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Integrated Community Case Management of Childhood Illness:

Documentation of Best Practices and Bottlenecks to
Program Implementation in Senegal

SUMMARY REPORT

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The Maternal and Child Health Integrated Program (MCHIP) is the USAID Bureau for Global Health flagship maternal and child health (MNCH) program. MCHIP supports programming in maternal, newborn and child health, immunization, family planning, malaria and HIV/AIDS, and strongly encourages opportunities for integration. Cross-cutting technical areas include water, sanitation, hygiene, urban health and health systems strengthening. Visit www.mchip.net to learn more.

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ABBREVIATIONS AND ACRONYMS

ACT	Artemisinin-based Combination Therapy
AQ/SP	Amodiaquine and Sulfadoxine-Pyrimethamine
ARI	Acute Respiratory Infection
ARPV	<i>Association des Relais Polyvalents</i> (Association of Multipurpose Relays)
ASC	<i>Agent de Santé Communautaire</i> (community-level agent)
BASICS	Basic Support for Institutionalizing Child Survival
BCC	Behavior Change Communication
CAMAT	Community Action against Malaria and Tuberculosis
CDA	Community Development Agent
CHW	Community Health Worker
DANSE	<i>Division de l'Alimentation, de la Nutrition et de la Santé de l'Enfant</i> (Division of Food, Nutrition and Child Health)
DSDOM	<i>Dispensateur de Soins à Domicile</i> (provider of home-based care for malaria)
FGD	Focus Group Discussion
GFATM	Global Fund to Fight AIDS, Tuberculosis, and Malaria
HIS	Health Information System
HIV	Human Immunodeficiency Virus
iCCM	Integrated Community Case Management
IEC	Information, Education, and Communication
IMCI	Integrated Management of Childhood Illness
ITN	Insecticide-treated Net
M&E	Monitoring and Evaluation
MCHIP	Maternal and Child Health Integrated Program
MDG	Millennium Development Goal
MoHP	Ministry of Health and Prevention
MSH	Management Sciences for Health
NGO	Nongovernmental Organization
NHMIS	National Health Management Information System
NMCP	National Malaria Control Program
ORS	Oral Rehydration Salts
PECADOM	<i>Prise en Charge à Domicile des Cas de Paludisme</i> (home-based treatment of malaria by trained agents)
PMI	President's Malaria Initiative
PSSC	Programme de Santé-Santé Communautaire
RDT	Rapid Diagnostic Test
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VHC	Village Health Committee
WHO	World Health Organization

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 - ChildFund, Africare, Plan Senegal, World Vision, Counterpart, Catholic Relief Services
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- IntraHealth
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INTRODUCTION

WHY INTEGRATED COMMUNITY CASE MANAGEMENT?

Although infant and child mortality rates have declined appreciably in most developing countries, children under five continue to die at unacceptably high rates, often of preventable causes such as malaria, diarrhea, and pneumonia. According to a recent analysis, it is estimated that pneumonia is responsible for 18% of under-five deaths, diarrhea for 15%, and malaria for 8%.¹ Simple, cost-effective interventions are available for these diseases, but a major challenge remains: in most countries where morbidity and mortality among children is high, access to health facilities and/or the quality of services offered still represent obstacles to care.

Integrated Community Case Management (iCCM) of childhood illness is one strategy to reduce morbidity and mortality in the under-five population by providing the delivery of high-quality services through paid or volunteer community health workers (CHWs) to hard-to-reach populations. In Africa, many countries are still in the early stages of their iCCM programs—either focusing on advocacy activities or in the preliminary stages of introducing the approach for a single disease at a time. However, a few countries—including Senegal, the Democratic Republic of the Congo, Rwanda, Madagascar, and Niger—have begun to implement the approach on a national scale.

As countries expand their programs and move toward scale-up, it is important to document and share the important lessons they are learning and promising practices they are developing on adopting, introducing, and implementing iCCM on a larger scale. With seven years of well-documented experience, the Senegal program has a number of important lessons learned to offer other countries interested in either implementing iCCM for the first time or expanding their current programs. By identifying the successes and best practices of the Senegal program, by recognizing its weaknesses in order to correct and prevent them, and by having a clear vision of the future of the program, this summary report on the Senegal iCCM experience (*Integrated Community Case Management of Childhood Illness: Documentation of Best Practices and Bottlenecks to Program Implementation*) has a two-fold aim: 1) to serve as a global learning tool that can help other countries adapt their own iCCM efforts, and 2) to continue to inform program implementation in Senegal.

This report is organized into four main sections. The first section introduces the methodology used to document successes and bottlenecks in the program. The second section provides a brief overview of the health sector in Senegal and the history of iCCM. Using an internationally recognized framework of iCCM benchmarks (see www.CCMCentral.com), the next section presents the key findings for eight programmatic components of the benchmarks, namely: 1) coordination and policy setting, 2) financing, 3) human resources, 4) supply chain management, 5) service delivery and referral, 6) communication and social mobilization, 7) supervision and performance quality assurance, and 8) monitoring and evaluation (M&E) and the health information system (HIS). The final section on lessons learned is organized around four critical themes:

- Establishing a favorable policy environment and effective institutional support
- Reinforcing links between the health system and the communities
- Rapidly scaling up the delivery of quality services by CHWs to households
- Designing and implementing BCC activities for iCCM

¹ Black RE et al. 2010. Global, regional, and national causes of child mortality in 2008: A systematic analysis, *The Lancet* 375 (9730): 1969-87.

