15% of the mothers, having problems at the antenatal and natal stages, seek help from the service providers. This amounts to only 12 out of the total 82 mothers who have been identified as having serious pregnancy related problems. The number being very small, no specific investigations have been made on what kind of medical treatments these mother have had from the health providers. Instead, all 82 mothers are asked to state in detail whatever services they had during their pregnancy and/or delivery.

Specific Findings:

1) Following gives the profile of the providers whom the targeted mothers have contacted for ANC.

	Provider Type	Percent of Women (n=82)
a)	Allopathic qualified practitioners (Private and Government both)	40%
b)	Indigenous System of Medicine practitioners (Private and Government both)	1%
c)	AW Staff, FHV, Trained Dai, ANM/LHV	1%
d)	Local untrained practitioners, local untrained dai	11%
e)	None	47%

About 47% mothers have not contacted anyone for ANC. Also, it is interesting to note that the mothers are even contacting the untrained local practitioners and the untrained dais.

2) Those who have not contacted anyone are found mostly (in 97% cases) not knowing the importance of ANC.

3) About 49% (40 in number) of the targeted mothers have been found either in the last month of pregnancy or already delivered babies. Among them, just 47% have contacted doctor, nurse or trained dai in the last month of pregnancy.

4) Following gives an account of the ANC check-ups, done on the mothers (40 in number) who ~~have been~~ were in the last month of pregnancy, at the time of the survey

~~Check-up Description~~ Examinations performed during ANC		Percentage of Mothers
a)	Weight got checked	43
b)	Height got measured	10
c)	Blood pressure got measured	53
d)	Blood got examined	70
e)	Urine got tested	65
f)	Abdomen got measured	17
g)	Sound of foetus heard	05
h)	Position of baby got determined	23
i)	Internal examination got done	05

5) Antenatal services provided to the above mentioned mothers are the following:

	Service Name	Percentage of Receivers
a)	Check-up card	57
b)	Iron tablet	77
c)	TT injection	87
d)	Advice on getting delivery operation done from a hospital	20
e)	Advice on diet	50
f)	Information on the danger signs	18

	Service Name	Percentage of Receivers
g)	Advice on breast feeding	28
h)	Immunisation of children	35
i)	Counselling on family planning	18
j)	Post-natal care	13

6) Advice on getting delivery operation done under the supervision of a trained dai, a nurse and/or a doctor has been given to a mother only in 18% cases.

7) Problems, faced by 20 mothers during delivering the babies, have been the following:

	Problem	Percent of mothers who faced the problem
a)	Vaginal bleeding	55%
b)	Convulsion, but without fever	20%
c)	Swelling on legs, body, face	15%
d)	High fever/trouble in urination	25%
e)	Jaundice	10%
f)	High Blood Pressure	05%
g)	Anaemia	40%

8) Deliveries (20 in number) conducted at home, at nursing home and at private hospital have been 85%, 10% and 5% respectively. These are done by untrained dai in 48% cases, by local or visiting qualified practitioner in 24% cases and by local untrained practitioner in 12% cases.

9) Long labour pain in 85% cases, excessive bleeding in 55% cases, convulsion in 15% cases and cuts in the vaginal passage in 15% cases have been the most remembered experiences of the mothers who have delivered babies in the last six months.

10) Following table gives how safely the delivery operations have been conducted:

Activity		Percent of Cases where Done
i)	Sterilisation of needle, scissors, blade, etc.	70%
ii)	a) Cleaning the place of delivery	95%
	b) Cleaning the hands of delivering person	85%
	c) Using cleaned cloth	100%
	d) Using sterilized threads	50%
iii)	a) Taking history	40%
	b) Examining fully & keeping watch throughout delivery	65%
	c) Helping in ~~creating labour pain~~ stimulating labour	75%
	d) Helping in completion of the delivery	90%
	e) Taking help of a gynae to handle better an emergency situation	15%
	f) Tying the cord at two places and snapping by a blade or scissor (cutting?)	60%
	g) Taking out the placenta by hand?	55%
	h) Taking full care of the new born after birth	45%
	i) Examining the new born	65%
	j) Applying antibiotic or silver nitrate cream on the eyes of new born	0%
	k) Administering BCG or Zero Polio	25%
	l) Advising mothers regarding the importance of main-training cleanliness in the post-natal period	15%
	m) Immediate breast-feeding (importance?)	25%
	n) Advising on how to keep new born healthy	40%

11) About 95% of the mothers have not contacted any trained dai, nurse or qualified doctor in the post-natal period. They, infact, are not told about the importance of this action.

5.7 Management of the Focused Health Problems as per Health Service Provider's Account:

All the health service providers, available locally in the three groups of villages, have been interviewed with particular emphasis on the focused health problems. These providers have been classified as per their speciality and training status. Table 5.71 presents the summary of this classification. It gives the total number of practitioners

who are providing services to the three groups of villages. This includes those (81 in number) who have been covered under this survey, those who appear additionally in the BCT list and also those who names and other detail have been quoted by the mothers in the three groups. The figures in the brackets indicate the number of those who have been trained under the current project. By this term "trained earlier", it is meant that training in formal or informal way has already been had before starting of the current project. Thus about 20% of the total available providers have already some formal or informal training. The percentage went up to 36% subsequent to the current intervention. In fact, 65% of the total trained under the current project have attended training at least on two days. It is noteworthy that about 76% of the practitioners have practiced allopathy at some point of time or other.

TABLE 5.71: TOTAL AVAILABLE HEALTH PROVIDERS IN CONTROL, CASE AND MODIFIED CASE VILLAGES BY TYPE OF PRACTICE AND TRAINING BACKGROUND

Practice type and training background	Number of Providers (Trained under project)			Total (Trained under Project)
	Control	Care	Modified Case	
Allopath				
i) Trained earlier	-	6 (3)	10 (4)	16 (7)
ii) Untrained	23 (1)	22 (7)	15 (10)	60 (18)
iii) Not known	-	-	-	-
Total	23 (1)	28 (10)	25 (14)	76 (25)
Allopath+ISM				
i) Trained earlier	1	1	2	4
ii) Untrained	3 (2)	5 (3)	13 (11)	21 (16)
iii) Not known	-	-	-	-
Total	4 (2)	6 (3)	15 (11)	25 (16)
ISM				
i) Trained earlier	-	-	3 (1)	3 (1)
ii) Untrained	2	8 (4)	3	13 (4)
iii) Not known	-	-	-	-
Total	2	8 (4)	6 (1)	16 (5)
Others				
i) Trained earlier	-	-	-	-
ii) Untrained	5	2	9 (2)	16 (2)
iii) Not known	-	-	-	-
Total	5	2	9 (2)	16 (2)
Grand Total	34 (3)	44 (17)	55 (28)	133 (48)

Follows the providers' account on management of the three targeted child health problems.

A) Diarrhoea Management:

A1) The three most important causes behind occurrence of diarrhoea, in decreasing order of importance, are (1) drinking polluted water, (2) eating stale food and (3) hot weather, as opined by 62%, 45% and 10% providers respectively.

A2) The queries, made usually by the providers for history taking are

1) duration of diarrhoea
2) frequency of passing stool
3) colour of stool
4) food taken earlier
5) whether vomiting

and these are based on the opinion of 55%, 48%, 38%, 24% and 17% providers respectively.

A3) The three most important reasons why these queries are made, are

1) to find out the causes behind diarrhoea (mentioned by 31% providers),
2. to find out the causes as well as to give right treatment to the diarrhoea patients (mentioned by 31% providers)
3. to find out the level of seriousness of the diarrhoeal problem (mentioned by 17% providers).

A4) Physical examinations are done on abdomen (in 76% cases). eye (in 38% cases), body temperature (in 31% cases), tongue (in 27% cases), skin pinch (in 14% cases), pulse rate (in 10% cases), face skin (in 10% cases).

A5) The five most important signs symptoms which the providers look for particularly to distinguish a severe case of diarrhoea from a mild or a moderate one are :

1. frequent passing of stools, mentioned by 31% providers,
2. blood/pus in stool, mentioned by 14% providers
3. unconsciousness, mentioned by 14% providers,
4. sunken eyes, mentioned by 10% providers,
5. shape/colour of stool, mentioned by 10% providers.

A provider attends on an average 22 mild, 6 moderate and 1 severe cases of diarrhoea in a month.

A6) The advice which a provider most commonly gives to a mother of diarrhoea affected child are;

1. give ORS frequently (mentioned by 31% providers),
2. give water as much as possible (mentioned by 24% providers)
3. maintain regularity in giving medicine (mentioned by 21% providers)
4. maintain cleanliness (mentioned by 21% providers),
5. give light food (mentioned by 17% providers).

A7) The signs/symptoms/situation which make the providers refer the cases of child diarrhoea to more able/qualified providers are;

1. frequent passing of stool (mentioned by 41% providers),
2. unconsciousness (mentioned by about 34% providers),
3. dehydration (mentioned by 21% providers),
4. non-response to treatment (mentioned by 21% providers).
5. sunken eyes (mentioned by 14% providers).

On an average, a provider refers diarrhoea cases to more able/qualified providers.

B) Fever/Malaria Management:

B1) The three most important causes behind occurrence of fever/malaria, in decreasing order of importance, are (1) mosquito bite, (2) drinking polluted water and (3) cold, as opined by 33%, 22% and 16% providers respectively.

B2) The queries, made usually by the providing for history taking are;

1. duration of fever,
2. whether fever with shocks,
3. type of food/drink taken
4. whether cough is there
5. whether fever with cold,
6. whether there is vomiting.

and these are based on the opinion of 62%, 29%, 24%, 18%, 15% and 15% providers respectively.

B3) The three most important reason why these queries are made are:

1. for finding out reasons behind temperature (mentioned by 44% providers),
2. for correct diagnosis (mentioned by 31% providers),
3. for correct treatment (mentioned by 16% providers).

B4) Physical examinations which the provider, do include (1) measuring temperature (in 64% cases), (2) feeling pulse (in 53% cases), (3) feeling temperature (in 27% cases), (4) examining chest (in 24% cases), (5) checking by use of a stethoscope (in 18% cases), (6) examining tongue (in 13% cases), and (7) examining eye (in 11% cases).

B5) The five most important signs/symptoms which the providers look for particularly to differentiate between malarial and non-malarial fever are;

1. fever with shocks (mentioned by 69% providers),
2. fever on alternate days/fever felt at fixed times/repeated fever (mentioned by 63% providers)
3. yellow/greenish vomiting (mentioned by 20% providers),
4. headache (mentioned by 15% providers),
5. temperature comes down with sweating (mentioned by 13% providers).

A provider attends on an average to 22 fever cases of moderate seriousness, 2 serious fever cases and 2 fever cases with shocks every month.

B6) The advice which a provider most commonly gives to a mother of fever/malaria affected child is as stated below;

1. maintain regularity in giving medicines (mentioned by 31% providers),
2. give light food (mentioned by 24% providers),
3. give water/liquid after boiling (mentioned by 18% providers),

4. maintain everything neat and clean (mentioned by 15% providers),
5. avoid taking cold things (mentioned by 15% providers),
6. give child only breast milk (mentioned by 15% providers).

