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**EVALUATION AND LESSONS LEARNED
FOR THE BASICS PROJECT
INTERVENTION IN NIGER, 1993-1996**

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ACRONYMS

ARI	Acute Respiratory Infections
BASICS	Basic Support for the Institutionalizing Child Survival
CAP	Country Activity Plan
CCM	Combined Case Management
CDC	Centers for Disease Control
CIMEFOR	Circonscription Médicale de Formation et de Recherche
CM	Circonscription Médicale (also Centre Médical)
CDD	Control of Diarrheal Diseases
CRENA	Centre de Rehabilitation et d'Education Nutritionelle Ambulatoire
CSI	Centre de Santé Intégré
DR	Dispensaire Rural
EPI	Expanded Program on Immunization
HFS	Health Financing and Sustainability (Project)
IEC	Information, Education, and Communication
IMCI	Integrated Management of Childhood Illnesses
MOH	Ministry of Health
ONPPC	Office National des Produits Pharmaceutiques et Chimiques
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PMI	Protection Maternelle-Infantile
PRITECH	Technologies for Primary Health Care (Project)
QA	Quality Assurance
SSS	Sugar Salt Solution
SNIS	Système National d'Information Sanitaire
SPT	Stratégies Plaintes-Traitement
TOT	Training of Trainers
URC	University Research Corporation
USAID	United States Agency for International Development
WHO	World Health Organization

EXECUTIVE SUMMARY

This document describes a pilot project to implement a variant of integrated case management for child survival interventions in Niger and the lessons learned as a result of this experience. The BASICS project has worked with the Niger Ministry of Health (MOH) to combine training, supervision, and management efforts for three programs (control of diarrheal diseases, acute respiratory infections, and malaria control) with an additional emphasis on verification of a child's vaccination status and nutritional condition. BASICS worked in the health districts of Boboye and Say to implement the pilot project. The BASICS approach is designated combined case management (CCM) to distinguish it from the integrated management of childhood illnesses (IMCI) initiative.

The principal project activities included planning and conceptualization; a baseline survey of health workers' case management practices conducted in January 1995; the development of training and supervision materials; training of trainers and health workers; supervision and problem resolution; and a follow-up survey in December 1996. BASICS collaborated with the Quality Assurance project to develop and use appropriate supervision and problem resolution tools.

BASICS' intervention was perceived positively by the project's main partners in Niger. At the central level, the national disease control program directors and other MOH staff have been active participants in the development and use of training and supervision materials; this experience will be helpful for them as Niger moves forward with combined case management. In Niger it is clear that the integrated case management approach can be effective in treating childhood diseases and associated problems. Between 65 and 92 percent of children have more than one pathology and problems of malnutrition are common.

In general, the results of the case management surveys show that health workers' practices have notably improved from the baseline survey, with the exception of the assessment of diarrhea and dehydration cases. Other aspects of integrated, or combined, case management that still need improvement include advice to parents and assessment of management of malnutrition. Some aspects of the combined approach, such as weighing children consistently and the emphasis on interpersonal communication, are relatively new to health workers. Making these practices part of health workers' routine will take more time than the two-year time period of this intervention and will require steady reinforcement by the health system.

Project activities, lessons learned, and recommendations are presented for each of the main project components and for combined case management in general. The quality assurance approach to problem resolution and supervision, including an emphasis on the client's view point, team work, analysis of available data, and causal analysis, appears to be an effective tool to prioritize problems and to enable health workers to solve practical case management and communication problems.

Problems encountered by the pilot project include issues of compatibility between the treatment guidelines used for the BASICS intervention and the treatment protocols that were used in the two districts, and throughout Niger, before the intervention. In addition, health workers say that the new, more comprehensive approach to assessing and treating children takes more time and requires reorganization of their work. Possible solutions for these issues are discussed in this report.

The overall advantages and disadvantages of the integrated case management approach are discussed and the prerequisites and resources needed at each level of the health system are described. The report concludes with recommendations for next steps for the MOH and for BASICS/Niger. A summary of all recommendations is included at the end of the report. As the MOH and donors move to the implementation of IMCI, the experience of BASICS' pilot project provides important and helpful lessons. The BASICS' experience will also help to guide the implementation of IMCI in other countries of the West African region.

INTRODUCTION

For developing countries facing common childhood diseases, an approach of integrating the control and case management of these diseases has been promoted as an alternative to the "vertical" disease control programs launched during the 1980s and early 1990s. Although vertical national programs for the Expanded Program on Immunization (EPI) and control of diarrheal diseases (CDD) have had considerable success in terms of improving case management practices and lowering mortality rates, it has become widely recognized that an integrated approach—combining the control of diarrheal diseases with management of acute respiratory infections (ARI), measles, malaria, and malnutrition—offers advantages of economies of scale in terms of training, supervision, and program management. Integrated case management of sick children provides for a more complete assessment of sick children, including the child's nutrition status, and reduces missed opportunities for vaccinations. In addition, the integrated approach provides the opportunity for health workers to provide comprehensive advice to parents for follow-up to treatment.

This report describes a pilot project to implement combined case management (CCM) in Niger and the lessons learned as a result of this experience. The term "combined case management" is used to differentiate this approach from the initiative for the integrated management of childhood illnesses (IMCI). The IMCI initiative, sponsored by WHO and UNICEF and supported by BASICS, entails the use of specific, integrated training materials. In Niger, existing training modules for each disease control program were adapted and were taught together in one course. This course also emphasized danger signs for all sick children, assessment of malnutrition, and counseling methods and advice to give for all types of childhood illnesses. Supervision and management for the different disease control programs have been integrated under CCM in Niger. CCM is best considered as a type of integrated case management developed and implemented prior to the availability of the full IMCI approach.

The BASICS project, funded by USAID, worked with the Niger Ministry of Health to apply combined case management in two health districts, Boboye and Say. In addition, BASICS worked with the Quality Assurance project to support combined case management with a teamwork approach to supervision and problem solving. The project officially began in October 1993, but the implementation of CCM did not effectively start until a year later. The project has been affected by a series of disruptions and the time period is too short to arrive at definitive conclusions concerning the effectiveness of the CCM approach. Nonetheless, the BASICS/Niger experience provides useful lessons for the Niger MOH and other countries interested in integrated case management. Health facility surveys conducted in January 1995 (before CCM training) and in December 1996 provide a before-and-after look at the effectiveness of the training and supervision in terms of improving the practices of health workers.

This document is organized as follows. The second section provides background concerning Niger and the rationale and objectives of the BASICS intervention. The third section presents the results of the pilot project. Quantitative results concerning case management practices are available from the health facility surveys and from supervision visits. Qualitative observations are the result of a series of meetings and interviews with staff of BASICS, the Ministry of Health, USAID/Niamey, and collaborating projects. The fourth section discusses the constraints that the project has encountered.

The fifth section describes the principal program inputs and activities, key lessons learned, and recommendations for the principal project components; it also includes the approaches adopted for the development of combined training and supervision materials, the training itself, integrated supervision, and reinforcement of management capacities in the two districts. The following section discusses the next steps for IMCI and describes the prerequisites and resources needed for the initiative at different levels of the health system. This section also presents additional recommendations for next steps for BASICS and the MOH and concludes with a summary of all the recommendations from the report. A time line showing the main activities, events, and developments during BASICS' intervention is included as an appendix.

This work is the result of the author's trip to Niger, December 2-14, 1996, and of meetings held in Washington before and after the trip. While in Niger, the author worked closely with the BASICS country representative, Dr. Colette Geslin, and the BASICS regional director, Dr. Adama Koné, to develop the key lessons learned from the intervention.

BACKGROUND TO THE INTRODUCTION OF COMBINED CASE MANAGEMENT

In many ways, Niger is an appropriate country for pilot implementation of the integrated approach. Niger's under-five mortality rate is very high, estimated by UNICEF to be 320 per

1,000 live births in 1994.¹ The main childhood diseases targeted by integrated case management are all common in Niger. The 1992 Demographic and Health Survey found that 23 percent of children had an acute respiratory infection within the study's two week recall period; 45 percent had fever and 28 percent had an episode of diarrhea during the recall period. The 1994 report from the national health information system (SNIS) shows that malaria, ARI, and diarrhea are among the top five causes of child mortality, together with injuries and eye afflictions. Malnutrition is widespread—an estimated 32 percent of children under five suffer from stunting and 16 percent are severely underweight.²

Niger's Ministry of Health has strongly supported the integration of child survival programs. In 1993, the MOH created a Division for Child Survival, which includes the national CDD, ARI, and malaria programs. For the pilot project supported by BASICS, the MOH decided to focus on integrating these three programs, with an additional emphasis on verification of a child's vaccination status and nutritional condition. The national Expanded Program on Immunization (EPI), which depends on its own logistical system for the distribution and maintenance of vaccines, has been administratively separate from the other child survival programs. The MOH health development plan for the time period 1994-2000 includes objectives of reducing infant mortality by 50 percent and child mortality by 25 percent. The plan places strong emphasis on decentralization of health services management to the district level and the provision of a package of essential health services, including integrated case management of sick children.