THE DOCUMENTATION EXERCISE

GOAL AND OBJECTIVES

In 2010, the Ministry of Health and Prevention (MoHP) and its partners—the United States Agency for International Development (USAID), the Maternal and Child Health Integrated Program (MCHIP), the Nongovernmental Organization (NGO) Consortium, and the United Nations Children’s Fund (UNICEF)—undertook a documentation exercise to share their iCCM experience with other countries and to propose recommendations to strengthen the Senegal program. The overall goal of this documentation exercise is to inform the design and implementation of iCCM programs. The four specific objectives are to:

- Document promising practices implemented by the MoHP and its partners that contributed to the success of iCCM in Senegal
- Document past and current bottlenecks and difficulties in iCCM program implementation and the approaches that were used to overcome them
- Draw lessons learned from the Senegal experience to build a basic model for developing future programs and for reorienting existing programs
- Document evidence that demonstrates the effectiveness of the iCCM program in Senegal

METHODOLOGY

The methodology used included a review of documents as well as quantitative and qualitative methods for data collection from a sampling of national, regional, district, and community-level sources. The qualitative data collection focused on opinions and perceptions and included two principal methods: 1) semi-structured interviews with key informants, program managers, and implementation partners; and 2) focus group discussions (FGDs) with head nurses, beneficiaries, village health committee (VHC) members, and the ASCs (community health agents) and *matrones* who implement iCCM. The purpose of the quantitative data collection was to gather information on stock status and the performance of the ASCs and *matrones*.

Text Box 1: Basic Terminology Used in Senegal:

- **Centre de santé (Health center):** Hospital situated at the district level; provides in-patient and out-patient services and normally serves a population of 150,000. (*)
- **Poste de santé (Health post):** Health facility usually situated at a large village; usually staffed by nurses who provide out-patient services and delivery services. Normally serves a population of 10,000 in urban areas and 5,000 in rural areas. (*)
- **Case de santé (Health huts):** Structures built by communities, situated at the community level and staffed by volunteers, primarily Agents de Santé Communautaire (ASCs), *matrones*, and community relays (*relais communautaires*).

There are various types of Community Health Workers (CHWs) in Senegal:

- **Agent de Santé Communautaire:** A man or a woman chosen by community members, who receive structured training allowing him or her to offer basic health care in a health hut (**). ASCs are mandated to provide antibiotics for pneumonia, ACT for malaria and ORS and zinc for diarrhea.
- **Matrone:** A woman chosen by community members who is in charge of assisting mothers during pregnancy, delivery, and postpartum. She also offers preventive care to her community. (**) The literate *matrones* who can read and write were also trained on treating childhood illnesses.

- **Relais communautaire** (community relay, referred to as *relais* in this document): A man or a woman chosen by community members who agrees to offer part of his or her time to community-related activities, to contribute to the development of his or her community. *Relais* ensure the link between the community and the health facility, (**) and conduct BCC and community mobilization activities in the community, even when there is no health hut.
- **Dispensateur de Soins à Domicile** (DSDOM): A man or a woman specifically trained to provide malaria treatment according to the new protocol using rapid diagnostic tests (RDTs) to confirm the parasite infection. The DSDOM does not necessarily work in health huts.
- **Community Health Worker** (CHWs): Term used collectively to encompass ASCs, *matrones*, *relais*, and DSDOMs or to refer to those who staffed health huts prior to the advent of iCCM activities.

Sources :

*Ministère de la Santé et de la Prévention, Service National de l'Information Sanitaire (2008), CARTE SANITAIRE DU SENEGAL, 2008

**Dr. Ndèye Codou LAKH (2010), RELAIS COMMUNAUTAIRES: HISTORIQUE, FONCTIONNEMENT, Présentation de la Division des Soins de Santé Primaires, MSP

OVERVIEW OF THE HEALTH SECTOR AND ICCM IN SENEGAL

THE PUBLIC HEALTH SYSTEM

Government delivery of health services in Senegal takes place in 971 health posts (the first contact with professional, salaried health workers), 77 health centers at the district level, and 20 referral hospitals. This averages out to one health post per 10,559 inhabitants, one health center per 152,836 inhabitants, and one referral hospital per 464,623 inhabitants.² In addition to these facilities, the MoHP provides technical support to a network of approximately 2,300 community-owned health huts staffed by community volunteers, with division of labor for case management and health education/social mobilization, respectively. It should be noted that the health huts are not officially part of the health pyramid.

COMMUNITY PARTICIPATION IN HEALTH SERVICES DELIVERY

In Senegal, communities play an important role in the delivery of health services, as exemplified by their involvement in setting up and managing health huts. Communities can apply directly to their MoHP district office for the creation of a health hut. Once the district reviews and approves the application, the communities must raise funds to construct and equip the health hut and ensure its maintenance. Each health hut has a VHC to manage the health hut activities, including finances and preventive activities.

THE ICCM PROGRAM IN SENEGAL

In Senegal, malaria causes 19% of under-five deaths, diarrhea 14%, and pneumonia 13%.³ To reduce these child mortality rates, the MoHP and its partners have been successfully implementing iCCM for child health since 2003, extending health services to populations that are hard to reach. As of mid-2010 the program covered acute respiratory illness (ARI), diarrhea, and malaria, and was present in more than 1,600 community sites, in 58 of Senegal's 69 districts. Although the private sector also provides health services in Senegal, this document will focus exclusively on government health service delivery of iCCM.

The public sector health system in Senegal includes referral hospitals, health centers at the district level, and health posts at the periphery. Health post personnel, usually the head nurses supervise the volunteer CHWs, who work in health huts located at the community level. Each health post is managed by a head nurse. The CHWs who implement iCCM for child health are: 1) ASCs and 2) literate *matrones*, women selected by their community to help other women during pregnancy and childbirth, but who have also been trained in iCCM. Working alongside the ASCs and *matrones* are community relays, who are responsible for BCC and social mobilization.

Over the seven years of implementation, the MoHP's key technical and financial partners in the iCCM program have included the World Health Organization (WHO), UNICEF, USAID, Pfizer, and Cheikh Anta Diop University. USAID's implementing partners in this endeavor include: the Basic Support for Institutionalizing Child Survival (BASICS) Project, Management Sciences

² Ministère de la Santé et de la Prévention. 2010. Note à la très haute attention de Monsieur le Premier Ministre sur l'évolution du secteur de la santé de 2000 à 2010. Dakar: Ministère de la Santé et de la Prévention

³ MDG Countdown Country Profile. 2010. Accessed at: <http://www.countdown2015mnch.org/documents/2010report/Profile-Senegal.pdf>

for Health (MSH), the Community Action against Malaria and Tuberculosis (CAMAT) Project, IntraHealth, and the NGO Consortium led by ChildFund.