B7) The signs/symptoms/situations which make the providers refer the fever/malaria cases among children to more able/ qualified providers are;

1. not responding to treatment (mentioned by 55% providers),
2. high temperature (mentioned by 20% providers),
3. high breathing rate (mentioned by 13% providers),
4. serious illness (mentioned by 9% providers).

C) **Respiratory Problem Management:**

C1) The three most important causes behind occurrence of respiratory problem, in decreasing order of importance, are (1) cold environment (2) weak lungs and (3) climatic factor, as opined by 35%, 18% and 12% providers respectively.

C2) The queries, made usually by the providers, for history taking are;

1. duration of respiratory problem,
2. whether there is cough,
3. whether there is fever,
4. what type of food has been taken,
5. whether the child has running nose,
6. duration of cold and cough,
7. whether eating eagerly,
8. whether urinating normally,
9. about the treatment already had and these are based on the opinion of 35%, 29%, 29%, 23% and 12% (for the last five providers).

C3) **The three most important reasons why the queries are made are;**

1. **for finding out the reasons behind the illness (mentioned by 47% providers),**
2. **for giving right kind of treatment (mentioned by 12% providers),**
3. **for knowing the level of seriousness (mentioned by 12% providers).**

C4) **Physical examination which the providers to include (1) measuring temperature (in 65% cases), (2) feeling the pulse (in 47% cases), (3) measuring the breathing rate (in 41% cases), and (4) finding out the pulse rate (in 18% cases).**

C5) **The five most important signs/symptoms which the providers look for particularly to differentiate between pneumonia and other serious respiratory problems are;**

1. **fast breathing rate (mentioned by 35% providers),**
2. **chest indrawing (mentioned by 12% providers),**
3. **sound in chest (mentioned by 12% providers),**
4. **difficulties in breathing (mentioned by 12% providers),**
5. **fever (mentioned by 12% providers).**

A provider is found attending on an average to 21 simple cold and cough problems, 7 moderate respiratory problems and 5 acute respiratory problems or pneumonia. Total 33 cases/month

C6) **The advice which a provider most commonly gives to a mother of respiratory problem affected child is as given below;**

1. **save the child from cold (mentioned by 53% providers),**
2. **maintain regularity in giving medicines (mentioned by 47% providers),**
3. **avoid cold food/drink (mentioned by 29% providers),**
4. **give light food (mentioned by 23% providers),**

56

5. avoid giving stale food (mentioned by 18% providers),
6. avoid sour food/drink (mentioned by 12% providers),
7. mother should avoid oily food (mentioned by 12% providers).

C7) The signs/symptoms/situation which make the providers refer the cases of respiratory problem among children to more able/qualified providers are

1) difficulties in breathing (mentioned by 47% providers),
2) not responding to treatment (mentioned by 29% providers),
3) high temperature (mentioned by 23% providers),
4) unconsciousness (mentioned by 18% providers),
5) high breathing rate (mentioned by 18% providers),
6) high pulse rate (mentioned by 12% providers).

6.0 ~~OVERALL~~ FINDINGS

A. **Child Health:**

1. The children have been found suffering from the targeted diseases even in the range of ~~10 to 19~~ days in at least about 40% cases.

2. The mothers have quite limited knowledge about the signs or symptoms by which they can recognise the targeted diseases and ~~its~~ level of severity.

3. It has been noticed in at least 20% cases that the mothers are not knowing what foods/drinks should be offered to the diseased children. They are even breast-feeding their children at reduced frequency.

4. Home management, starting form identifying tentatively any of the targeted child health or pregnancy-related problem has also been found unsatisfactory. ORS has been given to diarrhoea affected children only in 35% cases. Tepid water bath or removing clothing are quite rare phenomena, observed in 23% and 17% cases respectively. Use of modern medicines for home management of the target diseases has been quite high, in the range of 49-74% (there is,

however, a chance of little over reporting in this. We suspect that the respondents might have included in their medicine purchases, the ones which they have bought, following the providers' advice. Actually, they were supposed to tell only about those purchases which they did on their own, without consulting any providers).

5. The providers, who are mostly giving allopathic drugs, are in general not taking the history in a systematic way. Rarely they are asking about the treatments, the patients already had.

6. There are lot of variations in the behaviour of the providers as far as the physical examinations of patients are concerned. These are rarely done meticulously and consistently. The reason might be lack of required knowledge and/or gaps in perceiving its importance. Also, the objectivity of measurements are not incorporated in number of physical examinations in spite of knowing that only simple things like watch, thermometer, stethoscope, etc. are required for precise examinations.

7. In almost all cases, the providers prescribe pills/syrups/mixtures. In contrast to this, it is worth observing that the problems have been mild in half of the targeted disease problems. Also, administering 2 or more injections in 46% or more of the disease cases seems quite high.

8. The importance of giving advice to mother in the process of giving treatment of their children is not generally perceived by all. In about half or more of the disease cases, the advice has remained limited to the methods of administering medicines, diet, breast feeding and immunisation. Importance of follow-up care, watching danger signs, taking preventive steps has been rarely perceived by the providers.

9. Management of pregnancy related problems has remained highly limited within the boundaries of respective families. Only 15% cases of pregnancy related problems are treated by qualified or semi-qualified providers. Nearly

half of the mothers are yet to perceive the importance of ante-natal, natal and post-natal care. And, home deliveries under untrained supervision are the most common phenomena.

10. Herbal treatment of pregnancy related problems are found quite common in the study area.

7.0) INTERVENTION

The intervention plan in this study basically had two components. The first component involved necessary capacity building within the BCT so as to implement the networking model after necessary modifications. The second component involved working out a process of systematic implementation of the model with built-in coordination and monitoring mechanisms.

7.1) Capacity Building:

The first component basically started with rationalising the plan of the proposal. Such relationalisation was required to fit the plan of the study to the situation. Always there had been an attempt to form a peer group or an working group at the BCT, who could ultimately take the responsibility of functioning as a catalyst cum coordinator on behalf of the BCT under the technical guidance of the Chief Consultant and the Visiting Consultant.

The PVOH-II Coordinator, the Community Organizer and a nurse from the BCT hospital or someone equivalent to her were thought as the most appropriate BCT staff to form the peer group/working group. Accordingly, they were kept involved from the beginning of the base-line survey-plan preparation, including designing the survey schedules. They were also kept well-informed of the total study plan and the objectives. The three groups of villages were actually formed after consulting them. The survey team, including the investigators, was chosen from the BCT staff only so that they could themselves assess the actual mother and child health status in different villages and also could visualise simultaneously the kind of health facilities that are available at present at homes and from the government, the private, the indigenous system of medicines (ISM) and other health service providers/ practitioners.

The working group was made involved in giving training to the survey team so that they could ultimately supervise and monitor effectively the actual survey operations. Involving certain BCT staff as investigators was basically a strategy to increase those staff's knowledge in the technicalities of implementing a mother and child health improvement plan and also to make them feel involved in the whole project. The strategy, in fact, has worked well. On the other hand, the plan of processing all collected information in BCT computers could not be made successful due to non-availability of necessary technical hands at BCT or any place nearby. So, all processing of data and information were done at the consulting organisation's office in Jaipur.

At the stage of modifying the proposed networking model (given in Diagram 2 in section 4.5) as per the real life situation and the current requirement, it was felt that the networking at all levels is not a feasible proposition, given the time, the manpower and the financial cum resource constraints. Rather, it was thought feasible to strengthen links in the network which are currently existent, but weak and/or ill-defined. These include the following with the links shown by appropriate arrows.

1) BCT <--> Rural Private Practitioners.
2) BCT <--> FHV, NFE, AW, Trained/Untrained Dai <--> Mahila Mandal <--> Beneficiaries
3) BCT <--> Small NGOs <--> Mahila Mandal <--> Beneficiaries

7.2 Networking Process:

All these links ~~are at~~ present ~~there~~, but ~~do~~ not have well defined directions of functioning so as to achieve certain common objectives of improving the total health ~~service~~ delivery system. Based on survey finding and discussion with all the above mentioned stakeholders, certain common issues emerged, where all the stakeholders agreed to improve their performances. These issues are (1) timely updation of knowledge and/or information so as to perform more effectively, (2) improvement of the health service quality, (3) greater information sharing within each type of service providers, e.g. within the rural private practitioners, within the FHV, AW, NFE, trained/untrained dai, and so on.

It was decided that the BCT would give the lead in updating relevant knowledge/information by conducting a series of participatory trainings to the service providers. The service providers were divided into three groups - (1) the ones who give curative services, (2) the ones who give preventive services (including educating mothers) and (3) the ones who give services to the pregnant women during delivery). As their service focuses are different, the training programme contents were designed accordingly so as to match individual group interests and needs. The trainings too were arranged separately for different groups.

The resource persons for all the trainings were experienced and qualified medical professionals. Both the doctors of the BCT hospital were resource persons and they trained mostly the FHVs, the AW supervisors, the NFE supervisors and one ANM. and also trained the rural curative health service providers from the villages, belonging to case and modified case groups. One well known government doctor from Rajgarh hospital, specialised in giving child health services, also was a resource person and trained the rural curative service providers from the case and modified case groups of villages. The resource person for the training of the service providers to the pregnant women was a lady gynaecologist from Jaipur who had past experiences of conducting similar trainings at the IIHMR under some other project.

All the resource persons were appropriately and sufficiently briefed on the objectives of the present study and the proposed plan of implementation. It was agreed in principle that the training contents will be as per the WHO and CSSM guidelines for the targeted child diseases. Also, it was agreed that the method of training would be participatory, allowing the trainees to share their experiences as much as possible and to make it possible, the language to be used in the training will be Hindi. Every resource person was fully convinced on the point that during training they need to be least reactive and needs to be as proactive as possible. In no situation, the trainees should feel that the trainers are taking upper hand and degrading or derecognizing their capabilities and/or the services they are at present providing. The effort has to be toward further strengthening of their capabilities and systematising their services as per WHO and CSSM guidelines and not for critically assessing their abilities and service qualities.

Initially, the plan was to organise the trainings twice every month. Each training was planned for two consecutive days, one for the practitioners and the other for those giving preventive or health education services. This was found inconvenient to many due to logistic difficulties. Therefore, only one training of 2-day duration was organised every month. Each day, the training started at 10.30 AM and ended at 4.30 PM with one hour lunch break in between. Totally 7 trainings were organised for the practitioners, 6 for those giving preventive and health education services and 2 for both trained/untrained dai and those, giving preventive and health education services. Except the formerly mentioned 7 trainings, no other training had attendance problem. Attendance in the former one fluctuated between 9 and 25 and the reasons were mainly, (1) their simultaneous involvement in harvesting and other professions, (2) their pre-occupation in dealing with the spurt of fever/malaria cases in a particular month and also (3) their fear in one occasion that they might be caught for their unlicensed health services (this was the occasion when the government started catching them due to death of a pregnant woman whose pregnancy was terminated by an unlicensed rural practitioner at the 8th month of pregnancy).