Previous Child Survival Programs and Case Management Procedures

Although national CDD, ARI, and malaria programs all existed in Niger prior to BASICS' intervention, these programs were at different stages of development. The CDD Program was the most advanced, having established a national technical committee, trained a significant number of health workers, and developed a health education component for diarrhea case management. The CDD program was supported by the USAID-funded PRITECH project, which ended in 1993. Training and supervision activities followed a "vertical" approach, generally focusing on CDD and related nutrition components. A 1992 CDD health facility survey in three regions, supported by PRITECH, found that 52 percent of health workers had received CDD-specific training.

The national malaria program began in 1987 but has conducted only limited activities, including the development of national treatment protocols. A 1994 study found that health workers did not generally follow these protocols. The ARI program is newer, having started in 1993. A 1992

¹ UNICEF (1996). The 1992 Niger Demographic and Health Survey (DHS) found an under-five mortality rate of 320 per 1,000 live births (République du Niger, 1993a).

² Figures are from the 1992 DHS (République du Niger, 1993a). Stunting refers to children whose height for age is two or more standard deviations below the mean for the WHO/CDC reference population. Severely underweight refers to children whose weight for age is two or more standard deviations below the mean for the reference population.

study of case management practices found that 59 percent of ARI cases were given antibiotics without appropriate indication. In general, child survival programs are affected by well-documented difficulties which influence the health system in Niger: unreliable drug supply, irregular or non-existent supervision, and poor patterns of communication between health workers and patients or their caretakers.

Curative care in most of Niger's health facilities follows the *Stratégies Plaintes-Traitement* (SPT) treatment protocols. Developed with assistance from the Belgian Cooperation in the mid-1980s, the SPT protocols are currently widely used in Niger, including in interventions supported by UNICEF and based on the Bamako Initiative. The protocols are intended to rationalize drug use in coordination with a national policy for the distribution of essential drugs. The protocols go directly from the patient's stated symptoms to the prescription of specific medications. The SPT protocols overlook some of the health problems of children. For example, they do not include assessment of vaccination or nutrition status, and there is no component for communication with patients or caretakers. The combined case management approach introduced by BASICS corrects many of these oversights. However, a major policy question concerns the reconciliation of discrepancies between the combined case management approach (or IMCI) and the child care components of the existing SPT protocols.

Prior to the BASICS' intervention, the districts of Boboye and Say were the sites for pilot health projects supported by the Belgian government and the USAID-funded Health Financing and Sustainability (HFS) project.³ One result of these projects is that Boboye and Say have a cost recovery system in place and benefit from a relatively stable supply of essential drugs. The availability of essential drugs was in fact the main criterion for the choice of districts for BASICS' intervention.

The Objectives of BASICS' Intervention

The general purpose of BASICS' activities in Niger has been to develop and test approaches for combined case management of childhood diseases. Following MOH policies, priority has been given to integrating CDD, ARI, and malaria. The BASICS' country activity plan (CAP) for Niger contains the following four objectives:

- (1) Increase the quality of performance in CDD, ARI, and malaria case management. (Strategies to achieve this objective include the development and use of integrated training and supervision materials on a pilot basis.)
- (2) Improve the capacity of caretakers in prevention, home care, and care-seeking behavior.

³ The HFS intervention focused on health financing methods. Three different methods were pilot tested: (1) direct payments by users (in Say); (2) indirect financing of drugs through a surcharge on the district tax, coupled with a copayment at the point of service (in Boboye); and (3) prepayment through the sale of annual health cards (in the District of Illéla in the Department of Tahoua). The indirect payment method was found to generate more revenue than the others and was preferred by the public. As part of the intervention, financial management and drug inventory management systems were put into place in Say and Boboye (Diop *et al.*, 1994).

- (3) Strengthen management capacity in the health system.
- (4) Document lessons learned and identify national policy and programmatic implications.

These objectives fit closely with the objectives and sub-objectives of USAID's Niger Mission. At the health district level, one of the Mission's subobjectives is that 80 percent of children at health facilities with malaria, ARI, diarrhea, or malnutrition will be treated according to established national protocols. The anticipated impact of this subobjective is to reduce infant mortality in the areas concerned by approximately 20 percentage points and to reduce child mortality by approximately 30 percentage points.

Over the course of BASICS' involvement in Niger, the objectives in the CAP have been maintained and closely followed. The prevention aspect of Objective (2) has not been part of BASICS' work plans. Advising caretakers on prevention may be difficult in the context of health workers' case management activities. While health workers are able to advise mothers on home care and care-seeking behavior, advice on prevention is often more general and more easily done in the context of health education sessions at health centers or community outreach activities.

In 1995, an additional strategy was introduced into BASICS' intervention—supporting supervision and management capacity through a quality assurance (QA) problem solving approach in collaboration with USAID's QA project. In addition, nutrition has been included as a component of combined training and supervision activities. Although nutrition was not one of the programs formally included in the combined case management approach, the strong link between malnutrition and most childhood diseases argues for systematic assessment, treatment, and counseling for nutritional deficiencies.

The baseline health facility survey for the intervention (January 1995) showed a strong rationale for implementing CCM in Say and Boboye. In the two districts, 66 percent and 71 percent, respectively, of outpatient consultations were for ARI, malaria, or diarrheal diseases. Sixty-five percent of sick children had at least two pathologies; 59 percent were malnourished. A separate study conducted in the same districts in late 1994 found that 84 percent of sick children had more than one complaint, including malnutrition (Cissoko, 1996). Overall in Niger, access to health services is low. UNICEF estimates that only 32 percent of the population can reach appropriate local health services in an hour or less by the local means of transport (UNICEF, 1996).

RESULTS

The primary source for quantitative results related to case management practices in Boboye and Say are the baseline and follow-up health facility surveys conducted by BASICS in January 1995 and December 1996. Supervision visits in the intervening time period provide additional measurements of case management skills, but because of differences in method and sample size, results from supervision cannot be compared to the survey results. For the case management

training, tests given to participants before and after the training sessions provide some indication of the effectiveness of the training.

Qualitative results of the BASICS intervention are derived from the survey results, a review of technical materials and documentation related to the intervention, and meetings with key individuals within BASICS, the MOH, USAID, and other donor organizations. Comparisons between CCM and the existing national vertical disease control programs are problematic because, with the exception of CDD, these programs have not been well developed at the national level.

The results described below should be considered as a preliminary indication of the effectiveness of the combined case management approach. There was less than two years' time between the baseline and follow-up surveys and within that time period there were significant programmatic delays due to factors external to the project. As with any public health intervention, the full effectiveness of CCM will most likely not be felt until the approach has become institutionalized, which will take longer than two years.

BASICS' intervention has been positively perceived by the project's main partners in Niger. The MOH is very interested in the results of the pilot experience with CCM and plans to use these results in its anticipated implementation of the integrated management of childhood illnesses (IMCI) initiative, together with WHO and UNICEF. WHO, UNICEF, and other organizations such as the Quality Assurance project have collaborated openly with BASICS in jointly organized workshops and through more informal cooperation and sharing of experiences concerning CCM. BASICS can play an important future role in terms of working with these organizations to implement IMCI. It is clear that Dr. Geslin has been effective in implementing and building on the BASICS' workplan, organizing activities, collaborating with other organizations, and providing technical guidance for BASICS and the MOH.

A summary table showing results of the baseline and follow-up health facility surveys is shown below. For many of the indicators used in the surveys, a "correct" score requires successfully fulfilling multiple conditions. These indicators are marked with an asterisk (*) in the table. In some cases, one or more of the more specific criteria are also included (more specific criteria are indented). Two asterisks (**) indicate that the information is not available from the 1995 study, or that the questions are not comparable between the two surveys. The complete report for the surveys, including definitions used for correct evaluation, treatment, and advice given, is available as a separate BASICS report.

Summary Results of Baseline and Follow-up Facility Surveys

Indicator	Jan. 1995 (Baseline)		Dec. 1996 (Follow-up)		Trend
	N	% positive	N	% positive	
Assessment of danger signs -- at least one sign evaluated	151	11%	153	45%	Up
Assessment correct -- ARI cases*	84	12%	101	30%	Up
Respiratory frequency checked	84	13%	101	73%	Up
Chest in-drawing checked	84	25%	101	37%	Up
Assessment correct -- diarrhea cases*	44	23%	81	26%	No Trend
Assessment correct -- dehydration*	44	27%	81	25%	No Trend
Skinfold checked	44	34%	81	42%	Up
Assessment correct -- fever cases*	85	0%	119	25%	Up
Temperature taken	85	60%	119	83%	Up
Treatment correct -- ARI cases*		**	107	67%	
Pneumonia cases given appropriate antibiotics		**	48	79%	
Treatment correct -- diarrhea cases*		**	58	53%	
Plans A and B without blood in stool given ORS or SSS without antibiotic		**	51	55%	
Treatment correct -- malaria cases		**	22	100%	
Advice given correctly for ARI cases*		**	107	32%	
Advice given correctly for diarrhea cases*		**	57	39%	

Indicator	Jan. 1995 (Baseline)		Dec. 1996 (Follow-up)		Trend
	N	% positive	N	% positive	
Advice given correctly for fever cases*	**		22	41%	
For all cases, percentage of mothers given advice on:					
How to administer drugs at home	151	62%	153	88%	Up
Feeding and breastfeeding	151	7%	153	61%	Up
Increasing liquids	**		153	55%	
Child's nutritional status correctly determined*	151	3%	153	38%	Up
Child weighed	151	41%	153	74%	Up
Child's vaccination status checked	151	25%	153	60%	Up
Mothers understanding home case management*	**		150	37%	
Mothers understanding at least two danger signs for taking their child to a health center*	**		150	56%	
Mothers knowing how to prepare ORS or SSS correctly	**		84	73%	
Health workers report receiving at least 2 supervision visits in the last 6 months	36	33%	18	72%	Up
Health workers report receiving constructive, written feedback and discussion from supervision	26	31%	18	61%	Up

In general, the results show that case management practices have notably improved from the baseline survey, with the exception of the assessment of diarrhea and dehydration cases (see later section on CCM) for a discussion of possible reasons for the low scores for diarrhea and dehydration). Overall, the scores for "correct assessment," while they have improved from 1995, are still relatively low, as are the scores for "advice correctly given" for each type of case (there are no available baseline scores for advice correctly given since the questions were not asked in the same way).

