Health systems and reproductive health in the African Region

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A weak national health system can be viewed as an important contributor to poverty and inequity in the African Region. Persons who are in poor health less frequently move up and more frequently move down the social ladder than healthy persons. The role of the health system becomes particularly relevant through the issue of access to preventive and curative health services. The health system can directly address inequities not only by improving equitable access to care, but also in the promotion of intersectoral action to improve health status. The health system is also capable of ensuring that health problems do not lead to a further deterioration of people’s social status and of facilitating sick people’s social reintegration.

Equitable and sustainable access to properly functioning health systems, however, has not been attained across the Region. There have always been geographical disparities and these have worsened over the last decade. Many people, particularly those in rural areas, often have to travel long distances to receive basic health care. Once they reach a hospital or a clinic, they may only receive health care if they pay for it. Inevitably, many people may forego treatment because they cannot afford it, while those who pay may find the cost ruinous and the quality of service limited. Rapid turnover of people in key positions, lack of continuity in policy, lack of resources, poor management of available resources and poor implementation are seen in many countries as major constraints to improving the health systems. Most countries in the Region inherited a colonial, European model of health care that was primarily intended for colonial administrators and expatriates, with separate or second class provision made – if at all – for Africans.
In spite of various constraints, tangible progress has been made by governments, communities and partners towards improved health outcomes; nevertheless, many challenges lie ahead. Health systems are weak and the Region still faces an increasing burden of communicable and noncommunicable diseases, high child and maternal mortality, recurrent epidemics and humanitarian crises aggravated by the global financial crisis.

At the end of my first five-year term, the WHO Secretariat, together with Member States and partners, have taken stock of achievements made and challenges faced; we have learnt lessons and gathered additional evidence for a renewed vision of the work of WHO in the African Region for the period 2010–2015 in line with the WHO Eleventh General Programme of Work 2006–2015. The result of this effort is a new set of strategic directions for the Region.

The new strategic directions build on the achievements in the previous five years and focus on the evolving and specific context of the Region, which continues to evolve. The Strategic Orientations (2005–2009) strengthened institutional capacity and enhanced partnerships and leadership for health. Furthermore, the adoption of various declarations and calls for action has provided consensus for the health agenda in the Region. Building on these and other achievements, the current strategic directions were formulated to sustain gains made and to tackle current, emerging and re-emerging priorities. They are, therefore, more action-oriented and aimed at improving the health outcomes in the Region.

An important focus of the current strategic directions is to continue supporting the strengthening of health systems based on the Primary Health Care Approach. The platform created by the Ouagadougou Declaration on Primary Health Care and Health Systems in Africa along with the Algiers Declaration on Research for Health and the Libreville Declaration on Health and Environment will be implemented to further strengthen health systems. WHO will advocate for sustained commitments with a special focus on the human resource gaps, taking advantage of new and effective technologies to accelerate the attainment of the MDGs. Countries will be supported to strengthen national research systems and shape their research agenda. To support countries, an African Health Observatory aimed at analysing data and providing information on health outcomes and trends will be established at the Regional Office. Technical support will be provided to establish similar structures at country level. Guidance will be provided for the establishment and networking of centres of excellence on health research in order to generate evidence to support service delivery and inform policy action.

This issue of the Monitor includes several articles on health systems strengthening. There is a paper on how national health systems could be strengthened in the Region. The role of health systems as key determinants of progress on the Health MDGs is detailed in another paper. Country experiences are also described in three papers: health financing in Malawi; an innovative method for assessing family planning needs that could be useful for health workers in Ghana; and health information systems in Ethiopia. Leveraging eHealth to improve health systems in the African Region is a topic for the last paper in this issue of the Monitor. All the articles deal with important issues of health systems and thus would be useful reading to all health workers and policymakers.

Luis Gomes Sambo
Regional Director
The environment for the smooth functioning of health systems is the lives of people, families, and communities. Consequently, health systems performance should be a top priority in the national agenda. However, health systems in countries of the Region are struggling to operate effectively, because they are weak and fragmented.1 Their failure stems from factors such as managerial weaknesses in planning and forecasting; lack of human, financial and material resources; inadequate data to inform decision-making, gaps in institutional processes and weakness in monitoring the performance and impact of interventions. Strengthening health systems is therefore a precondition for any significant progress in health in the African Region and even in the world at large. Countries in this Region are aware of this and are taking increasing advantage of the opportunities provided by global initiatives to express their need for health systems strengthening.2

This article, prompted by a need for health systems strengthening in countries, seeks to contribute to the brainstorming in the quest for appropriate solutions to the identified challenges.

A b s t r a c t

The environment for the smooth functioning of health systems is the lives of people, families, and communities. Consequently, health systems performance should be a top priority in the national agenda. However, health systems in countries of the Region are struggling to operate effectively, because they are weak and fragmented.1 Their failure stems from factors such as managerial weaknesses in planning and forecasting; lack of human, financial and material resources; inadequate data to inform decision-making, gaps in institutional processes and weakness in monitoring the performance and impact of interventions. Strengthening health systems is therefore a precondition for any significant progress in health in the African Region and even in the world at large. Countries in this Region are aware of this and are taking increasing advantage of the opportunities provided by global initiatives to express their need for health systems strengthening.2