Senegal made key and strategic policy decisions to implement a full package of iCCM (including the treatment of pneumonia with antibiotics), updated the drugs used for diarrhea and malaria, and is now taking the package to national scale. Despite the challenges inherent in policy change, Senegal has demonstrated leadership and created a broad consensus among partners at every step, with the result that lay health workers are now providing treatment for pneumonia, malaria, and diarrhea—using drug regimens often considered too complicated for this level of health worker. The following section traces the key events that shaped where Senegal’s iCCM program is today.

HISTORICAL OVERVIEW OF iCCM

The development of iCCM has gone through three phases, each marked by key events moving the country toward increased community management of health problems.

Phase I: Introduction of Community Case Management in Senegal (1967–2001)

- In 1967, Pikine, a suburb of Dakar, organized a mobile health team to provide services.
- Starting in 1982, USAID supported the first community-based health program in Senegal, with health huts and CHWs. Other donors followed suit.
- In 1992, the MoHP issued a decree providing a legal framework for the existence of health committees, including VHCs whose mandate involves community mobilization and management of the health huts.

Phase II: Advocating for the Introduction of Antibiotics for Pneumonia and Updating Malaria Treatment (2002–2004)

This period, covering roughly 2002 to 2004, was marked by two policy decisions that affected the provision of services at the health huts. The first concerned pneumonia. Under the leadership of the MoHP, a study was conducted from April 2003 to June 2004 on the use of antibiotics by ASCs and *matrones* at the health huts to treat pneumonia. The results of this ARI case management research clearly demonstrated that trained ASCs and *matrones* can correctly recognize, manage, and ensure follow-up of ARIs. It was a pivotal event for the development of the iCCM program.

In July 2003, Senegal changed its policy on the first-line drug for treating malaria at the health facilities from chloroquine to a combination of amodiaquine and sulfadoxine-pyrimethamine (AQ/SP). During this period, the National Malaria Control Program (NMCP) approved directly observed treatment with AQ/SP for simple fever/malaria by ASCs and *matrones*, including monitoring of side effects, in selected health huts. Although the malaria protocol changed again, this was another example of ASCs and *matrones* being allowed to expand their roles to include providing drugs.

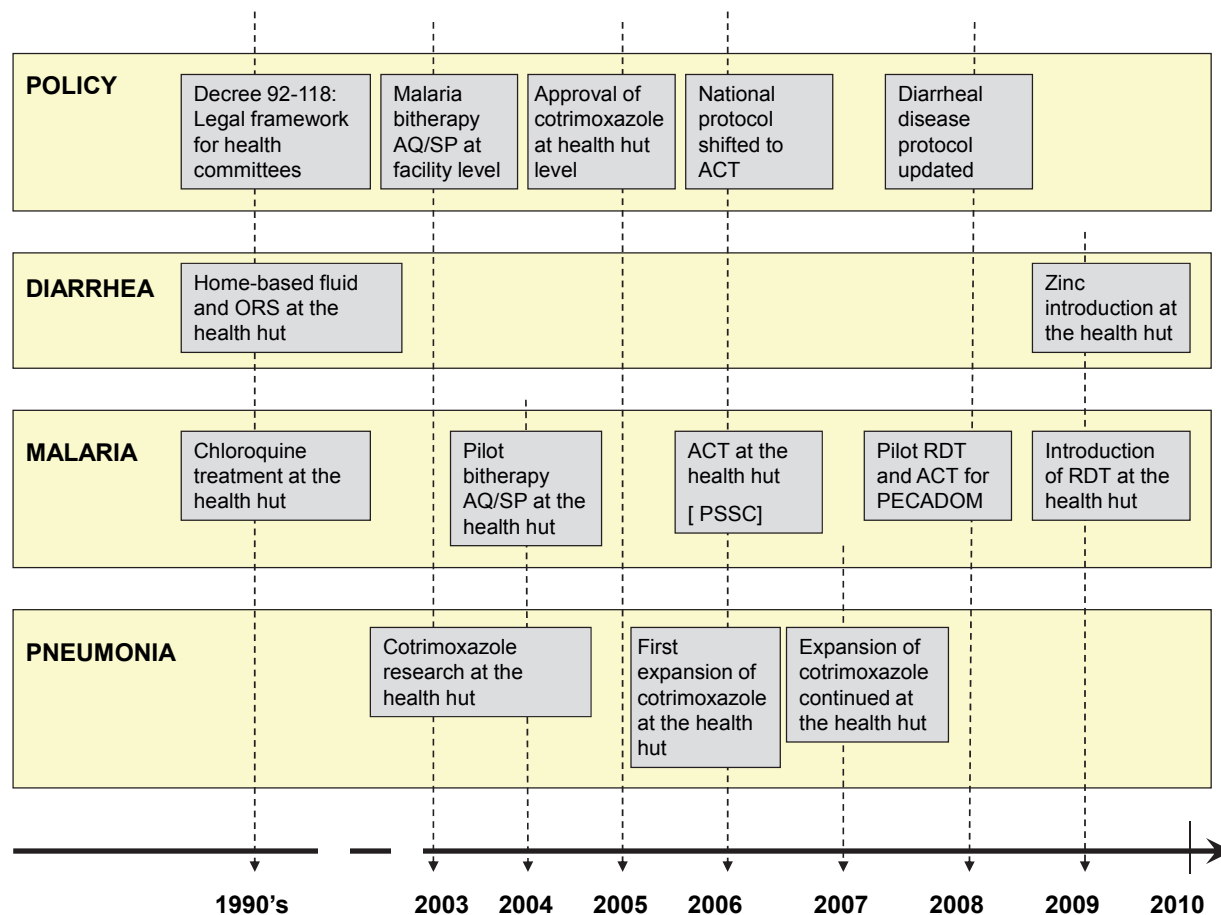
Phase III: Expansion and Integration of iCCM (2006–2010)

After an eighteen-month hiatus, funding was acquired for the expansion of iCCM and the consolidation of the package of care in various stand-alone projects. In addition, further revisions of the treatment policies were made that included the health huts, notably, ORS and zinc for diarrhea treatment, and in 2006, the introduction of RDTs and ACT for malaria treatment.