The correct treatment scores are reasonably high, particularly the 100 percent score for correct treatment of fever. These scores were achieved despite the fact that 61 percent of the health

centers visited had experienced a stock-out for one or more of the principal essential drugs for managing ARI, diarrhea, malaria, and malnutrition during the month preceding the survey. The scores for mothers' understanding of home case management and danger signs (37 percent and 56 percent respectively) are high by international standards, presumably reflecting the emphasis of the CCM approach on counseling. The impact of the CCM training is clearly seen in the improvements for examination of nutrition and vaccination status.⁴ These aspects have been strongly emphasized in the CCM training and in supervision and were rarely practiced previously under the SPT case management approach.

The pre-tests and post-tests conducted for the CCM training sessions show that 71 percent of the participants improved their scores on the written test by 50 percent or more. The trainers also evaluated participants' management of sick cases during the practice sessions. At the end of the training, 58 percent of the cases of sick children were correctly managed, meaning that the assessment, treatment, and advice components of case management were all correctly handled.

Other sources for comparison of results include a childhood illness case management study conducted in Say and Boboye in late 1994 as a doctoral thesis (Cissoko, 1996). This study, with 97 observations, found that sick children were given an average of three prescriptions and that antibiotics were justified in only 41 percent of the cases in which they were given. A 1992 CDD health facility survey in three regions found that 41 percent of child diarrhea cases were correctly evaluated and 76 percent correctly rehydrated.

The results of supervisory visits conducted approximately two months after the CCM training sessions provide scores that are almost universally higher than either the baseline or follow-up surveys. Correct evaluation scores averaged 70 percent for supervision in Boboye in August 1995 and 90 percent for supervision in Say the following month. Correct treatment scores were 80 percent and 90 percent, respectively, for the two districts. The higher scores are not statistically representative for the target population and almost certainly reflect more flexible criteria. The supervisory guide itself does not specify the definitions of correct evaluation and treatment for each disease type. To do so would make the form more complex and probably less useful; however, one result of not specifying the definitions is that subjectivity is introduced into the supervision and the results are not comparable with the survey results.⁵

Supervision reports over the course of 1995 and 1996 show continued improvement in terms of evaluating associated conditions, particularly checking vaccination and nutrition status. These supervisory visits also consistently identified problems with evaluation of ARI cases and

⁴ Checking vaccination status by itself, however, is of limited worth without follow-up vaccination activity.

⁵ Supervisors are responsible for much more than a categorical evaluation of health worker performance. Since it is difficult and cumbersome for supervisors to employ the level of detail used in the health facility surveys in evaluating health workers, an alternative to using supervision as a comparison to the surveys would be to conduct periodic health facility surveys with a smaller, and randomly chosen, sample of health centers. The results of supervisory visits would still serve to point out trends, as well as areas of strength and weakness, in health worker performance.

communication with mothers, thus reflecting the fact that the ARI guidelines taught in the CCM training differ from the SPT guidelines⁶ and that the communication component of the CCM training was new for most health workers.

BASICS has worked to strengthen management capacities at the district and the regional levels, including the use of a quality assurance problem-solving approach. Both districts have also evaluated and documented lessons learned for EPI management and both have developed EPI strategies. Supervision has been strengthened and training has taken place for monitoring activities with routine data collection. The impact of BASICS' intervention can be seen in improvements in supervision between the baseline and follow-up surveys, both in terms of numbers of visits and likelihood that the supervisor provides written, constructive feedback to the health center. At the central level, the national disease control program directors and other MOH staff have been active participants in the development and use of training and supervision materials. This experience will be helpful for them as Niger moves forward with integrated case management. It is impossible to know at this point whether or not improvements in management and supervision performance are in fact institutionalized or are more a temporary reflection of BASICS' presence and inputs.

CONSTRAINTS

The principal constraints encountered by the BASICS' intervention have been programmatic delays for a variety of reasons. The postponement and eventual cancellation of USAID's planned bilateral health and population project for Niger and the related January 1996 coup d'etat have meant that BASICS has followed a series of short-term plans rather than a continuous, long-term planning process. Epidemics of cholera, meningitis, and measles, and the threat of yellow fever, have taken time and resources at the regional and district levels. Additionally, the MOH has led a series of national vaccination days, campaigns that require health workers to spend considerable time planning, publicizing, administering, and reporting vaccinations.

In terms of implementation of activities, BASICS has largely been able to overcome these programmatic delays. Other constraints which BASICS, and the implementation of the CCM approach in general, have encountered are as follows:

- Verification of vaccination status has been complicated by the fact that many mothers have multiple vaccination cards for their children, resulting from different vaccination campaigns. Multiple vaccination cards can lead to uncertainty over vaccination status and unnecessary duplication of vaccinations.

⁶ The SPT protocols do not systematically require the health worker to check for chest in-drawing, which is emphasized in the CCM training materials. In the SPT approach, a child presenting with the combination of a fever and a cough is automatically prescribed an antibiotic, which is not the case with CCM.

- There has been some resistance from health workers to the combined case management approach, mainly related to the amount of time required for the complete case management of a sick child, including weighing the child and checking vaccination status. Health workers are used to the direct STP approach, going straight from the patient's stated complaint to the prescription. Health workers have been slow to adopt the practice of weighing children, often stating that the health centers do not have adequate means for weighing. The issue of time management, and its implications for CCM and IMCI, is discussed in more detail in the section on combined case management.
- There are compatibility problems between the SPT treatment guidelines currently in use throughout Niger and the CCM treatment guidelines. In addition to the fact that the SPT approach does not include evaluation of associated problems and complete counseling for caretakers, there are serious discrepancies between the two approaches in terms of treatment of ARI (see footnote 6). Health workers in Boboye and Say have continued to use both approaches, but some type of policy reconciliation clearly needs to take place. A related issue concerns the WHO/UNICEF IMCI treatment guidelines and training materials. After translation into French, these materials will need to be adapted to Niger's realities and national policies, particularly for feeding practices and malaria treatment. As with the BASICS materials, there will be problems of compatibility with the SPT approach. A more detailed discussion of policy issues is contained in the section entitled "Future Perspectives."

DESCRIPTION OF PROJECT ACTIVITIES, LESSONS LEARNED, AND RECOMMENDATIONS

This section is organized as follows: management and planning activities are presented first, with general lessons and recommendations for the management of the BASICS' intervention. A description of the project's main activities, and the approaches taken, follows for each of the main components: material development, training, supervision, and quality assurance. Lessons learned and recommendations are included with each project component.

Project Management, Planning, and Coordination

The BASICS intervention in Niger has included technical assistance to the MOH at the central level, to the regions of Dosso and Tillabery, and to the districts of Boboye and Say located in those regions. A resident country representative, Dr. Colette Geslin, has overseen in-country activities and BASICS has maintained an office in Niamey. Technical assistance and administrative oversight have been provided by the BASICS/Washington headquarters and the BASICS West Africa regional office in Dakar.

Even with uncertainties about USAID's role in Niger, Dr. Geslin was able to stay involved in a series of activities, such the national ORT week in 1996 and in committees to manage epidemics

and investigate yellow fever outbreaks. Involvement in these activities and continued contact with MOH colleagues were important elements of Dr. Geslin's ability to maintain a positive working relationship with the Ministry.

BASICS' main planning document, the country activity plan (CAP), was prepared following a June 1994 visit by a team from BASICS/Washington. Despite delays in implementation, BASICS has closely followed the plan outlined in the CAP. Funding for activities has come from the USAID Mission's delivery order, supplemented by BASICS' field support and core funds, including Africa Bureau-designated core funds. Appendix B contains a time line of the major activities and developments for the BASICS intervention in Niger. The time line will be helpful to the reader as a chronological presentation of the principal activities involved in the implementation of the CCM approach. Additionally, the time line clearly shows how outside events have affected the project's activities.

Once the decision was made that the BASICS intervention would focus on the districts of Boboye and Say, the principal needs assessment activity was the baseline health facility survey to assess case management practices. This survey took place in January 1995 and included all of the 17 health facilities in the two districts. The results, presented earlier in this report, showed serious case management problems. The thorough needs assessment exercise recommended for IMCI has not yet taken place at the national level.