The trainings of the practitioners and the preventive and health education service providers had its focus on the three focused child diseases and for each such disease, the training has been repeated at the least two times. The timing and the topic of each training was chosen in such a way that the trainees get interested in it. For example, the trainings with particular emphasis on diarrhoea management were organised in those months when diarrhoeal problem was particularly prevalent. The logical sequencing of guidelines which have been followed to decide the contents of the trainings on each of the child disease are given below :

Logical Sequence of Guidelines Followed on Each day of Training

1. Sharing relevant survey findings to give an idea about the existing situation with respect to the prevalent diseases and its management.

2. Assess participants' existing knowledge on
   a) cause of a targeted disease,
   b) signs/symptoms of it,
   c) physical examinations done to diagnose it,
   d) treatments given for its management,
   e) advice given to mothers in its context.
   (Assessment done as a group work)

3. Resource person's feedback on the information shared by participants and updation of participants knowledge.

4. Discussion and clarification of points that are confusing to participants.

The contents of the trainings on health care of pregnant women included the following

Contents of Training on Ante-natal, Natal and Post-Natal Care

A.1) Signs of pregnancy.

A.2) Essential details on ANC.

A.3) Signs of various complications at the pregnancy stage.

A.4) Causes behind such complications.

A.5) i) Home Management of complications,

ii) External Management of complications by seeking doctor's help.

A.6) Danger signs of complications.

A.7) Managing cases with serious complications.

A.8) DO's & DONT's at the pregnancy stage.

B.1) Pre-delivery signs.

B.2) i) Home Management at the pre-delivery stage,

ii) External Management at the pre-delivery stage.

B.3) Advice on need for delivery under trained supervision, post-delivery care for mothers, importance of family planning and importance of child health care, including immunisation.

B.4) i) Home Management details for safe delivery,

ii) External Management details of safe delivery.

B.5) Signs of complicated delivery.

B.6) i) Home Management of complicated delivery,

ii) External Management of complicated delivery.

B.7) Danger signs of complicated delivery.

B.8) i) Home Management of serious delivery complications,

ii) External Management of serious delivery complications.

B.9) DO's & DONT's at the pre-delivery and delivery stages.

C.1) i) Managing post-delivery care at home,

ii) Managing post-delivery care from outside (by doctors and TBAs)

C.2) Signs of complications at the post-delivery stage.

C.3) i) Home Management of post-delivery complications,

ii) External Management of post-delivery complications.

C.4) Danger signs of post-delivery complications.

C.5) i) Home Management of serious post-delivery complications,

ii) External Management of serious post-delivery complications.

C.6) Required post-delivery follow-up services.

C.7) DO's & DONT's at the post-delivery period.

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and the same logical guidelines were followed with necessary modifications to match with the speciality of obstetrical care. Number of pictures on transparencies were shown and also a video recording on safe delivery was shown to the participants. This special effort was put since the topic is more complex and almost all the participating dais were illiterate. Totally 23 dai from 23 villages attended the training. The rural practitioners who attended the trainings from 29 villages were 48 in number and total FHV, NFE, and AWs who attended the trainings from 40 villages were 53.

After all the trainings were over, each group of participants were asked to sign on a Social Contract Form. Each Social Contract Form was developed by discussing with each group of participants and it states what all minimum disease/health problem management procedures, each group shall be following in the field to ensure certain minimum quality or standard in their services to the beneficiaries. The signed copies of these Social Contract Forms are enclosed in the Appendix. Finally, an objective-type written test was conducted on the last training day for all those participants who were literate. This open-note test was conducted mainly to facilitate recapitulation by all participants on whatever they have learnt in so many trainings.

7.3) Importance of Organising Stakeholders by their Functional Responsibilities:

There was continuous attempt to organise all the practitioners under a single umbrella of understanding and commitment to provide quality services. The advantages of forming a registered society was made clear to them. They were explained in many ways how all may follow certain approved scientific standards in their services, how they may plan their trips to different villages in a planned way, how they may develop a common fund, how they may purchase together the required medicine of good standard in bulk at lower prices, how they may share their practice experiences amongst themselves by holding meetings at regular intervals, how they may improve their capabilities by inviting qualified doctors in their meetings as guest speakers, and so on. They were all quite charged with these new ideas; however, they could not form a body or a society within the short span of intervention due to absence of someone who could take the initiative.

There was also a continuous attempt to organise the FHVs, the AWs, the NFEs under a common umbrella with certain common objectives. They were all disintegrated groups, even though there were lot of commonalities and inter-relationships in their job responsibilities. Proper organising of these staff was felt essential for diffusion of all that they learnt through the trainings to the target group of this study, i.e. the mothers with children below 5 years of age or to the pregnant women or prospective mothers.

One very effective means by which they may share their learning with the target group is through discussing with the Mahila Mandal members in different meetings. Of course, the BCT needs to ensure that the Mahila Mandal meetings are organised regularly in a participatory way with specific objectives or agenda, fixed prior to every meeting. This was not happening in an organised way during the intervention period. Multiplicity in control due to vertical functioning of various projects like PVOH-II, ICDS, Non-Formal Education Project, Siksha Sahayogi and so on has resulted in disintegrated groups under the names FHV, NFE, AW and so on. Lack of concerted effort in organising each Mahila Mandal in a planned way and making each function effectively has raised doubts whether the preventive and health education service providers will be able to reach the target group in large number through conducting Mahila Mandal meetings regularly. An attempt to systematise the proceedings of each Mahila Mandal meeting and its proper record keeping, was made by developing a format. A copy of it is enclosed in the Appendix. This was used for sometime, but was not continued afterwards due to lack of proper supervision.

When the format on the Mahila Mandal meeting proceedings failed to work, a process indicator schedule was developed (a copy of it is given in the Appendix). This was supposed to be filled up by the FHVs, the NFEs and the AWs in their respective service areas after identifying children and mothers or women, affected by the focused diseases/health problems. Such filled up schedules were basically meant to monitor the outcome of the current intervention. Unfortunately, this also was not taken seriously by the FHVs, the NFEs, and the AWs as there was none, interested to ensure its filling up in the field.

8.0 CONCLUDING REMARKS

While the end-line survey is on, nothing specific could be mentioned about how successful were the intervention strategies. However, from the experience of implementing this research project it emerges that the organisation which is expected to play the key role of a catalyst-cum-coordinator, must, first of all, realise fully the importance of some such operations research project for in-depth learning as well as for capacity building. Also, it has to be fully convinced with the importance of networking for effective functioning in the perspective of the total health system. Necessary also is the commitment to achieve certain pre-set well-designed objectives. favouring successful implementation and completion of some such project.

For effective functioning of the suggested network model, it is felt very much that the unorganised service providers of different types have to be organised, may be in the form of different societies, so that all follow certain uniform and scientific norms in giving services, have certain well-set common objectives, share information and update knowledge systematically and on a regular basis, and finally provide services the most effective and economic way.

TABLE A1 : HISTORY TAKING BY THE PRACTITIONERS IN CASES OF DIARRHOEA

Enquiries made by Practitioners	Response Type	No.of children (n=102) (%)	Treatment by		
			Allopathic Practitioners (n=75) (%)	ISM* Practitioners (n=11) (%)	Others (n=16) (%)
a) Asked about the symptoms to diagnose the health problem correctly	Y	26	31	36	0
	N	65	60	63	87
	DR	9	9	0	13
Total		100	100	100	100
b) Asked about the treatments provided at home or elsewhere	Y	27	29	55	0
	N	67	64	45	94
	DR	6	7	0	6
Total		100	100	100	100
c) Asked at least two questions on previous treatment	Y	27	31	18	19
	N	63	60	73	69
	DR	10	9	9	12
Total		100	100	100	100
d) Asked for the child immunisation card	Y	48	55	27	31
	N	51	45	73	63
	DR	1	10	0	6
Total		100	100	100	100

* ISM : Indigenous System of Medicines

TABLE B1 : PHYSICAL EXAMINATION DONE BY PRACTITIONERS IN CASES OF DIARRHOEA

Physical Examination done by Practitioners	Response Type	No.of children (n=102) (%)	Treatment by		
			Allopathic Practitioners (n=75) (%)	ISM* Practitioners (n=11) (%)	Others (n=16) (%)
a) Removed/lifted up the clothing to examine	Y	44	49	45	19
	N	53	48	46	81
	DR	3	3	9	0
Total		100	100	100	100
b) Touched the child and examined fully	Y	49	52	36	19
	N	48	45	55	81
	DR	3	3	9	0
Total		100	100	100	100
c) Examined child's abdomen	Y	78	84	73	56
	N	21	15	27	44
	DR	1	1	0	0
Total		100	100	100	100
d) Used stethoscope	Y	53	59	27	44
	N	43	39	73	44
	DR	4	2	0	12
Total		100	100	100	100
e) Weighed the child	Y	16	17	9	13
	N	83	83	82	87
	DR	1	10	9	0
Total		100	100	100	100

* ISM : Indigenous System of Medicines

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TABLE B2 : PHYSICAL EXAMINATION DONE BY PRACTITIONERS IN CASES OF DIARRHOEA (contd..)

Physical Examination done by Practitioners	Response Type	No.of children (n=102) (%)	Treatment by		
			Allopathic Practitioners (n=75) (%)	ISM Practitioners (n=11) (%)	Others (n=16) (%)
f) Felt temperature by touching	Y	54	60	36	38
	N	42	36	64	56
	DR	4	4	0	6
Total		100	100	100	100
g) Measured temperature by thermometer	Y	38	41	36	25
	N	60	58	64	69
	DR	2	1	0	6
Total		100	100	100	100
h) Measured breathing rate, using watch or timer	Y	38	43	45	13
	N	55	51	46	81
	DR	7	6	9	6
Total		100	100	100	100
i) Examined the child's ear	Y	6	5	18	0
	N	86	87	73	94
	DR	8	8	9	6
Total		100	100	100	100
j) Examined the child's throat	Y	14	15	27	0
	N	79	80	64	87
	DR	7	5	9	13
Total		100	100	100	100

TABLE C1 : DIAGNOSIS AND TREATMENT DONE BY PRACTITIONERS IN CASES OF DIARRHOEA

Diagnosis and treatment done	Response Type	No.of children (n=102) (%)	Treatment by		
			Allopathic Practitioners (n=75) (%)	ISM* Practitioners (n=11) (%)	Others (n=16) (%)
a) Ascertained the severity level	Mild	50	45	64	62
	Moderate	34	40	18	19
	Severe	6	4	18	6
	No-response	10	11	0	13
Total		100	100	100	100
b) Diagnosed the type of diarrhoea	Y	91	92	100	81
	N	9	8	0	19
	DR	0	0	0	0
Total		100	100	100	100
c) Provided with pills/ syrup/mixture	Y	90	89	82	100
	N	10	11	18	0
	DR	0	0	0	0
Total		100	100	100	100
d) Administered injections	Y	48	51	55	31
	N	52	49	45	69
	DR	0	0	0	0
Total		100	100	100	100
e) Suggested taking ORS or similar fluid .	ORS	29	28	64	13
	Sugar-salt solution	7	7	18	0
	None	59	61	18	75
	DR	5	4	0	12
Total		100	100	100	100

* ISM : Indigenous System of Medicines

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TABLE C2 : DIAGNOSIS AND TREATMENT DONE BY PRACTITIONERS IN CASES OF DIARRHOEA (contd..)