In September 2008, the NMCP initiated a pilot program for home-based management of malaria (PECADOM). The program, designed to increase access to appropriate care by remote populations not covered by health huts, provided another opportunity to expand iCCM. The strategy utilized community volunteers, called DSDOMs (home-based care providers), to test and treat confirmed simple malaria cases at home using RDTs and ACTs.

In 2008, when the MoHP updated the protocol for the treatment of acute malnutrition to include community management, the iCCM package expanded to include management of acute malnutrition at the community level.

The following table summarizes the key changes in MoHP policy during the conception and implementation of iCCM.



FINDINGS

To ensure that the analysis of findings from the documentation exercise captures what are considered to be key components of iCCM programs, this section follows the iCCM benchmark framework endorsed by the iCCM Task Force (www.CCMCentral.com). The framework includes eight components, namely: 1) coordination and policy setting, 2) financing, 3) human resources, 4) supply chain management, 5) service delivery and referral, 6) communication and social mobilization, 7) supervision and performance quality assurance, and 8) M&E and the HIS. Throughout this section reference is made to the pilot phase, which includes the ARI case management research from April 2003 to June 2004, and the expansion phase, which started in 2006.

COORDINATION AND POLICY SETTING

Coordination: First, despite the high level of commitment of central-level MoHP officials, the rigorous coordination that marked the ARI pilot phase seems to have tapered off during the expansion phase. This is partly because the NGO Consortium did not directly support the central MoHP, and challenges with the institutionalization of iCCM were ongoing. Additionally, several government departments and agencies were responsible for different components of iCCM, but interdepartmental coordination was limited. A formal platform for iCCM for Childhood Illness—one that would allow MoHP officials and other government representatives to meet regularly to discuss integration, complementarity of efforts, and intervention synergies—is definitely needed.

Second, the documentation team found consensus among the interviewees that the MoHP's ownership of the program has weakened now that: 1) the NGOs play an increasingly important role in implementation of iCCM, and 2) the NMCP directs the malaria case management strategy.

Policy Setting: The influence of the ARI pilot program was particularly noteworthy for the development of iCCM in Senegal. Three factors contributed significantly to the success of the ARI pilot phase: 1) sustained advocacy, supported by scientific evidence of effectiveness; 2) the active involvement of respected professionals within the MoHP and Cheikh Anta Diop University who provided technical leadership; and 3) the participatory approach of the Steering Committee. The documentation team also found excellent collaboration between UNICEF and USAID; as part of the advocacy efforts, both agencies were actively engaged in and supported the pilot studies, dissemination workshops, and seminars for key decision-makers.

Promising Practices in Coordination and Policy Setting:

- *Use of global and local evidence and success stories to change opinions:* The program made use of the global Community-Integrated Management of Childhood Illness framework, the study on findings that most under-five deaths in Senegal occurred without contact with the formal health system, and the success of iCCM in Nepal to advocate for iCCM in Senegal.
- *Use of credible local leaders as champions for policy change:* The former Director of Pharmacy and Laboratories and the former Head of the MoHP division, DANSE (*Division de l'Alimentation, de la Nutrition et de la Santé de l'Enfant*, or in English, Division of Food, Nutrition and Child Health) supported the iCCM program.
- *Involvement of development partners like UNICEF and USAID:* Once involved, these agencies made financial resources and/or technical assistance available for pilot studies and expansion.

- *Establishment of a broad-based technical Steering Committee:* Strategically selected members led the research for ARI community case management
- *Dissemination of findings and consensus on expansion:* Research findings were disseminated widely, and consensus around the expansion plan was reached.

Challenges and Barriers:

- *Insufficient institutionalization of coordination:* Key informants reported a decrease in the MoHP's engagement at the regional and district levels, particularly in terms of coordination and leadership.
- *Need for a stronger central coordination system for iCCM:* The multiple government departments and agencies involved in supporting elements of iCCM lacked a regular formal platform to discuss integration, complementarity of efforts, and intervention synergies.
- *Need for consistent literacy criteria:* The literacy criteria required for CHWs implementing ARI differed from criteria required for CHWs involved in malaria case management. This discrepancy contributed to a lack of integration in the early phase.
- *Need consensus for complete integration:* Consensus for the complete integration of interventions was lacking.
- *Donor dependency:* The iCCM program depended on donors for financial resources.
- *Need for additional professional incentives:* For example, nurses who were expected to provide supervision to the ASCs and *matrones* were less supportive because they perceived that iCCM activities would increase their workload.
- *Need for full integration of malaria:* Although malaria is a component of iCCM, it is not fully integrated with the iCCM program, in part because of multiple funding streams and program arrangements through the NMCP.

Lastly, although the iCCM program progressed steadily without having a national policy on community health in place, it now seems increasingly important for the MoHP to develop this document. As the health system continually evolves in an effort to provide more services directly to the community, the available technical guidelines are beginning to show their limitations. The fact that a number of other priority programs beyond iCCM (e.g., immunization, tuberculosis, nutrition, HIV, and reproductive health) also use the community network to deliver services to the community accentuates the need to have consistent guidelines.

FINANCING

Two important concerns regarding financing were highlighted during the documentation exercise. Although the MoHP continues to provide strategic and technical leadership at all levels, currently, neither a clearly identified budget line nor a short- or long-term financial plan is in place to support the program. The absence of a clear budget or financial plan results in a heavy reliance on outside funding sources. Each of these funding sources comes with different requirements, and with varying degrees of work-burden and coordination challenges. A related concern is ownership. Participants at the July 2, 2010, workshop on the preliminary findings of the documentation exercise noted that having the government contribute financially to the program through direct budget lines would be an important indicator of its ownership of and long-term commitment to the program.