BASICS has worked closely with the MOH at the national level to develop policies and materials and to plan for the implementation of the integrated case management approach. At the national level, BASICS has worked with the Ministry to plan for introduction of CCM. The MOH created the Division for Child Survival in 1993. Although the corresponding director position has been vacant, BASICS has been able to work with the heads of the different programs within this division to develop technical materials for training and supervision.

In Niger's 1994-2000 health development plan, the health district is the key operational unit. District-level personnel, including the district medical officer (*Chef de Circonscription Médicale*), are thus key players in implementation of CCM, particularly in terms of planning and supervision. WHO financed a national workshop in November 1994 for planning activities at the health district level. BASICS provided technical assistance at this workshop for the development of district-level actions plans with coordinated activities for the national child survival programs.

Lessons Learned

The definition of the roles and responsibilities of the BASICS country field office, the regional office, BASICS headquarters, and the USAID mission has not been clear at times. Lines of communication, responsibility for oversight of activities, and responsibilities in terms of responding to the program's needs should be more clearly defined.

Recommendations

BASICS should prepare a memorandum outlining roles and responsibilities between all parties for technical, operational, and administrative oversight of the country program. The memorandum should also define the role of the Dakar Regional Office in terms of providing technical support to the country program.

Development of Materials for Combined Training and Supervision

In early 1995, BASICS worked with the program managers and other staff of the national CDD, ARI, and Malaria programs to develop training materials for the combined management of sick children at the health center level. Regional MOH staff and outside clinical and IEC experts (including representatives of the BASICS regional office) also participated. Two groups were established, one for clinical aspects and one for IEC. From the beginning, it was agreed that the target audience for the materials were health workers at peripheral health facilities (*centres de santé intégrés*).

Ten days were devoted to analysis of existing materials and of the results of the baseline health facility survey. The clinical findings, and the results of focus group discussions with mothers conducted as part of that survey, were systematically incorporated into the training materials. The consolidation of existing materials and the development of new portions were done in another four weeks. Even though the materials are largely based on guides and training modules that already existed, the team developing the materials found the time schedule to be tight—more time would have been desirable.

Because of the involvement of the national programs, the materials closely reflect national case management policies. In fact, the materials are to a large degree adaptations of existing training materials used by the national programs. Other materials used include WHO case management guides and references for the assessment and treatment of serious symptoms.

The materials focus on children from the age of 2 months to 5 years. The essential approach is that the health worker first looks for and asks about serious danger signs which indicate the need for immediate treatment or referral. The health worker then identifies associated health and (for children under 2 years of age) nutrition problems and missed vaccinations and treats the child according to established standards. After treatment, the health worker provides advice to the mother or caretaker concerning care at the home and signs indicating the need to seek further care. The health worker verifies the mother's understanding of the advice given.

The materials contain six modules, including: (1) introduction; (2) initial reception of the patient; (3) assessment of serious symptoms and referral; (4) assessment of each of the major illnesses included (including nutrition problems); (5) treatment for each of the illnesses; and (6) interpersonal communication, including essential advice to give to caretakers. A review of the materials by the BASICS/Washington office in November 1995 pointed out the materials

were essentially a collection of technical directives, lacking a trainers' guide and explanation of teaching methods. The review also identified some inconsistencies with the latest WHO policies in the CDD and malaria treatment guidelines.⁷

The training materials were well received by participants at the training, as indicated by comments received and the evaluation forms completed by participants at the end of the training. Health workers appreciated the fact that the materials synthesized information from different programs, effectively avoiding redundancies and saving time during training. The reaction of the central level MOH to the materials has also been positive. This reaction has been facilitated by the participation of key personnel from the national programs in the development of the materials.

BASICS and the team of national and regional level MOH staff also developed two technical job aides for health workers—the essential steps of combined case management and advice to give to caretakers—and a supervision checklist. The checklist is discussed below, in the section entitled “Supervision.” The job aides are uncomplicated presentations of the key messages from the training. For case management, health workers need more detailed references than the relatively simple job aides. Participants in the training courses also received a copy of the training modules. It is not clear if the job aides, or the training modules, are widely used by health workers, or what their effectiveness might be. The question of which technical materials health workers actually use on the job is related to policy issues—and possible confusion when the CCM guidelines and the child health portion of the STP protocols are not in agreement (see section on CCM).

Lessons Learned

- For the content of training materials, it is necessary to have practical technical job aides which health workers can take with them and use as a reference. At least two types of aides are desirable, a guide to evaluation and treatment of the major childhood diseases and a guide for essential advice to give to caretakers. It is not clear if the job aides developed by BASICS are widely used by health workers or what their effectiveness might be.
- In the process of developing training materials, there are likely to be tensions between clinicians and communicators—these groups bring different perspectives to the process. In fact, it is essential that the two work closely together because communication messages should be included throughout the training modules.

⁷ For CDD, the review recommended that the training materials should use the new WHO algorithm, which drops earlier differences between “key signs” and other signs and reduces the number of signs to be checked from six to four. For malaria, the review recommended that, among other aspects, health workers should be taught separate protocols for malaria in high risk and low risk settings, while the CCM materials teach that febrile children in all settings should be treated for malaria only if they appear to have no other cause for the fever.

- For communication, it is a challenge to synthesize the content of what should be communicated to the mother or caretaker of a sick child, since each disease control program has separate advice. Combining all of the messages from the different programs results in too much material, so it is necessary to synthesize, prioritize, and eliminate redundancies. This synthesis process is critical if the training materials are to be practical and the training itself manageable. Likewise, if a health worker is not to overload a caretaker with too much information, it is essential to have a few simple, concrete messages that summarize the essential elements of CCM. In Niger, developing these messages was a time consuming process—their content was not decided until the training of trainers course. The key messages were based on the most important aspects of “danger signs” and home case management of each disease.
- It is very helpful to have representatives of the different national disease control programs participate in the development of training and supervision materials. The national programs know the national policies and generally have already developed their own training materials. Moreover, in the context of integrated and decentralized health care programs, the role of national level programs is to ensure the application of national technical standards. Engaging the national programs from the beginning is likely to ensure their involvement throughout the implementation of integrated case management. The BASICS intervention in Niger has done an outstanding job of associating the national programs, and other key collaborators, in the development of materials and the implementation of CCM.

Recommendations

- If BASICS or the MOH continue to use the CCM training materials before the IMCI training materials are ready, the CCM materials should be revised in accordance with the BASICS headquarters review from November 1995.
- The staff of the MOH national child survival programs should be closely involved in the process of adapting the IMCI training materials for use in Niger.
- Wherever feasible and appropriate, national case management policies should be incorporated into the IMCI materials. The MOH should clarify the national case management policies for childhood diseases, particularly where there is potential conflict between the SPT guidelines and the IMCI materials. MOH policies should be communicated clearly to health workers and international organizations working in the health sector in Niger.
- The IMCI materials should include health education messages adapted to the context of Niger. The process of developing messages for child feeding should take into account the considerable amount of ethnographic research concerning feeding practices and attitudes that has already taken place.

- Training materials should be adapted to the educational level and the environment of the participants. In Niger, health workers at peripheral level facilities are unlikely to read extensive amounts of technical materials, so training materials should not count on outside reading as a primary pedagogical tool.
- The IMCI material adaptation process should include the development of a job aide for health workers that contains essential case management information and advice for caretakers. This should be informative yet not too complicated for quick reference. Health workers should be instructed clearly in the use of this guide as part of IMCI training.

Training

A training of trainers (TOT) course took place in Niamey in March 1995. The team that had developed the materials trained departmental staff and district medical chiefs who then took the lead as trainers of health workers. The practice sessions for the TOT course were held at the PMI health centers in Niamey. There was no shortage of cases of all diseases types at the PMI centers.

There were two sessions of training of health workers from integrated health centers (Boboye in June 1995 and Say in July 1995). These sessions took place at the districts' medical centers. In all, 12 trainers were trained in the TOT course, and a total of 25 health workers in the two district-level courses. This represents just over half of the health workers in the two districts. Each district-level training lasted for nine days. Nearly half of course time was spent in case management practice sessions. Trainers used a form to follow participants' progress; each participant managed at least five cases. It was not always possible, however, to find an appropriate mix of cases at the medical centers. Diarrhea and ARI cases are relatively uncommon during June and July.

The pre-tests and post-tests conducted for the CCM training sessions show that 71 percent of the participants improved their scores on the written test by 50 percent or more. The trainers also evaluated participants' management of sick cases during the practice sessions. At the end of the training, 58 percent of the cases of sick children were correctly managed, indicating that the assessment, treatment, and advice components of case management were all correctly handled.

In 1996, BASICS also supported training for supervision and problem resolution in Boboye in collaboration with the Quality Assurance (QA) project. The objectives of this training were to define the role, relationships, and responsibilities of the supervisor in the resolution of problems and to enable the supervisor to assist teams in planning and managing meetings to identify problems and solutions. Teams from the district and three health centers were trained. The quality assurance and problem resolution approach is described later in this report.