Diagnosis and treatment done	Response Type	No.of children (n=102) (%)	Treatment by		
			Allopathic Practitioners (n=75) (%)	ISM Practitioners (n=11) (%)	Others (n=16) (%)
f) Types of pills/syrup/ mixture	0	10	11	18	0
	1	41	33	46	75
	2	44	49	36	25
	3	5	7	0	0
Total		100	100	100	100
g) Number of pills given	0	10	10	18	0
	1-4	23	19	46	31
	5-8	16	15	0	32
	9-12	16	19	9	6
	13-16	7	7	18	0
	17 & above	14	16	9	6
	No-response	14	14	0	25
Total		100	100	100	100
h) Number of injections administered	0	52	49	46	75
	1	18	19	27	6
	2	16	17	9	13
	3	4	4	9	0
	4 & above	10	11	9	6
Total		100	100	100	100

TABLE D1 : ADVICE GIVEN BY PRACTITIONERS IN CASES OF DIARRHOEA

Advice given by Practitioners	Response Type	No.of children (n=102) (%)	Treatment by		
			Allopathic Practitioners (n=75) (%)	ISM* Practitioners (n=11) (%)	Others (n=16) (%)
a) Method of administering medicine	Y	86	89	82	75
	N	8	8	9	6
	DR	6	3	9	19
Total		100	100	100	100
b) Keeping watch on danger signs	Y	5	7	0	0
	N	71	69	55	87
	DR	24	24	45	13
Total		100	100	100	100
c) Time to come for follow-up	Y	24	27	36	6
	N	71	67	64	94
	DR	5	6	0	0
Total		100	100	100	100
d) Refrain from using antibiotics except when stool contains blood or mucus	Y	1	1	0	0
	N	54	49	55	75
	DR	45	50	45	25
Total		100	100	100	100
e) Suggested types of food (other than breast feeding)	As before	7	10	0	0
	Special diet	6	5	19	0
	Stop food	1	0	9	0
	Exclusive breast feeding	17	17	27	6
	Not mentioned	49	48	27	69
	DR	20	20	18	25
Total		100	100	100	100

* ISM : Indigenous System of Medicines

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TABLE D2 : ADVICE GIVEN BY PRACTITIONERS IN CASES OF DIARRHOEA (contd..)

Advice given by Practitioners	Response Type	No.of children (n=102) (%)	Treatment by		
			Allopathic Practitioners (n=75) (%)	ISM Practitioners (n=11) (%)	Others (n=19) (%)
f) Breast feeding	Y	69	73	55	56
	N	26	24	36	31
	DR	5	3	9	13
Total		100	100	100	100
g) Recommended/offered immunisation	Y	50	60	18	25
	N	48	37	82	75
	DR	2	3	0	0
Total		100	100	100	100
h) Preventive steps for future	Y	9	9	18	0
	N	82	80	82	94
	DR	9	11	0	6
Total		100	100	100	100

TABLE A2 : HISTORY TAKING BY THE PRACTITIONERS IN CASES OF FEVER/MALARIA

Enquiries made by Practitioners	Response Type	No.of children (n=126) (%)	Treatment by		
			Allopathic Practitioners (n=94) (%)	ISM* Practitioners (n=10) (%)	Others (n=22) (%)
a) Asked about the symptoms to diagnose the health problem correctly	Y	27	32	30	5
	N	70	65	70	91
	DR	3	3	0	4
Total		100	100	100	100
b) Asked about the treatments provided at home or elsewhere	Y	22	23	50	5
	N	75	73	50	95
	DR	3	4	0	0
Total		100	100	100	100
c) Asked at least two questions on previous treatment	Y	26	30	20	14
	N	67	63	80	77
	DR	7	7	0	9
Total		100	100	100	100
d) Asked for the child immunisation card	Y	42	44	40	36
	N	56	54	60	59
	DR	2	2	0	5
Total		100	100	100	100

* ISM : Indigenous System of Medicines

TABLE B3 : PHYSICAL EXAMINATION DONE BY PRACTITIONERS IN CASES OF FEVER/MALARIA

Physical Examination done by Practitioners	Response Type	No.of children (n=126) (%)	Treatment by		
			Allopathic Practitioners (n=94) (%)	ISM* Practitioners (n=10) (%)	Others (n=22) (%)
a) Felt temperature by touching	Y	79	84	60	64
	N	20	15	40	32
	DR	1	1	0	4
Total		100	100	100	100
b) Measured temperature by thermometer	Y	63	68	40	55
	N	36	31	60	45
	DR	1	1	0	0
Total		100	100	100	100
c) Removed/lifted up the clothing to examine	Y	48	49	60	41
	N	49	48	30	59
	DR	3	3	10	0
Total		100	100	100	100
d) Examined fully by touching the child	Y	57	61	80	32
	N	39	35	10	68
	DR	4	4	10	0
Total		100	100	100	100
e) Examined the child's ear	Y	10	9	30	5
	N	83	83	60	95
	DR	7	8	10	0
Total		100	100	100	100

* ISM : Indigenous System of Medicines

....contd..

TABLE B4 : PHYSICAL EXAMINATION DONE BY PRACTITIONERS IN CASES OF FEVER/MALARIA (contd..)

Physical Examination done by Practitioners	Response Type	No.of children (n=126) (%)	Treatment by		
			Allopathic Practitioners (n=94) (%)	ISM Practitioners (n=10) (%)	Others (N=22) (%)
f) Examined the child's throat	Y	21	21	40	14
	N	74	76	40	82
	DR	5	3	20	4
Total		100	100	100	100
g) Used stethoscope	Y	61	63	60	55
	N	37	35	40	41
	DR	2	2	0	4
Total		100	100	100	100
h) Examined the child's abdomen	Y	54	54	80	41
	N	44	43	20	59
	DR	2	3	0	0
Total		100	100	100	100
i) Weighted the child	Y	9	10	20	5
	N	90	90	70	95
	DR	1	0	10	0
Total		100	100	100	100
j) Measured the breathing rate, using watch or timer	Y	57	60	60	45
	N	38	36	20	55
	DR	5	4	20	0
Total		100	100	100	100

TABLE C3 : DIAGNOSIS AND TREATMENT DONE BY PRACTITIONERS IN CASES OF FEVER/MALARIA

Diagnosis and treatment done	Response Type	No.of children (n=126) (%)	Treatment by		
			Allopathic Practitioners (n=94) (%)	ISM* Practitioners (n=10) (%)	Others (n=22) (%)
a) Ascertained the severity level	Mild	53	54	60	41
	Moderate	27	26	20	36
	Severe	6	5	20	5
	No-response	14	15	0	18
Total		100	100	100	100
b) Diagnosed the type of fever	Y	94	96	100	82
	N	6	4	0	18
	DR	0	0	0	0
Total		100	100	100	100
c) Provided with pills/ syrup/mixture	Y	95	96	80	100
	N	5	4	20	0
	DR	0	0	0	0
Total		100	100	100	100
d) Administered injections	Y	54	53	60	55
	N	46	47	40	45
	DR	0	0	0	0
Total		100	100	100	100
e) Types of pills/syrup/ mixture	0	5	4	20	0
	1	44	46	20	50
	2	36	36	30	36
	3	13	12	30	9
	4	2	2	0	5
Total		100	100	100	100

* ISM : Indigenous System of Medicines

....contd..

TABLE C4 : DIAGNOSIS AND TREATMENT DONE BY PRACTITIONERS IN CASES OF FEVER/MALARIA (contd..)

Diagnosis and treatment done	Response Type	No.of children (n=126) (%)	Treatment by		
			Allopathic Practitioners (n=94) (%)	ISM Practitioners (n=10) (%)	Others (n=22) (%)
f) Number of pills given	0	5	4	20	0
	1-4	23	19	40	32
	5-8	17	16	0	32
	9-12	18	20	10	14
	13-16	10	9	30	4
	17 & above	17	19	0	14
	No-response	10	13	0	4
Total		100	100	100	100
g) Number of injections administered	0	46	47	40	45
	1	22	22	40	9
	2	20	16	10	41
	3	2	2	0	5
	4 & above	10	13	10	0
Total		100	100	100	100

TABLE D3 : ADVICE GIVEN BY PRACTITIONERS IN CASES OF FEVER/MALARIA

Advice given by Practitioners	Response Type	No.of children (n=126) (%)	Treatment by		
			Allopathic Practitioners (n=94) (%)	ISM* Practitioners (n=10) (%)	Others (n=22) (%)
a) Method of administering medicine	Y	84	85	80	82
	N	10	12	10	4
	DR	6	3	10	14
Total		100	100	100	100
b) Keeping watch on danger signs	Y	6	8	10	5
	N	75	72	60	91
	DR	19	20	30	4
Total		100	100	100	100
c) Time to come for follow-up	Y	25	27	20	18
	N	73	70	80	82
	DR	2	3	0	0
Total		100	100	100	100
d) Suggested types of food (other than breast feeding)	As before	14	17	0	5
	Special diet	10	7	20	18
	Stop food	2	2	10	0
	Exclusive breast feeding	14	16	20	5
	Not mentioned	51	51	40	54
	DR	9	7	10	18
Total		100	100	100	100

* ISM : Indigenous System of Medicines

....contd..

TABLE D4 : ADVICE GIVEN BY PRACTITIONERS IN CASES OF FEVER/MALARIA (contd..)

Advice given by Practitioners	Response Type	No.of children (n=126) (%)	Treatment by		
			Allopathic Practitioners (n=94) (%)	ISM Practitioners (n=10) (%)	Others (n=22) (%)
e) Breast feeding	Y	55	61	30	41
	N	38	32	60	55
	DR	7	7	10	4
Total		100	100	100	100
f) Recommended/offered immunisation	Y	45	49	40	32
	N	54	50	60	68
	DR	1	1	0	0
Total		100	100	100	100
g) Preventive steps for future	Y	6	7	10	0
	N	84	81	90	96
	DR	10	12	0	4
Total		100	100	100	100

TABLE A3 : HISTORY TAKING BY THE PRACTITIONERS IN CASES OF RESPIRATORY PROBLEMS

Enquiries made by Practitioners	Response Type	No.of children (n=70) (%)	Treatment by		
			Allopathic Practitioners (n=52) (%)	ISM* Practitioners (n=8) (%)	Others (n=10) (%)
a) Asked about the symptoms to diagnose the health problem correctly	Y	27	31	25	10
	N	70	65	75	90
	DR	3	4	0	0
Total		100	100	100	100
b) Asked about the treatments provided at home or elsewhere	Y	19	15	50	10
	N	77	79	50	90
	DR	4	6	0	0
Total		100	100	100	100
c) Asked at least two questions on previous treatment	Y	26	25	25	30
	N	67	67	63	70
	DR	7	8	12	0
Total		100	100	100	100
d) Asked for the child immunisation card	Y	43	42	50	40
	N	56	56	50	60
	DR	1	2	0	0
Total		100	100	100	100

* ISM : Indigenous System of Medicines

TABLE B5 : PHYSICAL EXAMINATION DONE BY PRACTITIONERS IN CASES OF RESPIRATORY PROBLEMS

Physical Examination done by Practitioners	Response Type	No.of children (n=70) (%)	Treatment by		
			Allopathic Practitioners (n=52) (%)	ISM* Practitioners (n=8) (%)	Others (n=10) (%)
a) Removed/lifted up the clothing to examine	Y	47	42	75	50
	N	49	54	13	50
	DR	4	4	12	0
Total		100	100	100	100
b) Touched the child and examined fully	Y	59	54	87	60
	N	31	35	0	40
	DR	10	11	13	0
Total		100	100	100	100
c) Examined the child's abdomen	Y	60	56	100	50
	N	40	44	0	50
	DR	0	0	0	0
Total		100	100	100	100
d) Used stethoscope	Y	76	75	75	80
	N	23	25	13	20
	DR	1	0	12	0
Total		100	100	100	100
e) Weighed the child	Y	13	8	50	10
	N	86	92	37	90
	DR	1	0	13	0
Total		100	100	100	100

* ISM : Indigenous System of Medicines

....contd..