Promising Practices in Financing:

- *Strong role of communities in financing iCCM:* Communities play significant roles in maintaining the health huts in Senegal, contributing financial as well as non-financial resources. Community participation takes on different forms, from investments (e.g., constructing health huts and buying medicine for the huts) to longer-term engagements (e.g., providing financial incentives for ASCs).
- *Government subsidy to cost of drugs at the health huts:* The health districts receive an annual drug supply from the MoHP central level; this helps to offset budget deficits at the health huts. The health huts also use funds from the sale of medicine through a cost-recovery system.
- *Efficient resource mobilization:* NGOs are able to mobilize resources efficiently.

Challenges and Barriers:

- *Limited financial resources for iCCM at the national level:* The MoHP budget has no specific iCCM budget line, which casts doubt on the level of local ownership of the program.
- *Need for costed iCCM expansion and resource mobilization plans:* These plans—as well as projected medium-term financial commitments by MoHP and development partners—were not in place.
- *Dependency on donor funds for sustainability:* The sustainability of the iCCM program depended on donor funds, including those from UNICEF, USAID, the President’s Malaria Initiative (PMI), and the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM). Although iCCM has leveraged malaria-specific funding to accelerate expansion, each funding stream has specific performance demands on managers. These differing performance expectations have led to coordination challenges and have delayed full integration in some health huts.

HUMAN RESOURCES

During the documentation exercise, the team paid particular attention to recruitment, training, performance, and supervision of the ASCs and *matrones*. The findings clearly show that they can properly offer case management services to hard-to-reach populations. The ASCs and *matrones* in the Senegal program are confident in their abilities and are highly appreciated by the communities they serve.

One of the program’s innovations is a standardized recruitment process, in which communities are very involved in selecting their CHWs. One of the drawbacks to this recruitment system, however, is that the head nurses who supervise the ASCs and *matrones* feel that they are not sufficiently involved in the selection process, and this can have negative consequences for how well the ASCs and *matrones* are incorporated into the health team.

Supervision by MoHP staff from the health post is essential for long-term sustainability, for ensuring compliance with government standards and regulations, and for ongoing motivation of CHWs. Currently, supervision is irregular (the standard should be once a month) because financial resources are not sufficient to allow head nurses to visit all 1,600 health huts providing iCCM services. Other constraints include the heavy workload of most head nurses and, as noted above, the fact that many head nurses do not feel sufficiently involved in the selection of ASCs and *matrones*.

The documentation team also noted that the ASCs and *matrones* have concerns relating to financial and/or material compensation for the services they currently provide as volunteers.

Promising Practices in Recruitment, Motivation, and Retention of ASCs and Matrones:

- *Community agreement on recruitment criteria:* Getting community members to agree on ASC and *matrone* recruitment criteria has led to high acceptance of their services by the community.
- *Expressions of solidarity from the beneficiary community:* For example, when community members clean the health huts or accompany the ASCs and *matrones* on mobilization activities, their show of support contributes to ASC and *matrone* motivation and, therefore, retention.
- *Investments by USAID in previous years to organize the community relays into formal associations, i.e., the Associations des Relais Polyvalents (Associations of Multipurpose Relays or ARPVs):* It was widely acknowledged that the ARPVs generated a great deal of interest and hope in terms of their effectiveness and the possibility of long-term sustainability.
- *Utilizing the existing support network:* A good network of support exists for the ASCs and *matrones* at all levels of the health system—but it is not always fully exploited.

Challenges during the Expansion Phase:

- *Need for regular supportive supervision:* MoHP staff members do not regularly provide supportive supervision.
- *Nurses not sufficiently involved in selection of ASCs and matrones:* This undermines CHW incorporation into the health team.
- *Modest monetary compensation of ASCs and matrones:* This has the potential to result in high attrition should other alternatives for earning a livelihood become available to these workers.
- *Potential underutilization of human resources from the MoHP for technical support:* Because NGOs are implementing the program, available MoHP staff may not be used.
- *Previous investments are not being utilized:* e.g. the lack of ownership and strategic exploitation of the ARPVs (*Association des Relais Polyvalents* or Association of Multipurpose Relays), built by previous investments.

Proposed Solution:

- Strengthen other forms of non-financial motivation for ASCs and *matrones* and provide more systematic feedback and encouragement, ideally through regular supervision visits and public recognition ceremonies and events.

SUPPLY CHAIN MANAGEMENT

The availability of inputs for diagnosing and treating malaria, diarrhea, and pneumonia is a critical component for the successful management of iCCM. One of the strengths of the Senegal program is that the supply chain delivering drugs to the community level is directly linked to the national supply chain system. This helps to promote sustainability and ensure that the drugs provided conform to the MoHP's standards. Stock-outs, however, do pose a problem.

- Some supplies, such as zinc tablets, are periodically unavailable at the national level.
- ASCs and *matrones* continue to have difficulty estimating their needs and placing their orders in a timely fashion.
- Health post personnel may not offer sufficient help because they do not fully understand their role in supporting drug supply for health huts.
- Personnel at the district health level may not see the needs of the health huts as a priority and may not take appropriate action when the stocks are low.

Promising Practices in Supply Chain Management:

- *Linkage of health huts to the national supply chain system:* This linkage, via the health posts, enables the health huts to benefit from economies of scale.
- *Opportunities to fix drug supply issues:* Contacts with health huts provide opportunities to fix drug supply issues. Examples include: 1) the regular monthly supervision visits by Community Development Agents (CDAs) who are NGO employees and 2) supervision integrated with immunization and antenatal care outreach activities by nurses from health posts.

Challenges and Barriers:

- *Frequent stock-outs:* Case management is impossible when drugs are unavailable.
- *Difficulties in estimating needs accurately:* Despite long experience, difficulties in quantifying the needs of health huts persists. Realistically, it should be feasible to estimate needs accurately by looking at the pattern of utilization in past years.
- *Lack of public health sector integration:* Although the supply chain links the health huts to the health posts, overall integration of the health huts with the public health sector is lacking.