Lessons Learned

- For integrated training, the trainers need to have multiple technical skills, particularly in order to be able to supervise participants who are managing cases in the practical work. Wherever possible, MOH staff responsible for supervising the case management performance of health workers should be involved as trainers. The trainers chosen for CCM training in Niger were the staff of the national disease control programs and physicians, with supervisory responsibilities, from the department and district level. The department and district-level physicians were better able to supervise clinical aspects of the case management of the different childhood illnesses during the practice sessions. By itself, the training of trainers session is not enough to ensure that the trainers will be able to supervise practical sessions effectively.
- A training course of nine days was sufficient to cover the combined training materials for CDD, ARI, malaria, and nutrition.⁸ However, the time required should be related to the previous training received by participants (those already trained presumably need less classroom time). In Boboye, there had been no previous ARI training, so the course there was adjusted to provide more emphasis on ARI case management. No outside reading (other than the training module itself) was required of participants.
- Nearly half of the time was devoted to practice sessions and the Niger CCM experience suggests that the appropriate mix between class work and practice in training is close to 55 percent class work to 45 percent practice. A strong emphasis on practical work means that cases must be available—ideally in the appropriate mix (each participant in Niger managed at least five cases during training, but it was not possible to find all types of cases for each participant). Because of the seasonal nature of childhood diseases, it is not always possible to have a sufficient representation of all the principal diseases.
- The best time for training in Niger appears to be the dry season, from November to March, when diarrhea and ARI cases are common. An update for malaria cases, which occur during the wet season, can be conducted at another time of year.
- Given the emphasis on practical work, the ideal ratio of trainers to participants is one to three. Trainers should ensure that they have sufficient time to prepare—four days were necessary in Niger.
- There are several aspects of the training that are new for participants. For the BASICS intervention, these included the ARI treatment guidelines and the emphasis on

⁸ The course duration was determined by estimates of the amount of time required for each of the components of the training once the materials were developed. Many of the health workers participating in the training had not received prior in-service training for the vertical child survival programs -- the baseline survey in January, 1995 found that 61% of health workers had been trained in CDD, 31% in malaria, and only 22% in ARI.

interpersonal communication. Additionally, it was not clear to participants what integration means in terms of reorganization of activities at the health center.

Recommendations

- For IMCI training, trainers should have multiple technical skills related to the case management of childhood diseases. The training team should include the health personnel who will be responsible for supervising the case management performance of the participants after the training.
- IMCI training should have a strong emphasis on hands-on management of cases during practice sessions. The sites for the training and the time of year should be chosen based on the number of cases available. Because of the emphasis on practice sessions, the best ratio of trainers to trainees is one to three.
- During the training, aspects that are new to participants should receive special emphasis and there should be participatory discussion of how to integrate activities once health workers return to their health centers. Health workers should be told clearly what will be expected of them after the training and the indicators that will be used to monitor and evaluate the new intervention should be explained.

Supervision

Supervision was irregular in Say and Boboye prior to the BASICS intervention. The baseline survey found that 33 percent of the health workers in the two districts had received two or more supervisory visits in the six months prior to the survey. One visit every two months is MOH policy, but in reality supervision depends heavily on the presence of outside donors, who typically pay the costs of transportation and per diems. For example, supervision in Tahoua is supported by the QA project. The Safe Motherhood project is active in Boboye and has supported some supervision in the district together with BASICS.

All physicians graduating from the national medical school receive training in supervisory techniques at CIMEFOR, a Belgian-supported local training organization. But prior to the BASICS intervention, no supervisory checklist was in use in Say and Boboye. There is no standardized checklist available at the national level. The list of indicators developed by the MOH for an essential package of health services provides some guidance to supervisors at peripheral health facilities.

BASICS supported and participated in one supervisory visit by each health district to health centers, approximately two months after the completion of case management training. This supervision used the supervisors' checklist and guide developed by the national materials development team with BASICS support (the results of the supervision are briefly described in

the “Results” section). Representatives of the national-level child survival programs participated in these post-training supervisory visits.

BASICS also financed continued supervision by the two health districts and both districts have continued with intermittent supervisory visits. The follow-up health facility survey in December 1996 found that 72 percent of the health workers had received two supervisory visits or more in the previous six months. Planned supervision has in some cases been interrupted by disease epidemics and national vaccination days (*journées nationales de vaccination*).

The CCM supervision checklist is designed for supervision by district-level staff visiting a health center and is comprehensive in its assessment of drug availability, case assessment and treatment, and advice to caretakers for each of the CCM components. The accompanying supervisors’ guide, developed with assistance from CIMEFOR, emphasizes working in groups and a participatory approach to identifying problems and solutions.

The BASICS intervention has taken a comprehensive approach to the child survival interventions without attempting to supervise all of the activities of the health center. The key indicators used for supervision in terms of evaluating case management and communication practices are the same as those used for the baseline and follow-up surveys. Health workers at the facilities to be visited have always been notified of the visits in advance, in accordance with MOH practice. In Boboye, the supervision has followed a quality assurance approach, emphasizing the following elements: (1) assessment of health workers’ performance; (2) immediate feedback; (3) discussion of problems needing follow-up; and (4) identification of solutions and agreement on steps for resolution.

The contribution of the supervision to improvements in case management in the two districts is difficult to gauge. Some, but not all, supervisors send a copy of their reports to the central level and to the BASICS office. The follow-up health facility survey found that 56 percent of health workers supervised had received written feedback (compared to 31 percent for the baseline survey) and 89 percent reported having discussed difficult problems with the supervisor.

Lessons Learned

- Without effective supervision, new initiatives in the public health sector are unlikely to succeed. In order to be effective, supervision must be done regularly and must include feedback oriented towards the resolution of problems for the supervised health workers. The distribution of written supervisory reports in the District of Say helped considerably in terms of identifying progress and improving the morale of health workers.
- Some supervisors and health workers reported that the CCM supervisory checklist was too long and too comprehensive to be practical. Supervisors suggested that they should be given the flexibility to decide which indicators are important and what aspects of CCM to emphasize on a given supervisory visit.

- Supervision cannot measure indicators with the same level of precision as a full-fledged health facility survey. This is clearly shown in Niger by the large difference between the correct assessment and treatment scores shown in the surveys and the scores recorded by the supervision (see section entitled “Results”). Supervisors are responsible for much more than a categorical evaluation of health worker performance. Since it is difficult and cumbersome for supervisors to employ the level of detail used in the health facility surveys in evaluating health workers, an alternative to using supervision as a direct comparison to the surveys would be to conduct periodic health facility surveys with a smaller, and randomly chosen, sample of health centers. The results of supervisory visits should still serve to point out trends, as well as areas of strength and weakness, in health worker performance.
- For the foreseeable future, supervision in Niger will probably not take place regularly unless it is supported financially by a donor organization.

Recommendations

- Supervision following training should emphasize topics that were new for participants during training, such as interpersonal communication, and the topics that were most difficult for participants.
- Supervisors must have multiple technical skills and must be well trained in order to oversee health workers conducting integrated case management. Where feasible, supervisors at the department and district level should be involved as trainers in the IMCI training.
- The first supervision after a training course should follow soon (within three to four weeks) after the training to assist with problems that health workers may be having.
- Supervisory checklists should not be too long or too comprehensive in their assessment of case management practices. If they are too long, they are unlikely to be used. Ideally, supervision materials should leave some flexibility to the regional and district levels, who do the supervision, to include indicators and problems that the supervisors believe are important. Different supervision materials are necessary for different levels of the health system. For example, the region supervising the district *centre médical* needs different materials compared to the district supervising a health center.
- The results of supervisory visits should not be used as a direct comparison to the scores from health facility surveys. The results of supervisory visits should, however, serve to point out trends, as well as areas of strength and weakness, in health worker performance.

Quality Assurance and Problem Resolution

In 1996, BASICS began collaboration with the Quality Assurance project in Niger to develop and use appropriate tools to support the implementation of combined case management. The quality assurance approach used in Niger is related to the concept of total quality management (TQM) and is based on four fundamental principles: (1) satisfaction of clients; (2) assessment of system processes; (3) decisions based on data; and (4) group work and active participation of health workers. It is meant to be a continuous and cyclical process for problem resolution. The steps include problem definition (using available data and prioritization matrices), analysis of causes and effects (using cause-effect diagrams), identification of solutions, implementation of solutions, and, finally, verification of solutions and identification of related problems.

The process emphasizes reflection and the creativity on the part of health workers. The idea is that by motivating health workers and validating their work through recognition, they will be able to find solutions to many problems at health centers without the investment of significant outside resources. The groups should become effectively self-monitoring. An additional step is to encourage friendly competition among teams of health workers by inviting the teams to present their work and openly acknowledging their accomplishments.

Quality assurance techniques have been used in Boboye and Say in two different ways. In Boboye, quality assurance has been used to support supervision, with an emphasis on identifying and solving problems in a group setting. In July and August 1996, supervisors and six teams of health workers in Boboye were trained in the problem resolution process. The teams have continued to meet since that training, although the frequency of the meetings is not known. The supervisor acts as a facilitator, but not director, of the team discussion. The primary costs supported by BASICS were for the initial training and the costs of the supervisors' travel.

In Say, no QA-specific training has taken place, but coordination meetings aimed at problem resolution have been held approximately every three months in 1996. In these meetings, supported by BASICS, health workers from the district and from health centers analyze data from the national health information system (SNIS) and their own supervision visits. They identify solutions and present results, again in the spirit of friendly competition. The meetings have had different emphases. For example, the April 1996 meeting focused on the current state of vaccination services and reasons for low coverage, while the August meeting emphasized routine data collection and monitoring.