TABLE B6 : PHYSICAL EXAMINATION DONE BY PRACTITIONERS IN CASES OF RESPIRATORY PROBLEMS (contd..)

Physical Examination done by Practitioners	Response Type	No.of children (n=70) (%)	Treatment by		
			Allopathic Practitioners (n=52) (%)	ISM Practitioners (n=8) (%)	Others (n=10) (%)
f) Measured breathing rate, using watch or timer	Y	54	54	75	40
	N	42	42	13	60
	DR	4	4	12	0
Total		100	100	100	100
g) Examined the child's throat	Y	37	33	75	30
	N	57	59	25	70
	DR	6	8	0	0
Total		100	100	100	100
h) Examined the child's ear	Y	11	12	25	0
	N	80	77	75	100
	DR	9	11	0	0
Total		100	100	100	100
i) Felt temperature by touching	Y	77	79	87	60
	N	20	19	0	40
	DR	3	2	13	0
Total		100	100	100	100
j) Measured temperature by thermometer	Y	63	61	87	50
	N	36	37	13	50
	DR	1	2	0	0
Total		100	100	100	100

TABLE C5 : DIAGNOSIS AND TREATMENT DONE BY PRACTITIONERS IN CASES OF RESPIRATORY PROBLEMS

Diagnosis and treatment done	Response Type	No.of children (n=102) (%)	Treatment by		
			Allopathic Practitioners (n=75) (%)	ISM* Practitioners (n=11) (%)	Unqualified Practitioners (n=14) (%)
a) Ascertained the severity level	Mild	44	46	25	50
	Moderate	29	27	38	30
	Severe	10	6	37	10
	No-response	17	21	0	10
Total		100	100	100	100
b) Diagnosed the type of Respiratory problems	Y	91	90	100	90
	N	9	10	0	10
	DR	0	0	0	0
Total		100	100	100	100
c) Provided with pills/ syrup/mixture	Y	99	98	100	100
	N	1	2	0	0
	DR	0	0	0	0
Total		100	100	100	100
d) Administered injections	Y	51	48	63	60
	N	49	52	37	40
	DR	0	0	0	0
Total		100	100	100	100

* ISM : Indigenous System of Medicines

....contd..

TABLE C6 : DIAGNOSIS AND TREATMENT DONE BY PRACTITIONERS IN CASES OF RESPIRATORY PROBLEMS (contd..)

Diagnosis and treatment done	Response Type	No.of children (n=70) (%)	Treatment by		
			Allopathic Practitioners (n=52) (%)	ISM Practitioners (n=8) (%)	Others (n=10) (%)
e) Types of pills/syrup/ mixture	0	3	2	13	0
	1	50	56	25	40
	2	39	34	37	60
	3	7	6	25	0
	4	1	2	0	0
Total		100	100	100	100
f) Number of pills given	0	1	2	0	0
	1-4	19	19	13	20
	5-8	20	21	0	30
	9-12	14	14	13	20
	13-16	13	10	37	10
	17 & above	16	17	25	0
	No-response	17	17	12	20
Total		100	100	100	100
g) Number of injections administered	0	49	52	37	40
	1	20	21	25	10
	2	14	12	0	40
	3	4	2	25	0
	4 & above	13	13	13	10
Total		102	100	100	100

TABLE D5 : ADVICE GIVEN BY PRACTITIONERS IN CASES OF RESPIRATORY PROBLEMS

Advice given by Practitioners	Response Type	No.of children (n=70) (%)	Treatment by		
			Allopathic Practitioners (n=52) (%)	ISM* Practitioners (n=8) (%)	Others (n=10) (%)
a) Method of administering medicine	Y	90	92	75	90
	N	7	6	13	10
	DR	3	2	12	0
Total		100	100	100	100
b) Keeping watch on danger signs	Y	9	10	13	0
	N	73	71	62	90
	DR	18	19	25	10
Total		100	100	100	100
c) Time to come for follow-up	Y	14	15	25	0
	N	79	75	75	100
	DR	7	10	0	0
Total		100	100	100	100
d) Refrain from using antibiotics	Y	7	8	0	10
	N	54	52	63	60
	DR	39	40	37	30
Total		100	100	100	100
e) Suggested types of food (other than breast feeding)	As before	13	15	13	0
	Special diet	11	8	13	30
	Stop food	1	0	12	0
	Exclusive breast feeding	10	13	0	0
	Not mentioned	59	60	37	70
	DR	6	4	25	0
Total		100	100	100	100

* ISM : Indigenous System of Medicines

contd..

TABLE D6 : ADVICE GIVEN BY PRACTITIONERS IN CASES OF RESPIRATORY PROBLEMS (contd..)

Advice given by Practitioners	Response Type	No.of children (n=70) (%)	Treatment by		
			Allopathic Practitioners (n=52) (%)	ISM Practitioners (n=8) (%)	Others (n=10) (%)
f) Breast feeding	Y	50	56	25	40
	N	41	35	63	60
	DR	9	9	12	0
Total		100	100	100	100
g) Recommended/offered immunisation	Y	43	44	37	40
	N	57	56	63	60
	DR	0	0	0	0
Total		100	100	100	100
h) Preventive steps for future	Y	10	10	25	0
	N	80	77	75	100
	DR	10	13	0	0
Total		100	100	100	100

APPENDIX D

COMMENTS TO MODE FROM DR. NORTHRUP

BASICS

BASIC SUPPORT FOR INSTITUTIONALIZING CHILD SURVIVAL

1600 Wilson Boulevard Suite 300, Arlington, Virginia 22209 U.S.A. Telephone: (1) 703 312-6800 Fax: (1) 703 312-6900
Robert S. Northrup, M.D., Technical Officer Email: RNORTHRU@BASICS.ORG

May 22, 1997

Ms. U Dosajh, Deputy Research Director
Mode Research Private Ltd
1796 A, Kotia Mubarakpur
New Delhi-110003

Dear Ms Dosajh:

We have reviewed the Mode proposal for the Health Services Assessment study in Madhya Pradesh, and have found it largely responsive to the Request For Proposals. It is, however, unresponsive to the RFP in several significant aspects, which make it formally unacceptable. This letter is to summarize the most important areas in which change or clarification is needed. At our meeting this afternoon there will be opportunity to discuss these and other related points of concern, with the objective of providing the basis for your preparing a revised proposal which can be considered fully responsive to the RFP. Given the experience and capacity of Mode and the good aspects of the current proposal, we are very hopeful that you will decide to prepare and submit such a revised proposal.

The areas in which the current proposal (dated April 22, 1997) is unresponsive are as follows:

1. Detailed objective assessment of patient care procedures: The RFP requested detailed assessment of the actual procedures being used to manage patients with various types of conditions: children with diarrhea or ARI, women for prenatal care or family planning, etc. The proposal gives little indication of Mode's awareness of the complexity of this task, the need for individual protocols and specialized forms for each type of problem relative to a specific type of provider working in a facility with specific resources and equipment, and the numbers of observations of patients with each particular problem which are needed to carry out this task effectively. The numbers of observations and record reviews proposed cannot accomplish the objectives for this most critical component of the assessment. Specific numbers of cases (and records if available) for each type of problem at each type of facility or provider need to be specified. Clarification of the objectives of the effort -- to identify deficiencies in the quality of care being provided in comparison with detailed clinical standards and algorithms -- and how this will be achieved need to be spelled out. This objective assessment of actual practices should be the heart and foundation of this assessment. The proposal appears to have focused more on the more subjective interviews, which should rather be complementary to the objective data.

2. Exit interviews: these were intended in the RFP to provide validation and reinforcement of the information from direct observation. Here too specific protocols for each type of problem and patient and type of provider are needed -- for example, the procedures to be carried out by a drug seller selling drugs for a child with diarrhea are likely to be quite different than those done by a village practitioner or a block health center physician or an ANM, and of course would be different from those given to a child with fever or a woman seeking prenatal care. A different form for each type of provider, type of

illness or problem, and level of facility to be included will be needed thus. The proposal needs to specify the number of cases which will be assessed in this fashion for each problem, at how many facilities, and for how many types of providers.

3. Technical expertise: Given this emphasis on objective assessment of technical medical procedures, it should be clear that substantial medical expertise will be needed within the research team, for adaptation and design of proposed data gathering procedures and forms, for training of observers and interviewers, and for interpretation of results. Individuals with medical backgrounds and with experience in this type of facility assessments using WHO or other standardized approaches would be ideal to provide expertise and direction and guidance to these activities, and individuals with medical backgrounds (e.g. medical students) may be critical to the reliability and accuracy of actual data gathering. The proposed research team is lacking in such expertise, and the field investigators appear to be persons with only interview skills.

4. Field work and supervision for quality and reliability: The technical demands for these procedures in order to ensure accuracy and reliability demand a rigorous training effort with well designed mechanisms to ensure consistency among observers, in addition to the higher level of technical ability of the field workers mentioned in item 3 above. The current proposal is silent on these aspects of the effort.

5. Budget details: The RFP indicates the format in which the details of the budget are to be provided, and also requests detailed spelling out of how the budget figures are arrived at. It should be clear from the above comments that substantial effort will be needed prior to actual field work, to identify locally appropriate standards and adapt them to the study, to prepare forms and appropriate adaptations of procedures for the range of types of providers and locations and problems targeted, to interact with BASICS and the other Cooperating Agencies in finalizing standards and forms and procedures to be used, to recruit field workers with appropriate experience and technical health backgrounds for those components of the study requiring such capabilities, to train field workers to the level of accuracy and reliability required for particular study components, to provide ongoing quality checks of observational reliability during field work, etc. These are not part of the usual social science or marketing study demands and procedures. Just as the text of the proposal must describe these activities in detail, the budget should include these components in the details provided which show how the summary budget figure has been calculated, in order to ensure BASICS that sufficient budget has been requested to do the job at the level of detail and quality required. The current budget proposal provides only an overall budget estimate, without supportive detail showing the details and calculations which led to that estimate, as requested in the RFP.

These major areas of non-responsiveness can be further discussed in reviewing the overall proposal at our meeting on May 23.