Proposed Solutions:

- Assess current training needs and drug management tools for iCCM at all levels.
- Resolve stock-outs by: 1) strengthening communication among the different levels of the system; 2) strengthening the role of health facility personnel, particularly the responsibility of head nurses to manage the drug supply of health huts; and 3) redistributing existing stock.

SERVICE DELIVERY AND REFERRAL

Service delivery: The level of satisfaction with the delivery of services from the ASCs and *matrones* to the community is high, especially where the hours of operation and the functional referral system from the health huts to other facilities are concerned. From senior MoHP policymakers to mothers in the community, those interviewed expressed a deep sense of pride in the iCCM program because the ASCs and *matrones* deliver much-needed services via an approach that is well adapted to the local context.

There are, however, two issues with service delivery: First, stock-outs of some key drugs and supplies do occur, and this has a negative impact on service delivery. Second, the role of VHCs in making sure that priority services are always available at the health hut does not seem to be very robust.

Referral: Results of FGDs and data from the document review indicate that ASCs and *matrones* systematically refer patients who exhibit danger signs as well as complicated cases that CHWs cannot treat. Despite the fact that the CHW decision-making on referrals to health posts appears to be adequate, caregivers do not always follow their advice. The barriers were not fully explored, although the persistence of strong beliefs that religious leaders (*marabouts*) can cure illness is a factor. The disparity in results noted from one site to the next is directly related to the individual interest of the head nurse. In spite of several discussions with the regional teams and with the national Steering Committee, no strategy has been established to encourage head nurses to provide systematic feedback back to health huts on referrals.

Promising Practices in Service Delivery and Referral:

- *Outreach activities conducted by head nurses:* Some head nurses are conducting direct service provision at the health hut level, combined with supervision of ASCs and *matrones*. However, this promising practice needs to be disseminated and scaled up.
- *Feedback on referred patients:* Some head nurses are providing feedback to health huts on referred patients.

Challenges and Barriers:

- *Limited patient data:* Data collected by illness classification are limited.
- *Differences in operating styles and accountability requirements:* These differences cause relations between NGO agents and some health facility staff to be sensitive.
- *Barriers to referral:* Caregivers do not always follow advice for referral. These barriers to referral need to be explored in detail.
- *Need for strategy to encourage feedback on referrals:* No particular strategy has been established to encourage all head nurses to provide feedback on referrals from the health hut.
- *Need to disseminate and capitalize on solutions that work:* For example, combining supervision of the health huts with the outreach strategy for immunization is a solution that could be promoted.

COMMUNICATION AND SOCIAL MOBILIZATION

Communication and social mobilization activities that encourage the utilization of services and promote lasting changes in behaviors and practices constitute an essential pillar of any iCCM program. The documentation team noted that the Senegal iCCM program is supported by a comprehensive information, education, and communication (IEC)/BCC component that includes all the classic elements of a successful program: mass media, group communication, and interpersonal communication.

One issue that those involved in IEC/BCC activities need to tackle is strengthening compliance when the health hut personnel refer the caregiver to the health post. At this point compliance is low because the common practice is for the mothers to first go see the *marabout*. The barriers to complying with referral advice need further research.

In terms of bottlenecks and other issues requiring attention, the team cited two financing issues: the high costs associated with producing and broadcasting a successful television series during the expansion phase, and the cost of training CHWs and other community agents in the “Badiénu Gox” or “Better Safe than Sorry” BCC program. The documentation team also noted that: 1) the iCCM program is not making the best use of potential health educators from other sectors (e.g., education and agriculture) and 2) the specific messages on home-based care, identification of danger signs and proper care-seeking behavior are diluted in the mass communication campaigns.

Promising Practices in Communication and Social Mobilization:

- *Adequate BCC materials available for the various categories of CHWs:* Using these materials, the CHWs are able to combine their efforts with local theater groups to target perceived harmful traditional practices.
- *Use of a variety of communication techniques to target malaria:* The NMCP uses specific communication campaigns, home visits to provide malaria prevention and treatment messages,

insecticide-treated net (ITN) distribution and re-treatment campaigns, and public events addressing hygiene and sanitation. Such an approach could be a model for communication and social mobilization activities for other elements of iCCM.

Challenges and Barriers:

- *Insufficient informational content in the IEC/BCC campaigns:* Content centered on recognition of danger signs and encouraging families to seek early care is not always sufficient.
- *Lack of compliance with referrals:* Caregivers do not always comply with referrals, preferring to visit a religious leader instead.

SUPERVISION AND PERFORMANCE QUALITY ASSURANCE

Providing supervision and ongoing performance quality assurance is key to the success of iCCM and to maintaining community confidence in the services.

Supervision: In the iCCM program design, the head nurses at the health posts are in charge of the health huts in their areas and play an important role in supporting the ASCs and *matrones*. This includes training, supervision, and validating data sent in by the health huts. During the expansion phase, supervision is sometimes integrated with outreach activities by health post staff, a promising practice that others should be encouraged to adopt. The CHWs and head nurses also benefit from the visits of the CDAs.

One of the main findings concerning supervision is that the head nurses are not conducting regular supervision visits, in part because the public health system does not provide adequate resources or demand accountability. Reasons given for not conducting these visits include: lack of transportation, lack of financial incentives, and in some cases, a heavy workload, which can include responsibility for 10 or more ASCs and *matrones*. In addition, post-training support meetings, which were planned and budgeted in the implementation plan during the pilot phase as an alternative to supervision visits, have been discontinued. However, the MoHP and partners realized that, within the current context and over the long term, they cannot expect the head nurses to visit health huts, on a systematic basis, to supervise ASCs and *matrones*.

CDAs conduct regular supervision visits because they have more resources for supervision and are accountable to their NGOs for results. Reports show that almost all the health huts in the project area are visited regularly, either monthly or at least quarterly. Although NGOs are quick to provide support to the head nurses for supervision, the results-driven approach has led NGOs to exert some pressure on head nurses, which sometimes creates frustration.