Directly comparing the approaches used in the two districts is difficult since they are complementary. The team-oriented support to supervision used in Boboye increases health workers' sense of self-responsibility and allows for more detailed and participatory discussion of specific problems. The coordination meetings address problems which are less specific than the team-oriented process. They have a wider audience. Both approaches have provided an important link between training and supervision by allowing for the discussion of problems encountered in implementing CCM.

Lessons Learned

- The QA approach to problem resolution and supervision, including an emphasis on the client's viewpoint, team work, analysis of available data, and causal analysis, appears to be an effective tool to prioritize problems and enable health workers to solve practical case management and communication problems. In interviews and conversations, health workers say they appreciate the teamwork approach and the emphasis on monitoring.
- Quality assurance can be an excellent complement to the integrated case management approach in terms of reconciling this approach with the existing (SPT) case management guidelines and incorporating new aspects such as interpersonal communication and evaluation of nutrition status. Both the team-oriented problem solving process used in Boboye and the coordination meetings in Say can help health workers to manage their time and bring about necessary organizational changes at the health center (see section entitled "Combined Case Management").

Quality assurance strongly emphasizes the perspective of the client—patients and caretakers—in identifying problems and potential solutions. During the team meetings, health workers have articulated practical problems using available data. Examples of problems identified at different health centers include low rates of post-natal consultation, high drop-out rates from nutritional rehabilitation centers (CRENA), and difficulties related to explaining ORS and SSS preparation to mothers. Although no systematic evaluation of the results of the QA approach has yet been done, the approach appears to have considerable potential for solving practical problems with available resources.

- Despite its positive reception, there is little hard evidence of the effectiveness of the QA approach in terms of identifying specific solutions.

Recommendations

- Regular supervision should be closely linked with the problem-solving team meetings currently taking place in Boboye.
- If possible, BASICS should continue to support both the team-oriented support to supervision and the coordination meetings, with a clear plan to evaluate the effectiveness of these two approaches.

Combined Case Management

Lessons Learned

- In Niger, combined case management is effective in treating childhood diseases and associated problems. It is more comprehensive than either the *Stratégies Plaintes-*

Traitement guidelines or case management of a single disease such as diarrhea or ARI. It is also less likely to result in missed diagnoses. Between 65 and 92 percent of children have more than one pathology. Malnutrition is very common. With CCM, the evaluation of associated conditions, including vaccination and nutrition status, has increased considerably in the two pilot districts. Children are receiving a more complete evaluation and the unnecessary use of drugs has decreased.

- There are clear economies of scale in training, supervision, and management associated with the integrated approach. Training takes less time than if each of the child survival programs held separate training courses. District level supervisors appreciate the integrated approach because it saves them time.
- There has been some resistance from health workers to the combined case management approach, mainly related to the amount of time required for the complete case management of a sick child, including weighing the child and checking vaccination status. Health workers are used to the direct SPT approach, going straight from the patient's stated complaint to the prescription. Some health workers say that the new CCM approach takes too much time and that they are already overwhelmed by the number of daily consultations. Health workers have been slow to adopt the practice of weighing children, often stating that the health centers do not have adequate means for weighing. BASICS recently purchased 17 baby weighing scales (one for each health facility in Say and Boboye), which should alleviate this problem.

The follow-up health facility survey found that the median number of patients per day for a health center in Boboye is 71; in Say the median number is 26. These numbers certainly fluctuate seasonally. Approximately 30 percent of patients are children under the age of 5 years. The average time spent by health workers per patient was 11 minutes in Boboye and 14 minutes in Say (although the time spent may have been increased due to the presence of the survey team). It is difficult to estimate the amount of time per patient necessary to successfully carry out CCM. The time clearly depends on the type and severity of the case, but with weighing, checking nutrition and vaccination status, and properly communicating with the caretaker, an average of 15-20 minutes would appear to be the minimum. With two to three health workers in a health center, the caseload should be easily manageable in Say, but presents more of a challenge in Boboye.

The issue of time management is closely related to organizational changes in health center activities that are involved in CCM. The type of changes that are desirable and possible varies according to the size of the health center. In larger centers it may be possible to have children weighed at triage or to have one nurse who is designated to weigh all of the children. Another possibility is to restrict systematic weighing to children under 3 years of age, since children aged from six to 23 months form the age group the most vulnerable to nutrition problems.

CCM requires that the health worker assessing and treating the child provide quick referrals for vaccinations and nutritional rehabilitation when indicated. If these services are not immediately available at the health facility, health workers can give caretakers referrals or return appointments. Ideally, health facilities should keep track of appointments for vaccination and nutritional rehabilitation and follow-up missed appointments with household visits. The feasibility of this approach depends on the size, staff, and resources of the health facility. The QA problem resolution process offers a promising tool to discuss problems related to time management and the organization of activities at the health facility as well as identifying solutions to these problems.

- There are compatibility problems between the SPT treatment guidelines currently in use throughout Niger and the CCM treatment guidelines. In addition to the fact that the SPT approach does not include evaluation of associated problems and complete counseling for caretakers, there are discrepancies between the two approaches in terms of ARI treatment.
- Technical aspects of CCM that need to be improved, either through training or post-training reinforcement, include the assessment of diarrhea and dehydration cases, correctly giving advice to mothers, and assessment of managing malnutrition. Possible explanations for the low scores for diarrhea and dehydration cases are that (1) the criteria employed for the survey are more complex than for the other childhood diseases⁹ and (2) there was not enough emphasis on these cases during the practice sessions during the CCM training and in CDD training done prior to the BASICS intervention.
- Several aspects of CCM, such as weighing children consistently and the emphasis on interpersonal communication, are relatively new to health workers. It will take time and reinforcement for these activities to become part of case management routine. In the BASICS intervention there have been only 18 months in between the case management training and the follow-up survey. This is not enough time for CCM practices to become routine or for integrated supervision and management to become permanent.
- The integration of child survival interventions is an effective approach to case management, supervision, and management of activities at the health facility level. It is not, however, a panacea for all of the challenges related to child survival in developing countries. Specifically, BASICS' experience shows that it is difficult to incorporate general health education for primary prevention of diseases into the integrated case management approach. Mothers are preoccupied because their child is sick and the health worker is focused on correct assessment and treatment of the child's illness and associated problems. Health workers can, however, give caretakers specific prevention advice relative to the child's condition. General prevention messages are better

⁹ For diarrhea, the health worker must ask about the duration of the episode (done correctly in 78 percent of cases in the follow-up survey) and ask about blood in the stool (31 percent). For dehydration, the health worker must identify both one key sign and one secondary sign of dehydration. Only 7 percent identified the secondary signs of "no tears" and "dry mouth and tongue."

transmitted through specific health education sessions, when mothers are not worrying about their sick children, and through public health education channels.

- Even with widespread integrated case management training for health workers, it will be highly desirable to incorporate IMCI guidelines into curricula for medical schools and nursing schools.

Recommendations

- A comprehensive review of the SPT, CCM and IMCI treatment protocols and training materials should take place as part of the adaptation of the IMCI materials. Policy issues concerning which guidelines to use for childhood illnesses, and when, should be clarified by the Niger MOH prior to a wider implementation of IMCI. MOH policy then should be disseminated widely to avoid any confusion between old and new treatment protocols.
- For supervision and monitoring, the MOH and associated donors should ensure that the procedures of the different national child survival programs are compatible with IMCI to avoid actually increasing the workload of district managers by requiring them to submit reports to the national programs in addition to an integrated report.
- For IMCI, time management and the organization of health center activities should also be openly discussed during training. These topics should also be a major focus of supervision visits for both CCM and IMCI.
- The QA problem resolution process should be used to identify and help resolve problems related to time management and the organization of activities at health facilities. Potential solutions include immediate referral of children for vaccinations and nutritional rehabilitation, as indicated; giving follow-up appointments to caretakers for vaccinations and nutritional rehabilitation; tracking appointments; and tracking down those who miss their appointments through household visits.
- Specific case management problems revealed by the health facility surveys—assessment of diarrhea and dehydration cases, correctly giving advice to mothers, and assessment of management of malnutrition—should receive special attention in IMCI training or any follow-up CCM training. Additionally, these aspects should be a special focus of supervision. If possible, operations research to identify the causes of continued poor performance would be desirable.
- IMCI guidelines should eventually be introduced into preservice training curricula.

FUTURE PERSPECTIVES

The Niger MOH has developed a clear plan for moving ahead with the implementation of IMCI. This plan calls for the creation of a technical committee which will oversee the development and adaptation of training materials and indicators. Dr. Youssef Gamatié has been named as WHO's "focal point" for the IMCI initiative in Niger. Before "scaling up"—applying integrated case management in additional districts and on a larger scale—a complete review of case management policies should be carried out and the MOH should make a clear policy pronouncement concerning case management practices for children. All of the available materials (SPT, CCM, and IMCI) should be carefully reviewed prior to final decisions being made on policy issues. Where there are conflicts between IMCI and the SPT approach, the MOH should make it clear what the official policy is. The WHO IMCI training materials will need to be adapted for Niger, including the sections on treatment of malaria and advice to give for feeding children.