Sincerely yours,

Robert S. Northrup, M.D.
Technical Officer

APPENDIX E

COMMENTS TO SRI FROM DR. NORTHRUP

BASICS

BASIC SUPPORT FOR INSTITUTIONALIZING CHILD SURVIVAL

1600 Wilson Boulevard Suite 300, Arlington, Virginia 22209 U.S.A. Telephone: (1) 703 312-6800 Fax: (1) 703 312-6900
Robert S. Northrup, M.D., Technical Officer Email: RNORTHRU@BASICS.ORG

May 23, 1997

Hema Viswanathan, General Manager
Nandita K Kalra, Associate Project Director
SRI (Social & Rural Research Institute
201 Ansal Chambers II
Bhikaiji Cama Place
New Delhi 110066

Dear Ms Viswanathan & Ms Kalra:

We have reviewed the SRI proposal for the Health Services Assessment study in Madhya Pradesh, and have found it largely responsive to the Request For Proposals. It is, however, unresponsive to the RFP in several significant aspects, which make it formally unacceptable. This letter is to summarize the most important areas in which change or clarification is needed. At our meeting on Saturday there will be opportunity to discuss these and other related points of concern, with the objective of providing the basis for your preparing a revised proposal which can be considered fully responsive to the RFP. Given the experience and capacity of SRI and the many very good aspects of the current proposal, we are very hopeful that you will decide to prepare and submit such a revised proposal.

The areas in which the current proposal (dated May 2, 1997) is unresponsive are as follows:

1. Detailed objective assessment of patient care procedures and facilities: The RFP requested detailed assessment of the actual procedures being used to manage patients with various types of conditions: children with diarrhea or ARI, women for prenatal care or family planning, etc. etc. The proposal does not indicate SRI's understanding of the centrality of this component of the study, nor of its awareness of the complexity of this task, the need for individual protocols and specialized forms for each type of problem relative to a specific type of provider working in a facility with specific resources and equipment, and the numbers of observations of patients with each particular problem which are needed to carry out this task effectively. In fact, the proposal expressed hesitation about the feasibility of doing observations, and withdrew completely from doing record reviews. The proposal in contrast emphasizes the interviews and focus group discussions which are the focus of most social science and marketing studies. This is not what is desired for this study, which should be an adaptation to Madhya Pradesh and Raisen District of standard WHO and other international protocols and objective assessment procedures used in assessing the facilities and actual patient care procedures in use at those facilities for management of the most common and important maternal and child health problems, as noted in the RFP. Both direct observation of practitioner-patient encounters and record reviews including a specific number of cases of each targeted problem (e.g. excess hemorrhage during delivery, severe diarrhea requiring admission, prenatal visits, conduct of delivery) are needed to the extent that they are feasible. Detailed check lists for observation of facilities are to be used also in assessing the physical resources available to different levels of practitioners. The IDIs of practitioners are intended more to provide validation of those objective observations and record reviews and facility observations and to explore the barriers faced by practitioners in their efforts to provide quality care, as well as to obtain practitioner

opinions about patient behaviors and beliefs. Specific numbers of cases (and records if available) for each type of problem at each type of facility or provider need to be specified. Clarification of the objectives of the effort -- to identify deficiencies in the quality of care being provided in comparison with detailed clinical standards and algorithms -- and how this will be achieved need to be spelled out. This objective assessment of actual practices and facilities should be the heart and foundation of this assessment, while the practitioner interviews are complementary.

2. Exit interviews: these were intended in the RFP to provide validation and reinforcement of the information from direct observation, that is, on the details of actual case management procedures carried out by a practitioner. The proposal appears to be using exit interviews for a different purpose, to provide a different respondent population to explore "one of the three sets of issues covered in each segment". To achieve the purpose of validation and reinforcement of direct observation, specific questions about case management procedures based on the standard case management norms and protocols for each type of problem and patient and type of provider are needed -- for example, the procedures to be carried out by a drug seller selling drugs for a child with diarrhea are likely to be quite different than those done by a village practitioner or a block health center physician or an ANM, and of course would be different from those given to a child with fever or a woman seeking prenatal care. A different form for each type of provider, type of illness or problem, and level of facility to be included will be needed thus. The proposal needs to specify the number of cases which will be assessed in this fashion for each problem, at how many facilities, and for how many types of providers. We recognize that obtaining patients of specific types (e.g. diarrhea or abdominal pain during pregnancy) will be more difficult at more peripheral levels (e.g. a village "doctor"'s practice or a ANM subcenter) than at larger facilities. It would be desirable for the proposal to indicate how this reality will be responded to.

3. Technical expertise: Given this emphasis on objective assessment of technical medical procedures, it should be clear that substantial medical expertise will be needed within the research team, for adaptation and design of proposed data gathering procedures and forms, for training of observers and interviewers, and for interpretation of results and drawing implications for the future WACH project. Individuals with medical backgrounds and with experience in this type of facility assessments using WHO or other standardized approaches would be ideal to provide expertise and direction and guidance to these activities, and individuals with medical backgrounds (e.g. medical students) may be critical to the reliability and accuracy of actual data gathering. Even such medically trained observers will need substantial training and careful monitoring to ensure reliability and consistency. The proposed research team is lacking in such expertise, and the field investigators are described as lay persons with only data recording and interview skills. For use of outside consultants, specific scopes of work and levels of effort are needed, as well as letters of agreement from such consultants which document their agreement with the noted SOW and LOE. We recognize SRI's reluctance to take on this more technical medical responsibility, but believe that with the excellent management capabilities for which SRI is well known it should be feasible and effective.

4. Field work and supervision for quality and reliability: The technical demands for these procedures in order to ensure accuracy and reliability demand a rigorous training effort with well designed mechanisms to ensure consistency among observers, in addition to the higher level of technical ability of the field workers mentioned in item 3 above. The current proposal provides some useful information about training, but needs to be augmented with regard to mechanisms to be used to reduce inter-observer variation and ensure reliability of observations.

5. Budget details: It should be clear from the above comments that substantial effort will be needed prior to actual field work, to identify locally appropriate standards and adapt them to the study, to prepare forms and appropriate adaptations of procedures for the range of types of providers and locations and problems targeted, to interact with BASICS and the other Cooperating Agencies in finalizing standards and forms and procedures to be used, to recruit field workers with appropriate experience and technical health backgrounds for those components of the study requiring such capabilities, to train field workers to the level of accuracy and reliability required for particular study components, to provide ongoing quality checks of observational reliability during field work, etc. These are not part of the usual social science or marketing study demands and procedures. In addition, reconsideration of the numbers of observations planned and the addition of record reviews to the proposal will be necessary. Just as the text of the proposal must describe these activities in detail, the budget should include these components in the details provided which show how the summary budget figure has been calculated, in order to ensure BASICS that sufficient budget has been requested to do the job at the level of detail and quality required. The current budget proposal provides only minimal detailing of the calculations used to derive the budget figures, and does not have the supportive detail showing the details and calculations which led to the item totals listed.

These major areas of non-responsiveness can be further discussed in reviewing the overall proposal at our meeting on May 24.

Sincerely yours,

Robert S. Northrup, M.D.
Technical Officer

APPENDIX F

SURVEY RESULTS FROM THE NATIONAL IMA SURVEY ON DIARRHEA CASE MANAGEMENT PRACTICES ON PRIVATE PRACTITIONERS

A STUDY ON

DIARRHOEA MANAGEMENT BY PRIVATE PRACTITIONERS

Dr Jagdish Sabh, Dr Ros NORTHRUP.
Dr Nawal Kishore & Mr BS NAGI.

The IMA mailed about 8000 questionnaires to private practitioners all over India to assess their knowledge on Diarrhoea Management. The addresses of these private practitioners were randomly picked up from a list of addresses available with the IMA of members who attended ORT meetings since 1989. All these practitioners became members of IMA before 1989. The practitioners were requested to return the filled in questionnaires within a month. We have received 553 filled in questionnaires. An attempt has been in this study to present the findings of the information gathered from 510 practitioners (respondents). First of all the background information of the respondents is presented.

Background information

The Table 1 reveals that about 53 per cent respondents are in the age group of 36-50 years whereas only 10 per cent are below the age of 36 years.

About 87 per cent respondents are males and about 86 per cent belong to urban area.

About 18 per cent are paediatricians where about 43 per cent are only MBBS.

The Table also shows that about 3/4th practitioners are doing private practice and the remaining are in the government job.

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Table 1: Background Information of respondents

Background information	Percentage
Age	
Upto 35 years	10.0
36-50 years	52.7
51 years	37.3
Sex	
Males	87.1
Female	12.9
Location	
Urban	85.5
Rural	14.5
Qualification	
MBBS	43.1
Paediatrician	17.7
Others	39.2
Type of Practice	
Government	25.1
Private	74.9

ORT meeting (s) attended by the respondents

According to the Table 2, it is observed that 34.5 per cent respondents have not attended any ORT meeting so far. The remaining have attended either IMA meeting in 1989-90 or other than IMA meeting or they have attended both the meetings.

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Table 2: ORT meeting attended by the private practitioners

Type of meeting	Percentage attended
1. ORT meeting arranged by IMA in 1989-90	16.5
2. Other than IMA meeting	28.6
3. Both the above meetings	20.4
4. Did not attend any meeting	34.5

Average number of patients under 5 years seen

The respondents were asked to mention about the number of patients under five years of age seen by them in a month for the three type of illnesses, namely, respiratory infection, diarrhoea, and fever. The Table 3 shows that the highest percentage of patients under five years of age have respiratory infection (43 %). This percentage is examined by a doctor in a month, whereas the diarrhoeal patients constitute only about 25 per cent. The total average number of patients of three type of illneases seen by per doctor in a month comes to 421.

Table 3: **Average number of patients under five years of age seen by a private practitioner in a month for the three illnesses (Respiratory infection, diarrhoea.and fever)**

Illness	Average number of patents seen	Percentage from the total
1. Respiratory infection	179	42.5
2. Diarrhoea	105	24.9
3. Fever	137	32.6
Total	421	100.0

Position of diarrhoeal patients during the last five years, I/V usage and ORS packet usage

The private practitioners are of the opinion that ORS packet usage has increased by 72.4 per cent over the last five years in their clinics (Table 4). Only 10.6 per cent and 17 per cent doctors have reported that the usage of ORS packets over the past five years has decreased and the usage remained the same during the period respectively. However, the IV fluid usage has decreased by about 65 per cent over the past five years, and the admission of diarrhoeal patients or the number of referred diarrhoea patients has also decreased by about 70 per cent.

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Table 4: Position of diarrhoeal patients under 5 5 years during the last 5 years as per practice of respondents

Position	Increased %	Decreased %	Same %
- No of patients	13.7	52.9	33.4
- No of patients admitted\referred	8.0	70.2	21.8
- I/V fluids usage for patients	10.2	64.5	25.3
- ORS packet usage for patients	72.4	10.6	17.0

prescription of drugs to diarrhoeal children under five years of age

It is heartening to note from the Table 5. that more than 65 per cent doctors are prescribing ORS to the diarrhoeal children having any type of diarrrhoea or diarrhoea with blood in stool. However. about 85 per cent doctors are also prescribing antibiotics to children having diarrhoea with blood in the stool. About 38 per cent and about 35 per cent are asking the mothers to give home made fluids to children having any type of diarrhoea and having diarrhoea with blood in stool. However. about 44 per cent respondents do give antidiarrhoeal drugs to children having diarrhoea with blood in stool.