Quality of care: To monitor CHW skills, supervisors analyze the registers maintained by the CHWs; direct observation of child case management is not included on the supervision checklist. When the documentation team reviewed activity reports and conducted field interviews, they encountered no mention of supervisors carrying out direct observations. To compensate for this lack of data on quality of care, the documentation team included direct observation of a sample of CHWs. Focusing on certain skills, the development team found that, in general, performance levels were not as high as reported, and levels varied widely, depending on the district and the skill being assessed.

Promising Practices in Supervision and Performance Quality Assurance:

- *Empowering health post staff:* Leadership and the commitment of public health officers, such as Regional Medical Officers, helped to empower the health post staff.

- *Support for integration:* The USAID/IntraHealth project supported the integration of supervision activities with antenatal care and immunization outreach services.
- *Overcoming financial and human resource constraints:* Regular group monitoring meetings with ASCs and *matrones* helped to overcome the constraint of a lack of money and human resources for individual visits to health huts.

Challenges and Barriers:

- *No sustainable approach to maintain support:* Regular supervision was funded from external sources; the level of support the CDAs are able to provide to ASCs and *matrones* cannot be maintained.
- *Lack of adherence to processes:* Even when monitoring visits are conducted, processes are not always adhered to: partners oversimplify forms; not everyone is on board with the practice; and head nurses make changes to the process either because they do not appreciate the importance of each step and tool, or for pragmatic reasons.
- *Need for more support when introducing new drugs:* Introducing new drugs at the health hut level—drugs that are normally used by more highly trained medical personnel—calls for more support to health huts than was required previously. Although NGOs provide much of the needed support, the health system has not yet fully fulfilled its own support role.

Proposed Solutions:

- As noted under the Financing section above, ensure that the MoHP devotes some financial resources for supervising community-level activities.
- Institute opportunities to measure and monitor the quality of CHW performance during monthly meetings and any visit to health huts (e.g., immunization outreach).
- In addition to continuing the group CHW monitoring meetings, revise the role of the CDAs to focus on clinical work.

MONITORING AND EVALUATION AND THE HEALTH INFORMATION SYSTEM

During the pilot phase, to introduce new elements of iCCM (antibiotics, bitherapy for malaria treatment, and zinc), data were systematically collected, analyzed, and documented to determine whether the intervention was effective and feasible for Senegal. During the expansion phase, it became clear that this level and this intensity of data collection were not replicable or necessary on a larger scale. Instead, data collection needs to monitor progress and respond to ongoing challenges in program implementation through the National Health Management Information System (NHMIS). Senegal should consider revising and disseminating the currently available tools and procedures, using the global iCCM indicator framework to select some indicators appropriate for the country.

Involvement of MoHP personnel in M&E at different levels varies widely. The documentation team perceived an extra burden for the *national level*, which has taken on some of the data management tasks that the decentralized levels should be managing. Participation in M&E and data management at the *regional level* varies from one region to another, but it is generally limited. Although described in the iCCM Implementation Guidelines, the documentation team did not find the set of tools available at the *district level* that would specifically enable MoHP staff to follow the progress of the health huts' activities. On a more positive note, the NMCP practice of holding quarterly program review meetings for district staff and partners is a

promising approach. These meetings create opportunities for district-level personnel to present malaria data and indicators, which promote discussion of data and joint decision-making.

At the *community level*, the CDAs employed by implementing NGOs are charged with reinforcing the capacity of health hut personnel to collect and manage data at that level and to report to the district on a monthly basis. And although the VHC has an important role to play in monitoring progress, locally, of any activities at the health hut, it appears that no systematic process has been conducted to simplify the M&E system so that it is appropriate for the VHC.

Because the Senegalese iCCM program is quite mature, this should be the right time to select basic indicators or data elements that are meaningful for monitoring health hut activities at the local level. To ensure that these indicators are easily understood, they should be put into a tailored training program for VHC members that will empower the committee members in the local use of data for decision-making.

Promising Practices in M&E and the NHMIS:

- *NMCP approach to M&E:* by holding quarterly program review meetings for district staff and partners, the NMCP creates opportunities for presenting malaria data and indicators and promotes discussion of data and making joint-decisions. This is an example of a promising practice.
- *MoHP's consistent efforts to integrate community case management data with the NHMIS:* This is a second example of a promising practice.

Challenges and Barriers:

- *Significant decline in involvement:* MoHP involvement at the regional level has declined significantly, and now the NHMIS is expected to take over its role in M&E.
- *Poor dissemination of guidance and lack of follow-up:* Dissemination of guidance on the inclusion of iCCM data in the health system has been poor, and follow-up is lacking.
- *Tools needed to follow health hut progress:* A set of tools for the district level that would specifically enable various levels of the MoHP to follow the progress of the health huts is not available.

Proposed Solutions:

- Review the package of tools the ASCs and *matrones* use and ensure that they are fully consistent across the board (i.e., consistency of the information collected in district monthly reports, health post monthly reports, ASCs' and *matrones*' monthly reports, iCCM register, and iCCM individual forms).
- Integrate key iCCM indicators into the NHMIS to reflect the contributions of community-led activities and to ensure their quality.

LESSONS LEARNED

The lessons learned are organized into four broad categories: establishing a favorable policy environment and effective institutional support, reinforcing links between the health system and the communities, rapidly scaling up the delivery of quality services by CHWs to households, and designing and implementing BCC activities for iCCM.

ESTABLISHING A FAVORABLE POLICY ENVIRONMENT AND EFFECTIVE INSTITUTIONAL SUPPORT

Evidence-based advocacy: The Senegal experience clearly shows that certain factors favor the adoption of an innovative idea (e.g., iCCM for childhood illness). These factors include: 1) the use of scientific evidence during advocacy sessions; 2) the sharing of perspectives by district managers and care providers; and 3) the courage of individuals to challenge the status quo. Following the acceptance of the scientific evidence concerning the effectiveness of iCCM, demonstrating that trained community workers can correctly dispense antibiotics, ORS/zinc, and antimalarials provided a sound basis for decision-making and policy change.