In Niger and in other countries, the appropriate role for the central level MOH in the implementation of IMCI will be effective donor coordination and technical leadership. The central level should develop and disseminate technical standards for case management, training, and supervision. The formulation of a technical committee is an important step in this direction. The appropriate roles of other levels of the health system (region, district, and health facility) in going to scale with integrated case management are described below under "Prerequisites and Resources Needed for IMCI." This section is valid not just for Niger, but also for the other countries of West Africa that are considering implementation of IMCI.

Prerequisites and Resources Needed for IMCI

At the national level, it is essential that the MOH and donors work together to coordinate inputs into the implementation of IMCI. The MOH must ensure that it makes the necessary organizational changes to implement IMCI; Niger has taken a strong step in this regard by creating the Division of Child Survival. The MOH must also ensure that policies and treatment protocols are clear, compatible with one another, and widely disseminated. This means that the national-level vertical programs must work with those who are implementing integrated case management, as has been the case with the BASICS intervention. In Niger, there is still work to be done to adapt IMCI guidelines, particularly for nutrition and malaria, to local conditions.

It is clear that the availability of essential drugs is a prerequisite for the implementation of either CCM or IMCI. The Niger MOH has successfully established an essential drug policy which is largely compatible with CCM and IMCI. A cost recovery system is active in Say and Boboye and in other parts of the country. However, even in Say and Boboye there are interruptions in drug availability. Sixty-one percent of the facilities visited in the BASICS follow-up facility survey had experienced a stock-out of one or more essential drugs necessary for integrated case management in the month prior to the survey. The supply of drugs will need to be improved in the areas where the cost recovery system is active in Niger. In other areas, a supply system for

essential drugs will clearly need to be put into place before integrated case management can be considered.

At the department (regional) level, there is a need for technical and management skills to reinforce the implementation of integrated case management. Department-level staff should be included in training and supervision activities and should take the lead in these activities wherever possible. Departmental supervisors can also participate in supervision of health centers together with district-level supervisors. The department can support supervision and problem-solving exercises by coordinating meetings to share results among districts. But to do this, departmental staff need to have technical and organizational skills, as well as the budget necessary to pay transport costs to bring the districts together and to distribute materials and information to them.

The district level is the key operational level for Niger's health development plan and for the anticipated nationwide implementation of IMCI. District staff are directly responsible for supervision of health centers—they need a high level of technical and managerial competence to supervise effectively. They also need logistical means to travel in the district regularly. Because all national programs consider the health district as their operational level, district staff can easily be overwhelmed by their supervisory and management responsibilities. They are also responsible for service delivery at the *centre médical*, the district's principal health facility. National programs should, therefore, coordinate the inputs to the district and the demands on district staff. The integrated approach is a step in this direction. IMCI itself should be coordinated with other programs active at the district level.

At the health facility level, implementation of IMCI requires some materials and equipment, in addition to the availability of essential drugs, weighing scales, thermometers, and materials for oral rehydration (including naso-gastric tubes and transfusion equipment). Technical job aides for evaluation, treatment, and advice to give to caretakers are important. Health workers need technical competence, which can be strengthened through training and supervision. Health workers also need regular reinforcement, in the form of supervision, problem-solving meetings, and recognition from higher levels of the health system.

Many of the material inputs for the CCM and IMCI, including drugs, supervision materials, and equipment for health centers, are not expensive and can potentially be financed by Niger's essential drug cost recovery program (where it is operational). However, changing health workers' practices—and providing effective and continuous supervision and reinforcement to health workers—requires financial resources that are beyond the current financial capacity of the MOH. The inputs necessary to make integrated case management work are also necessary for the health system itself to function and to provide an acceptable level of quality of care. Donors will need to continue to assist Niger's health sector and sustainability of the integrated case management effort should be seen in this context.

Additional Recommendations

- As the MOH prepares to implement IMCI in more districts progressively, a nationwide needs assessment should be carried out, following recommended guidelines (see SARA, 1996; and WHO, 1996), together with a projection of costs and resources available for the initiative.
- The MOH should ensure that policies and treatment protocols are clear, compatible with one another, and widely disseminated. There is still work to be done to adapt IMCI guidelines, particularly for nutrition and malaria, to local conditions. In addition, the MOH should lead a focused effort to reconcile treatment policies and indicators, and ensure that national policies are enforced nationwide.
- The national disease control programs that are part of the Division of Child Survival should be part of the technical committee that will be formed to oversee the development and adaptation of training materials and indicators.
- The MOH and donors should not implement IMCI in health districts where there is not an effective drug resupply system. The MOH and donors should prioritize efforts to reinforce drug cost recovery and resupply systems in these areas.
- In order to reduce the management, supervision, and reporting burden on district-level staff, the implementation of IMCI should be coordinated with other programs active at the district level.
- In Niger, the implementation of IMCI will require substantial support from donors for the foreseeable future. Sustainability of the initiative should be viewed in this context.

The BASICS Intervention

The experience of the BASICS project in Niger will be very helpful to the MOH and other donors as implementation continues. The intervention supported by BASICS has shown that an integrated approach to case management is possible and has demonstrated some of the advantages as well as areas where the approach needs to be strengthened. BASICS has effectively collaborated with the MOH, including the central level disease control programs, the regions, and the districts, as well as other donor organizations.

- BASICS can and should continue to play a positive role in Niger. The MOH is interested in BASICS' technical input into the development of policies and standards as well as general assistance in the implementation of integrated case management. BASICS' experience and assistance would be very useful to the MOH at the central level. BASICS should provide support to the central level if possible. Whether or not it is possible to

work directly with the central level, BASICS should continue to work actively with other donor organizations involved in the implementation of IMCI.

- In any case, BASICS should continue to work at the district level, in collaboration with the Quality Assurance project, and should continue to document the results of its experience with combined and integrated case management. Together, the two projects should continue the intervention in Boboye and Say and expand to other districts where essential drugs are available in accordance with the priorities of USAID and the MOH.
- BASICS should directly assess the effectiveness of the CCM approach through a clinical outcomes and caretaker compliance study. This study will follow children treated at health centers in Boboye and Say in order to estimate the effectiveness of combined case management. Other districts, where CCM has not yet been implemented, will serve as controls for the study, providing a comparison between CCM and SPT. The study should be done in the districts where BASICS and the QA project will be working, in order to serve as a baseline survey for clinical outcomes and caretaker compliance.
- Possible operational research topics for the next phase of the BASICS intervention include the following:
 - (1) A study of ways to improve organization of activities at the health center level to facilitate the implementation of IMCI, including the appropriate management of health workers' time to ensure that sufficient time is available for IMCI.
 - (2) A study of reasons for, and solutions to, the relatively poor performance of health workers in the assessment of diarrhea and dehydration cases, assessment of management of malnutrition, and counseling of caretakers.
 - (3) A study of possible ways to extend the impact of IMCI to the community level by identifying relatively simple interventions and priority messages that can be communicated effectively through existing community resources.¹⁰

SUMMARY OF RECOMMENDATIONS

Recommendations from each of the sections of this report are regrouped here.

¹⁰ UNICEF estimates that only 32 percent of Niger's population has adequate access to health facilities (able to reach appropriate local health services by the local means of transport in an hour or less [UNICEF, 1996]). For IMCI to be fully effective, either the access rate must increase or appropriate community-level interventions will need to be developed.

Material Development

- If BASICS or the MOH continue to use the CCM training materials before the IMCI training materials are ready for use, the CCM materials should be revised in accordance with the BASICS headquarters review from November 1995.
- The staff of the MOH national child survival programs should be closely involved in the process of adapting the IMCI training materials for use in Niger.
- Wherever feasible and appropriate, national case management policies should be incorporated into the IMCI materials. The MOH should clarify the national case management policies for childhood diseases, particularly where there is potential conflict between the SPT guidelines and the IMCI materials. MOH policies should be communicated clearly to health workers and international organizations working in the health sector in Niger.
- The IMCI materials should include health education messages adapted to the context of Niger. The process of developing messages for child feeding should take into account the considerable amount of ethnographic research concerning feeding practices and attitudes that has already taken place.
- Training materials should be adapted to the educational level and the environment of the participants. In Niger, health workers at peripheral level facilities are unlikely to read extensive amounts of technical materials, so training materials should not count on outside reading as a primary pedagogical tool.
- The IMCI material adaptation process should include the development of a job aide for health workers that contains essential case management information and advice for caretakers. It should be informative yet not too complicated for quick reference. Health workers should be instructed clearly in the use of this guide as part of IMCI training.

Training

- For IMCI training, trainers should have multiple technical skills related to the case management of childhood diseases. The training team should include the health personnel who will be responsible for supervising the case management performance of the participants after the training.
- IMCI training should have a strong emphasis on hands-on management of cases during practice sessions. The sites for the training and the time of year should be chosen based on the number of cases available. Because of the emphasis on practice sessions, the best ratio of trainers to trainees is one to three.

- During the training, aspects that are new to participants should receive special emphasis and there should be participatory discussion of how to integrate activities once health workers return to their health centers. Health workers should be told clearly what will be expected of them after the training and the indicators that will be used to monitor and evaluate the new intervention should be explained.