Table 5. Prescription of drugs to the children under five years of age

Type of drug	Type of diarrhoea	
	All diarrahoeas %	Diarrhoea with blood in stool %
Anti-diarrhoeals	30.8	44.3
Antibiotics	16.5	84.7
ORS	65.5	67.3
Home-made fluids	38.0	34.7

Knowledge about feeding children during diarrhoea

The Table 6 shows that about 95 respondents are of the opinion that mothers should give breast feeding as usual or more than usual to the diarrhoeal children. However, about 54 per cent have reported that mothers should stop bottle feeding to their diarrhoeal children. About 59 per cent doctor respondents are also of the opinion that foods other than breast milk should also be given as usual or more than usual in case the children under five have diarrhoea.

Table 6: Percentage respondents having knowledge about feeding the children during diarrahoea

Type of feed	As usual/more than usual	Less than usual	Stop
Breast feeding	95.3	2.9	1.8
Bottle feeding	25.9	20.6	53.6
Other foods	59.4	28.8	11.7

Awareness about rapid stool test and its use

The findings in the Table 7 indicate that only about 34 per cent of the respondents are aware about the new rapid stool test which is used to detect bacterial or viral infection in stools. However, more than 92 per cent have reported that they would like to use the test, and about 91 per cent would prefer to recommend to give ORS in case the test indicates viral infection, and only about 37 per cent would like to give antidiarrhoeal drugs. However, 12 per cent doctors would like to prescribe antibiotic in case the test reveals viral infection.

Table 7: Knowledge about a new rapid stool test to detect bacterial or viral infection in stools and its use

	Percentage
- Awareness of test	34.1
- Would use the test	92.4
- Prescription if test indicates viral infection	
- ORS	91.4
- Antidiarrhoeal	36.5
- Antimotility	24.1
- Antibiotic	12.0
- Antiemetic	12.7

Prescription/dispensing of ORS

It is found from the Table 8 that about 81 per cent respondents prescribe ORS to the children having diarrhoea, however only 6.5 per cent dispense ORS.

Table 8: Prescription\Dispensing of ORS to the respondents

	Percentage
Prescribe	80.5
Dispense	6.5
Neither	13.0

Reasons for prescribing a brand

The respondents were asked to mention about the reason for prescribing a particular brand of ORS. About 72 per cent have reported that they prescribe a particular brand because its formula (contents) is better, whereas about 53 per cent have mentioned that the brand is easily available in the market and the same percentage of respondents are of the opinion that it is the quality of the ORS which compels them to select a particular brand (Table 9).

Table 9: Reasons for selecting brand of ORS

(N = 411)

Reasons	percentage
Its formula	71.5
Its price	33.8
Reputation of manufacturer	36.3
Med. Rep. promotion	11.4
Easy availability	53.3
Quality	53.3

Note: multiple responses, percentages do not add to 100.

Prescription of flavoured ORS

The Table 10 shows that about 65 per cent doctors are of the opinion that they would prefer to prescribe the flavoured ORS if it is available. So far as the powder ORS packets are concerned, about 71 per cent are of the opinion that they would prefer for the 200 ml packets. Similarly, if the ORS readymade solution is available, about 90 per cent respondents have shown their preferences for small packs. This may mean that the respondents prefer the for the small packs for any type of ORS, i.e., powder or readymade solution.

The Table further shows that for readymade ORS solution, the highest percentage of respondents prefer pouch pack (27.5%), followed by Terapack (24.7%).

Table 10: Preferences of ORS

	Percentage
- Flavoured	
Yes	65.1
No	34.9
- Powder Packet	
1 Litre packet	28.7
200 ml packet	71.3
- Readymade solution	
One litre pack	10.1
Small pack	89.9
- Preference for type of pack of readymade solution	
- Glass bottle	15.9
- Plastic bottle	18.8
- Pouch	27.5
- Terapack	24.7
- No response	13.1

Knowledge of preparation and giving ORS

Only 28.4 per cent respondents know correctly that for mixing of ORS only clean water should be used (Table 11). About 27 per cent know correctly that the ORS solution could be kept upto 24 hours after its preparation, whereas only about 24 per

[illegible] are aware that one glass of ORS solution should be given to diarrhoeal child after every stool. However, about 67 per cent respondents know correctly that it the child having diarrhoea is vomiting, the child be fed ORS solution with spoon.

Table 11: Knowledge for giving ORS

Item	Knowledge	
	Correct %	Incorrect %
- Type of water used for mixing of ORS	28.4	71.6
- How long ORS can be kept after preparation	26.9	73.1
- How much ORS should be given to a child	23.9	76.1
- If a child is vomitting, how ORS is given	67.1	32.9

Overall knowledge of ORT

The overall ORT knowledge of respondents has been computed with the help of knowledge components. The inferential statistics (t-test) has been applied to assess the significant difference of overall ORT knowledge between the respondents who attended the ORT meeting (s) and who did not attend any ORT meeting. The Table shows that there is a significant difference between these two group on the overall ORT knowledge possessed by them. The mean scores show that those who had attended the ORT meeting have more knowledge as compared to those who did not attend any ORT meeting.

Table : Comparison of overall knowledge of ORS between two groups of respondents (who attended the ORT meeting and who did not attend the meeting)

Meeting attended	N	Mean	SD	t-value
Yes	334	4.30	1.60	3.68**
No	174	3.76	1.43	

** Significant at .01 level.

The comparison of overall ORT knowledge among the respondents of three age groups has also been done. The significant difference only between two age groups has been observed in the Table. It is found that the respondents belonging to middle age group, i.e., 36-50 years are having more knowledge as compared to the respondents belonging to higher age group (51 + years).

Table : Comparison of overall knowledge of ORS between two age groups respondents (36-50 years and 51 + years)

Age Groups	N	Mean	SD	t-value
36 - 50 years	269	4.24	1.55	2.05*
51 + years	190	3.94	1.57	

*Significant at .05 level

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Reasons for low dispensing and prescription of ORS by doctors

About 31 per cent doctors are of the opinion that the high price of ORS is the reason for its low dispensing and prescription (Table), and about 47 per cent have reported that the mothers are of the opinion that ORS is not acceptable to the children. There are also about 45 per cent respondents who are of the opinion that according to the mothers the taste of ORS is acceptable to the children. About 26 per cent respondents are also of the opinion that it does not stop diarrhoea as perceived by the mothers. These are the main reasons as perceived by the respondents for low dispensing and prescription of ORS.

Table : Reasons of low dispensing and prescription of ORS

Reasons		Percentage of respondents
1.	Price too high	31.2
2.	Not enough profit to doctor	16.5
3.	Non-availability	11.4
4.	Perception by ~~doctors~~ doct that ORS is too cheap to be effective	16.9
5.	Does not stop diarrhoea as perceived by mothers	25.9
6.	Mothers complain that ORS is not acceptable to children	47.3
7.	Taste of ORS is not acceptable	45.1

Note: Multiple answers, percentages do not add to 100.

Ways for increasing the usage of ORS

The respondents were asked to suggest the ways and means so that the usage of ORS should be increased. According to the Table 12 it is found that 78 per cent doctors are of the opinion

that more publicity would increase the usage of ORS, and about 76 per cent have reported that the public at large should be made aware about the effectiveness of the ORS. These two type of opinions are more or less indicate the same thing. The Table further shows that about 64 per cent have indicated the ORS should be made cheaper. However, about 61 per cent are of the opinion that more information of ORS should be made available to the doctors. There are also about 46 per cent respondents who are of the views that dispensing packages of the ORS should be made available to the users.

Methods suggested by the private practitioners for increasing the ORS usage/prescription

Method	Percentage of respondents
1. More publicity	78.0
2. Make it cheaper	63.7
3. Dispensing package be made available	45.5
4. Improved availability	37.3
5. More profit to chemist	1.2
6. Setting up ORT centres	35.9
7. More information & promotion to doctors	61.2
8. Make it more expensive	1.8
9. Encouragement of non-WHO formula	5.3
10. Wider range of formulas available	5.3
11. More public awareness	76.1

Note: Multiple answers, percentages do not add to 100.

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Practical use of ORS

The respondents were asked to mention about their practical use of ORS. About 85 per cent have reported that they have actually given ORS solution to the children of their own family. About 78 per cent have actually prepared the ORS solution themselves. There are also 86.5 per cent respondents who have actually tasted the ORS.

Actual Practice of ORS by the private practitioners

Practice of ORS in	Percentage of respondents
1. ORS given to family child	84.7
2. Actually mixed ORS	78.4
3. Tasted ORS	86.5

Further
. Table on Training & Type
. Table on availability & other makes
III Correlation of Taste | with Flavour
Taste | with Taste or low usage
IV Breakdown of Doctors suggesting
Taste
Unacceptable to child with Age | Training
V Table on Recommendation & Age | Training | Brand

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APPENDIX G

COMMENTS TO IIHMR FROM DR. NORTHRUP

BASICS

BASIC SUPPORT FOR INSTITUTIONALIZING CHILD SURVIVAL

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Robert S. Northrup, M.D., Technical Officer Email: RNORTHRU@BASICS.ORG

MEMORANDUM

Date: May 27, 1997 -- Jaipur
To: Prasanta Pathak, Ph.D.
From: Robert Northrup, M.D.
Subject: Comments on Draft Report and on future Evaluation Report

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1. INTERVENTION METHODOLOGY

This topic seems to be the most in need of additional attention, and of course it is at the heart of the OR study as a whole. I have already made comments in the margins of the draft report. What is discussed here is the result of further thought regarding what would be the most useful approach to both characterizing the intended strategy for intervention and the actual intervention activities which took place -- unfortunately these are not the same !!

I suggest adding the following to Section 2.0 RATIONALE. This presumes that you have already shifted the "Proposed Model of Networking" (section 4.5) into this section after the text which is currently present. The addition I propose would follow that Model description and the diagram.

> "The purpose of the information sharing through the proposed network of communication is ultimately behavior change of the various stakeholders. Given that the purpose of the study is to improve the quality of health care, the ultimate behaviors to be influenced are the practices of care -- preventive or treatment-related -- being given to sick or well children and to women during pregnancy and delivery. These practices or actions are carried out by mothers at home, and by practitioners of various sorts, in particular for this study the rural non-qualified allopathic village doctors and qualified or unqualified ISM doctors. It is the assumption of this study that improved care by practitioners consulted for episodes of illness will result in both more rapid and complete recovery of the patient from the health problem and the prevention of future morbidity. The intermediate behaviors to be influenced are those which constitute the interactions of networking and exchanging information. If the intervention is successful, the stakeholders will increase their level of interacting activities aimed at improving health and health care quality as per the network model diagram, with practitioners meeting with the local PVO, mothers meeting with health volunteers or anganwadi workers, practitioners meeting among themselves, practitioners meeting with mothers (e.g. attending a mahila mandal meeting), etc. From being independent and disconnected actors pursuing personal or selfish goals, they would become a kind of "village health team" engaged in mutual collaboration to improve the level of health and health care in the village."