Need for national community health policy based on experience: The initial phase of the iCCM program was implemented without a national policy on community health in place. The strong leadership of the MoHP and its ownership of the process were sufficient to ensure a successful launch of this initiative. However, now that the program has expanded and involves CHWs from different government programs providing health services, a policy on community health is needed to ensure consistent standards of implementation and to promote synergies among programs.

Ownership of the iCCM program and empowerment of decentralized government levels: Although NGOs support program implementation in the field, the MoHP continues to provide technical and strategic leadership and has overall responsibility for coordinating activities. It is, therefore, very important to address the ownership issues raised by personnel at different levels of the MoHP. A community health policy and implementation strategy would define roles and responsibilities and empower regional and district levels to play their respective roles.

Adapting the program to local context and culture: A critical lesson learned during the seven years of iCCM implementation is the importance of adapting the approach to the local context and culture so that acceptance and ownership by the beneficiaries can be ensured through local health committees. This lesson also applies to the following section on reinforcing links between the health system and the communities.

REINFORCING LINKS BETWEEN THE HEALTH SYSTEM AND THE COMMUNITIES

Implementing sequence can vary: Although it might seem logical to first provide training in clinical Integrated Management of Childhood Illness (IMCI) to the health facility staff who supervise the CHWs, the Senegal experience demonstrates that this is not a precondition for a successful community-based case management initiative.

Importance of head nurses in supporting CHWs: In the Senegal program, the head nurses are the first line of contact between the CHWs and the health system, and the importance of their role in supporting the CHWs cannot be overestimated. As the program has scaled up, the head nurses have become less involved due to a number of factors, some of which are beyond their

control. For the continued success of the program, it is essential to make a special effort to ensure that the CHWs benefit fully from the technical and moral support of the head nurses.

Importance of having harmonized M&E tools and procedures from community to national levels: It is important to have a “dashboard” or a set of tools and procedures for monitoring activities at all levels of program management, from the peripheral village level to the national level, tools and procedures from the MoHP and from implementing partners should be harmonized.

Data needs differ in startup and expansion: When designing iCCM programs, it is important to distinguish between data needed to determine the feasibility of an intervention during the initial phase, and data for program monitoring and timely decision-making during the expansion phase. The routine data collected at the community level in the expansion phase should be integrated with the NHMIS no matter which organization is collecting it. The indicators, which need to be reviewed periodically, should clearly measure the contribution of the community-level program to the overall health system. This weakness in the Senegal program, highlighted during the documentation exercise, needs to be addressed.

RAPIDLY SCALING UP THE DELIVERY OF QUALITY SERVICES BY CHWS TO HOUSEHOLDS

Program design: The program design should include both an initial and an expansion phase, with confirmed allocation of resources for each phase before it starts. In order to avoid delays, the initial program phase should include clear policy directives and commitment for rapid expansion if the initial results prove conclusive.

Ministry of Health leadership: Although NGOs offer technical expertise, effective interventions in the field, and an ability to mobilize human, financial, and material resources, it is important for the MoHP to coordinate and lead the iCCM process.

Well-functioning supply chain: For an iCCM program to succeed, the supply chain management system must function well. Without drugs and diagnostic tools such as RDT kits, visits to health huts lose value.

Performance quality assurance in the expansion phase: Performance quality assurance should not decline during the expansion phase, even if the objective is to cover a large proportion of the target population rapidly. Certain standards and procedures need to be respected, especially where post-training monitoring and supervision are concerned.

Financing for sustainability: Securing financing is important to long-term program sustainability. Although the MoHP is not in a position to fully fund line items for all community-level activities, allocating funds for supervision of community activities would demonstrate ownership.

DESIGNING AND IMPLEMENTING BCC ACTIVITIES FOR iCCM

BCC strategy review: At this stage of the program, it is time for an in-depth review of the technical content of the IEC/BCC strategy. The review should include an assessment of targets, behaviors, messages, and means of communication. One of the principal lessons learned for optimizing behavior change is the importance of adapting the BCC strategy to the cultural values of the community. Program managers should continue to actively seek out opportunities

to ensure that behavior change activities are effective and acceptable. In addition, resource mobilization should cover case management as well as BCC activities.

Social mobilization: Working with the mass media to spread health messages needs to be done very systematically. Ideally, managers from different health programs would develop a joint plan, including their priority messages and a pre-positioned budget. At a minimum, the iCCM program should develop its own comprehensive mass media plan.

Optimizing resources: Better use of all available resources (human, material, and financial) would result in a more effective behavior change program. For example, the involvement of the Ministry of Communication should be more tangible. The decentralized levels of the MoHP should also mobilize local resources (e.g., develop partnerships with local media or lead advocacy campaigns directed toward influential people in the area).

CONCLUSION

This document has presented the findings and factors accounting for the success of iCCM in Senegal, which include the technical and strategic leadership of the MoHP, the involvement of respected health professionals, the creation of a framework conducive to open exchange, and the sustained commitment of financial and technical partners.

Although the purpose of this exercise was not to measure increased access and improved outcomes quantitatively, a number of positive findings indicate program effectiveness. Examples include:

- After ASCs and *matrones* were trained in the use of RDTs, the number of cases of fever diagnosed as malaria declined significantly. This has resulted in a more rational, cost-effective use of relatively expensive antimalarial drugs.
- The number of cases of diarrhea treated with ORS and the number of cases of pneumonia treated with antibiotics appear to have increased in parallel with the number of health huts involved in the program.

This documentation exercise also highlighted areas needing improvement that, if addressed in a timely fashion, would further strengthen Senegal's program. These areas include:

- Reinforcing the MoHP's sense of ownership;
- Improving the M&E system;
- Addressing stock-out issues;
- Securing long-term financing;
- Strengthening the BCC component;
- Monitoring the quality of the services provided by the ASCs and *matrones*; and
- Developing a national policy on community health for better integration of all health-related activities at the community level.