Supervision

- Supervision following training should emphasize topics that were new for participants during training, such as interpersonal communication, and the topics that were most difficult for participants.
- Supervisors must have multiple technical skills and must be well trained in order to oversee health workers conducting integrated case management. Where feasible, supervisors at the department and district level should be involved as trainers in the IMCI training.
- The first supervision after a training course should follow soon (within three to four weeks) after the training to assist with problems that health workers may be having.
- Supervisory checklists should not be too long or too comprehensive in their assessment of case management practices. If they are too long, they are unlikely to be used. Ideally, supervision materials should leave some flexibility to the regional and district levels, who do the supervision, to include indicators and problems that the supervisors believe are important. Different supervision materials are necessary for different levels of the health system. For example, the region supervising the district *centre médical* needs different materials compared to the district supervising a health center.
- The results of supervisory visits should not be used as a direct comparison to the scores from health facility surveys. The results of supervisory visits should, however, serve to point out trends, and areas of strength and weakness, in health worker performance.

Quality Assurance and Problem Resolution

- Regular supervision should be closely linked with the problem-solving team meetings currently taking place in Boboye.
- If possible, BASICS should continue to support both the team-oriented support to supervision and the coordination meetings, with a clear plan to evaluate the effectiveness of these two approaches.

Next Steps for IMCI

- As the MOH prepares to implement IMCI in more districts progressively, a nationwide needs assessment should be carried out, following recommended guidelines (see SARA, 1996; and WHO, 1996), together with a projection of costs and resources available for the initiative.
- A comprehensive review of the SPT, CCM and IMCI treatment protocols and training materials should take place as part of the adaptation of the IMCI materials. Policy issues concerning which guidelines to use for childhood illnesses, and when, should be clarified by the Niger MOH prior to a wider implementation of IMCI. MOH policy then should be disseminated widely to avoid any confusion between old and new treatment protocols.
- The national disease control programs that are part of the Division of Child Survival should be part of the technical committee that will be formed to oversee the development and adaptation of training materials and indicators.
- The MOH and donors should not implement IMCI in health districts where there is not an effective drug resupply system. The MOH and donors should prioritize efforts to reinforce drug cost recovery and resupply systems in these areas.
- In order to reduce the management, supervision, and reporting burden on district-level staff, the implementation of IMCI should be coordinated with other programs active at the district level.
- In Niger, the implementation of IMCI will require substantial support from donors for the foreseeable future. Sustainability of the initiative should be viewed in this context.
- For supervision and monitoring, the MOH and associated donors should ensure that the procedures of the different national child survival programs are compatible with IMCI to avoid actually increasing the workload of district managers by requiring them to submit reports to the national programs in addition to an integrated report.
- For IMCI, time management and the organization of health center activities should also be discussed openly during training. These topics should also be a major focus of supervision visits for both CCM and IMCI.
- The QA problem resolution process should be used to identify and help resolve problems related to time management and the organization of activities at health facilities. Potential solutions include immediate referral of children for vaccinations and nutritional rehabilitation, as indicated; giving follow-up appointments to caretakers for vaccinations and nutritional rehabilitation; tracking appointments; and tracking down those who miss their appointments through household visits.

- Specific case management problems revealed by the health facility surveys—assessment of diarrhea and dehydration cases, correctly giving advice to mothers, and assessment of management of malnutrition—should receive special attention in IMCI training or any follow-up CCM training. Additionally, these aspects should be a special focus of supervision. If possible, operations research to identify the causes of continued poor performance would be desirable.
- IMCI guidelines should eventually be introduced into preservice training curricula.

Additional Recommendations Specific to BASICS Intervention

- BASICS can and should continue to play a positive role in Niger. BASICS should provide support to the central level if possible. Whether or not it is possible to work directly with the central level, BASICS should continue to work actively with other donor organizations involved in the implementation of IMCI.
- In any case, BASICS should continue to work at the district level, in collaboration with the Quality Assurance project, and should continue to document the results of its experience with combined and integrated case management. Together, the two projects should continue the intervention in Boboye and Say and expand to other districts where essential drugs are available in accordance with the priorities of USAID and the MOH.
- BASICS should prepare a memorandum outlining roles and responsibilities between all parties for technical, operational, and administrative oversight of the country program. The memorandum should also define the role of the Dakar Regional Office in terms of providing technical support to the country program.
- BASICS should directly assess the effectiveness of the CCM approach through a clinical outcomes and caretaker compliance study. This study will follow children treated at health centers in Boboye and Say in order to estimate the effectiveness of combined case management. Other districts, where CCM has not yet been implemented, will serve as controls for the study, providing a comparison between CCM and SPT. The study should be done in the districts where BASICS and the QA project will be working, in order to serve as a baseline survey for clinical outcomes and caretaker compliance.
- Possible operational research topics for the next phase of the BASICS intervention include the following:
 - (1) A study of ways to improve organization of activities at the health center level to facilitate the implementation of IMCI, including the appropriate management of health workers' time to ensure that sufficient time is available for IMCI.

- (2) A study of reasons for, and solutions to, the relatively poor performance of health workers in the assessment of diarrhea and dehydration cases, assessment of management of malnutrition, and counseling of caretakers.
- (3) A study of possible ways to extend the impact of IMCI to the community level by identifying relatively simple interventions and priority messages that can be communicated effectively through existing community resources.

APPENDIXES

APPENDIX A

Appendix A References

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APPENDIX B

Appendix B
Time line of Project Activities and Developments

October, 1993	Signature of agreement authorizing the BASICS intervention in Niger.
November, 1993	Planning for Project Year 1. During the bridge period prior to June, 1994, BASICS' Country Representative involved in the finalization of ARI/CDD case management study and providing planning and technical assistance to the national CDD and ARI programs.
June, 1994	BASICS CAP Mission to Niger; Consensus Building Workshop for a Population and Health Services Program supported by BASICS.
August, 1994	Initial development of integrated supervisory checklist.
September, 1994	Visit by Dr. Adama Koné, BASICS Regional Advisor, to evaluate the feasibility of strengthening diarrheal disease teaching in the medical schools; Training of Trainers workshop for combined CDD/ARI/Malaria Planning (funded by WHO; Dr. Geslin was involved as a trainer).
November/ December, 1994	Training for planning and management at the District level for integrated programs -- CDD/ARI/Malaria.
January, 1995	Baseline health facilities survey in 17 health centers in Say and Boboye.
January - March, 1995	Development of training module for case management of the sick child at peripheral health centers
March, 1995	Training of trainers for combined case management in Niamey.
April, 1995	National Vaccination Days; Meningitis outbreak.
May, 1995	Training planned for health workers in Say -- postponed due to Cholera outbreak. Training materials revised. BASICS assists with planning for cholera response.
June, 1995	Training of health workers in Boboye.
July, 1995	Training of health workers in Say.

August, 1995	Development and test of supervision guide (tested in Dosso); Supervision of health workers in Boboye with participation by national and regional levels.
September, 1995	Supervision of health workers in Say with participation by national and regional levels.
October, 1995	Pediatricians' workshop in Niamey funded by WHO and BASICS, with the objective of improving management and organization of hospital services for reference and case management of sick children at the regional level.
November, 1995	Technical review of training materials by BASICS/Washington; Meningitis, cholera, and measles epidemics.
January, 1996	Planning at the district level; U.S. assistance suspended following coup d'état (no field activities from January 27 to March 23).
March, 1996	USAID requests revision of plans in view of close-out; National vaccination days.
April, 1996	Working meeting at Tahoua to define Quality Assurance training content for problem resolution related to integrated case management, and to plan training for Boboye; National Vaccination Days; Coordination meeting at Say.
May, 1996	Supervision in Boboye by the district team (coordinated with the Maternité sans Risque Project); Survey of vaccination coverage in Say and Boboye; National coordinator for integrated case management and adaptation of WHO materials (Dr. Youssef Gamatié) trained in WHO IMCI course in Addis Ababa, Ethiopia.
June, 1996	National ORT week -- Dr. Geslin involved in training activities; National Vaccination Days; Supervision in Say.
July, 1996	Workshop in Dosso (including district of Boboye) for problem identification and solving in the context of CCM, in collaboration with the QA project; Supervision in Say.
August, 1996	Coordination meeting in Say; Supervision in Say; Second QA training workshop in Dosso.
September, 1996	Supervision in Say.

- October, 1996 Coordination meeting in Say; work with 2 districts for vaccinations to fight epidemics: meningitis, yellow fever, and measles.
- November, 1996 National workshop *Revitalisation du Système de Santé* -- Dr. Geslin presents BASICS' experience in Say and Boboye.
- December, 1996 Rapid Health Facility Assessment, follow-up survey to evaluate case management in Say and Boboye; documentation of lessons learned.

APPENDIX C

Appendix C
Persons Consulted

Dr. Colette Geslin, BASICS Representative, Niger
Dr. Adama Koné, BASICS Regional Program Officer, West Africa
Prof. Bazira, WHO/Niger
Dr. Maximin Ouoba, UNICEF/Niger
Ms. Lauri Winter, Quality Assurance Project/Niger

USAID/Niger

Dr. Dan Blumhagen, USAID/Niger
Mr. Richard Osmanski, USAID/Niger

Niger Ministry of Health

Dr. Maoudé Hamissou, Secretary General, MOH
Dr. Yaou Garba, Director of Family Health, MOH
Dr. Elhadji Sani Zagui, National CDD Program Director, MOH
M. Iddi Issaka, National CDD Program
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