> "Efforts to change practitioner behaviors in the past have often been limited to training of various sorts, and as training often limited to merely the provision of information. The assumption of such knowledge-oriented interventions has been that improvements in knowledge will lead to changes in the case management practices being carried out by the practitioner. Unfortunately this assumption has all too often proven to be false, with minimal behavior change resulting from substantial investments in training. Because of this, this study adopted a broader range of intervention inputs to the practitioners, including training with its provision of information but going beyond it. The behavior change inputs to the practitioners are specifically :

1. Provision of information (training)
2. Specific behavioral contracting
3. Behavioral monitoring and feedback

Each of these components is designed in a manner aimed at maximizing its influence on the case management practices of the practitioner, as described below.

1. Provision of information (training): (a) uses adult learning techniques with maximal emphasis on participation by the learner (two-way rather than one-way information transfer) and building on existing information rather than presuming an "empty slate". Avoids "top-down" or "parent-child" type lecturing or preaching which belittles or is negative toward the self-esteem of the learner. (b) focuses on specific behaviors rather than general principles, in this case the specific practices which are the national standards for sick child case management. (c) uses "sandwich" technique, with information provided in an initial session, after which the learner goes home and tries using the information in his home situation, and then returns to a subsequent review and discussion of the implementation experience and any problems which have occurred.

2. Specific behavioral contracting: requests the learner to personally "contract" to carry out agreed-upon behaviors, following individual negotiation as to which behaviors can be or cannot be agreed to by the learner. Signing such a behavioral contract is expected to increase the psychological commitment of the learner to carrying out the agreed-to behaviors

3. Behavioral monitoring and feedback: A process of continuing monitoring of the practices being used by the practitioner using the Verbal Case Review method with the practitioner's patients,, comparing those practices with the practitioner's contract, and feeding the results back to the practitioner through a community or PVO influential person, should enhance the learner's feeling of accountability for carrying out his agreement. By having community members themselves -- the mothers who are the practitioner's patients -- be both the source of information and the implementers of the monitoring data collection, the practitioner comes to recognize that the patients who are his livelihood have an personal interest in his carrying out his agreement to provide care consistent with quality standards. This too should be a powerful psychological influence."

I suggest shifting most of what is currently in section 7.0 INTERVENTION into the methodology section (section 4.0) into a subsection called Intervention Methodology. The tricky part is, what to do about the difference between the intervention which was planned, and the intervention which was actually carried out.

Since this is aimed at the final report of the project, it is not appropriate to include in the methodology section something which was not actually done. Hence my recommendation is that you describe what was actually done. It is my impression that, relative to the practitioners, this included only the training and the behavioral contracting, and did not include the monitoring and feedback component. Accordingly, indicate that courses were carried out, and contracting was done. Mention that low levels of women participating in the mahila mandal meetings, and lack of effective organization of these groups by the health volunteers of the PVO, prevented effective carrying out of the monitoring and feedback component of the practitioner behavior change intervention inputs.

Then in the Findings section I suggest you insert a more complete description of the actual training which took place. Contents of this description should include:

-- a Table including the following items: session number (1 through 7), month of session, topics covered (e.g. diarrhea, diarrhea review, ANC, etc), number of practitioners participating

-- a Table showing types of practitioners (TA, UA, etc), total number of each type, and number of each type which actually participated in at least 1 training session, in 2-4 sessions, and in 5-7 sessions, with percents of total. If possible in this same table, or if necessary use a new table, show also the breakdown by project area -- case, modified case, and control areas (presumably none participated from this area -- is this true?)
-- similar Tables for the preventive and health education services workers and the dais.
-- Tables showing behavioral contracts (may be in appendix) for each disease type.
-- Table showing percent of practitioners who signed the contracts.
-- other factual information about training as in current description pages 37-40. I suggest that the detailed listing of topics for pregnancy training be shifted to the appendices. Much of the current Intervention description should be divided, with part of it going into the methodology section, and most of it going into this new Findings subsection
-- Tables or text description showing the participants reaction to the training, the results of any evaluation forms used at the training, and any anecdotes or quotes from trainees which characterize how they felt about the training, what the learned, how they applied them, or other similar reactions. Quotes from the trainers also regarding similar reactions to the training would be appropriate to put into this subsection also.

It is also important to have a subsection in the Findings section which details the networking activities which took place, in addition to the training. Were there instances of practitioners attending MM meetings? Do you have data on how many MM meetings took place during this period? Do you have any data which could help to differentiate between the activities which took place in the case area and those in the modified case area?

Were there any other inputs, either from the study or from the PVO in its other activities or from local health authorities, which might influence the behaviors of the practitioners or mothers and therefore should be documented here in the Findings section, even though they may not have been part of the study protocol?

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2. EVALUATION

The following are some topics related to the Evaluation of the study and interventions which need discussion and action:

-- What data collection is needed? Both VCR and PP structured interview? Omit PP SI?
-- Would it be desirable to do PP IDIs (In Depth Interviews)? Do other IDIs (e.g. with Health Volunteers or NFE workers) to get impression of whether Health Team mood or attitude has been created? Pathak and Singh to do IDIs? How many? With whom? What questions?
-- How to format results of VCR survey? Pre and Post? Compare case vs mod-case vs control?
-- Which practitioners to include in Post tables? All practitioners? Or only those participating in training? How many times is the minimum to be classified as having participated? Should the analysis be focused on specific topics, that is, using as "trained" only those practitioners who participated in the training for that topic, for example, those attending the diarrhea sessions are analyzed with regard to their diarrhea case management, while the others are not? Would there be enough data to analyze if this approach was used? Can the analysis methods select out only the VCRs from practitioners who did participate in training, or from the practitioners in one of the three areas?
-- If PP structured interviews will be done, how to use the results? Pre-Post? Compare consistency of PP answers with VCR in baseline study with consistency after intervention? How quantify consistency? Given training inputs, is it possible any more to use the PP SI to validate the results from the VCR? (I suspect not)
-- Are there any process evaluation indicators for which there is already data? How to use these?

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3. DISCUSSION SECTION -- POSSIBLE TOPICS AND SEQUENCE

While the evaluation surveys are not yet completed, and the data from them is yet to be known, it may still be useful to sketch out a topical approach to writing the Discussion section of the final report. Components of this section would be likely to find their way into papers prepared for publication as well. The following lists, in approximately the order in which they might come in a future draft of this section of the report, topics and related comments which put the various aspects of this study into both a national and a global perspective.

1. Importance of working with private practitioners -- relative proportion of care being provided in India by these practitioners, their lack of training and often poor quality care which is thereby less effective than ideal, their similarity to the CHW produced by so many rural programs but with long term commitment to working in health and thereby likelihood of greater sustainability in care providing role. Note PVOH producing CHW (called Health Volunteer in BCT program), which in Bihar was able to play a major role in carrying out the behavior change intervention. Potential for VDs to become involved more in preventive and health education efforts like CHWs, while with PVOH coming to a close CHWs may well be considering becoming VDs.

2. Potential of village level network leading to village health team -- panchayat movement suggests that now is the time for reinforcing and strengthening this approach -- structure to build on. data may be key to motivation of individuals and groups to become involved - data showing that there are deficiencies in current care being provided which may be leading to unnecessary prolongation of illness or even mortality. With a practical method for obtaining data -- the VCR -- community groups may be convinced that there is a need for their involvement, and the ability to monitor change through continuing VCRs may encourage people that change can occur and can be managed.

3. VCR -- Given the difficulty of standard methods for assessing practitioner quality in rural settings -- direct observation and exit interviews being difficult because of low patient volume and often mobile practitioners who travel from village to village and often or even predominately see patients at their own homes -- the VCR offers great promise. Minimal requirement -- the ability to conduct a simple HH survey and analyze it -- simple tabs, very simple interpretation, may be carried out by community groups themselves, although in this instance was carried out by a research team from outside the area. Advantage of participatory methodology -- involves the practitioner's patients in the quest to achieve higher case management quality and effectiveness, acquaints them with the standards, so that they can join in motivating him to adopt these more effective case management practices. In this case done by research organization, with objective of engaging local PVO in the process so that they could continue with it after this pilot study was completed, but capturing research organization ability to confirm the validity of the VCR in representing practitioner practices effectively by carrying out parallel direct practitioner interviews as validating mechanism. Drawbacks to VCR -- does not pick up treatment well -- mothers cannot provide names of drugs used because they were never told them. But does represent other aspects of case management very well. Feasibility borne out in Bihar, where CHWs in fact carried out the VCR twice, and borne out also by the simplified version used in the follow on VCR in this Rajasthan study.

4. Deficiencies in case management practices -- Given their minimal or absent basic training, it is not surprising that these village doctors exhibited a number of flaws in the procedures by which they managed children with the most common childhood illnesses -- diarrhea, fever/malaria, and respiratory infections/pneumonia -- compared to nationally and internationally recognized standards. Basic procedures to assess the child often were not followed -- weighing and plotting growth was extremely rare, as was ear and throat examination -- and disease specific procedures currently emphasized in IMCI

-- skin pinch in diarrhea children to assess the degree of dehydration. timing respirations with a watch to differentiate pneumonia from upper respiratory infections -- were low in frequency. Counseling was particularly weak, due likely to a conviction on the part of the practitioners that informing the patients about many of these items was not a good approach and might lead to frightening the patient, or to ill-informed decision making on their part if they misinterpreted changing symptoms. When presented with tables showing the mother's recall of their behaviors through the VCR, the doctors confirmed that the date being reported was consistent with their behaviors. Thus the VCR provided both a meaningful set of information on which one could design a behavior change approach, and the first step in that approach. getting the practitioners' attention.

5. Intervention: While the study and intervention design envisioned a three-pronged approach to changing practitioner behavior -- improved approaches for sharing of information, specific behavioral contracting, and monitoring and feedback in classic behavioral modification style -- only the first two were able to be implemented, due among other things to a lower level of activity and performance among the BCT CHWs in comparison to the CHWs working in the parallel Bihar studies at the same time. The participants found these approaches to be attractive and acceptable, however, according to their response on the follow-up PP interviews, and in addition, on the basis of the information both from the repeat VCR and from the PP interviews, changed many of their practices to coincide with their behavioral contracts. *MODIFY THIS STATEMENT IF NEW DATA DOES NOT CONFIRM* Given the short period during which the intervention took place, and the possibility of obtaining even greater improvement if the monitoring and feedback component could be added to the mix of inputs, it would be desirable to extend the project for an additional 6-12 months, providing additional training sessions, devoting attention to the community and household directed component and stakeholders, and allowing the monitoring and feedback component to be brought into play. This would also allow the project to make the transition to full BCT ownership and leadership, a necessary step if the activities are to continue beyond this OR study as self-supporting activities within the routine strategies of BCT's community development and health programs.

6. Lessons learned:
-- Sense of ownership by local PVO interfered with by burdensome research demands
-- Keep data to the minimum essential for the intervention -- simplify
-- Clarify and strengthen role of CHWs --
-- Need for mechanism to reach 100% of practitioners -- this will require most likely outreach to their offices -- "social detailing" -- can't depend on voluntary participation in group meetings.
-- Need for greater and earlier involvement of panchayat as possible alternative where Mahila Mandal efforts are weak
-- Village doctors are interested in obtaining new information, and in forming organizations to share information and provide mutual support.