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RESUMO

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A verdadeira questão subjacente ao bom funcionamento do sistema de saúde é a vida dos indivíduos, das famílias e das comunidades. Consequentemente, o desempenho do sistema de saúde deve ser a principal prioridade no plano governamental. Contudo, os sistemas de saúde dos países da região estão a ter dificuldades em operar de forma eficaz, devido à sua fraqueza e fragmentação.1 A fraqueza dos sistemas de saúde resulta de determinados factores, tais como falhas gerenciais em planeamento e previsões; falta de recursos humanos, financeiros e materiais; insuficiência de dados para informar a tomada de decisão; lacunas nos processos institucionais e fraquezas no acompanhamento da eficácia e impacto das intervenções. A fortalecimento dos sistemas de saúde constitui, portanto, uma condição prévia para qualquer progresso significativo na saúde na Região Africana e mesmo no mundo em geral. Os países da região estão plenamente conscientes e estão a aproveitar cada vez mais as oportunidades oferecidas por iniciativas mundiais para expressar a necessidade de um tal reforço.2

O presente artigo encontra a sua justificação no desejo de reforço dos sistemas de saúde nos países, e propõe contribuir para a reflexão engagiada para a pesquisa de soluções adequadas aos problemas identificados.
PROBLÉMATIQUE DU RENFORCEMENT DES SYSTÈMES DE SANTÉ

L’effort de renforcement des systèmes de santé des pays implique pour les acteurs, au moins deux préalables que sont une compréhension partagée du concept de système de santé et le contenu de son renforcement.

Selon l’Organisation Mondiale de la Santé (OMS)³⁴, un système de santé comprend l’ensemble des organisations, des institutions et des ressources dont le but principal est d’améliorer la santé. Mais par delà cet objectif principal, il doit répondre aux attentes des populations et assurer leur protection financière contre les coûts liés à la défection de la santé (équité financière).

Afin de mieux cerner la problématique du renforcement des systèmes de santé, il faut envisager son concept dans une optique systémique. Ainsi, un système de santé s’entend comme un ensemble interdépendant de composantes organisées en vue d’atteindre un but commun, en l’occurrence et principalement l’amélioration de la santé. Les composantes d’un système se distinguent en plusieurs catégories : les entrées qui sont en quelque sorte les matières premières, les processus qui assurent la transformation de ces matières premières, et les sorties qui sont constituées par les flux de prestations fournies par le système, comme produits de son activité. En outre, le système est doté d’un mécanisme de rétro-information qui permet de suivre constamment le niveau d’atteinte des objectifs.

Dans cette acception, le système de santé doit être appréhendé de façon holistique et approché dans sa totalité et non élément par élément. Faute d’une telle vision, la plupart des initiatives mettent uniquement l’accent sur les ressources, en rapport avec des affections particulières ou des groupes cibles particuliers, laissant habituellement pour compte les composantes relatives aux processus organisationnels. Or c’est au niveau de ces processus que se joue la structuration du système, c’est-à-dire l’articulation des moyens matériels et humains, celle des fonctions des divers organes et les modalités de leur collaboration.

C’est de cette logique que s’inspire le cadre conceptuel de l’OMS qui approche le système de santé comme un ensemble reposant sur six piliers, comme indiqué sur la figure 1.

Figure 1. Le Système de santé selon l’OMS
Dans ces conditions, renforcer le système de santé consiste à agir sur ses six piliers, afin d’améliorer de façon durable et équitable les services de santé et la santé des populations. Cette action, permettant ainsi de changer de paradigme, doit être menée à travers une vision globale et de façon équilibrée au risque de compromettre le succès.

DÉFIS QUI SE POSENT AUX PAYS DE LA RÉGION AFRICAINE DE L’OMS

Malgré des succès tangibles tels que l’éradication de la variole, et des progrès encourageants dans la lutte contre certaines maladies comme la poliomyélite, la dracunculose, l’onchocercose et la rougeole, les systèmes de santé des pays de la région montrent des faiblesses dans la prestation des services, qui soulèvent des défis multiples qui peuvent être regroupés sous cinq thèmes majeurs : leadership et gouvernance ; organisation ; information sanitaire ; finance- ment ; ressources humaines et matérielles.

DÉFIS LIÉS AU LEADERSHIP ET À LA GOUVERNANCE

Une consultation organisée par l’OMS en 2007 a relevé que les capacités en matière de leadership et de gestion sont actuellement insuffisantes, tant dans le secteur privé que publique, et que rares sont les pays à revenus faibles qui se préoccupent de façon systématique de la problématique gestionnaire.

A cet égard, des défis complexes se posent aux pays de la région africaine :
• Définir une vision stratégique pour le système dans sa globalité, et obtenir l’adhésion de toutes les parties prenantes y compris le secteur privé ;
• Accorder une haute priorité, à la conception du système de santé fondée sur une approche holistique qui implique pour les autorités nationales, la capacité d’agir à la fois de façon équilibrée sur tous les aspects du système de santé ;
• Refléter cette vision dans un cadre stratégique qui sert de creuset pour la définition des politiques et stratégies sectorielles ;
• Instaurer une gestion efficiente, dans le respect de l’exigence de transparence et de l’obligation de rendre compte et ;
• Formuler un plan de renforcement du système de santé.

DÉFIS LIÉS À L’ORGANISATION

Les lacunes des prestations de services sont souvent dues à un dysfonctionnement de l’organisation du système de santé, même lorsque les apports nécessaires sont fournis et l’appui financier suffisant.

Un défi organisationnel de taille se pose tant pour la configuration d’ensemble des systèmes de santé que pour la structure des prestations des services. Il s’agit alors pour les autorités nationales de :
• Prendre conscience de l’importance vitale de la structuration organisationnelle pour en faire une question prioritaire ;
• Faire preuve d’innovation organisationnelle et opérer des choix stratégiques en répondant aux questions clé telles que : comment combiner les trois modalités organisationnelles de base d’un système de santé (pyramidale hiérarchisée ; contractuelle ; et centrée sur les transactions marchandes) ? Quelles formes de décentralisation appliquer et comment les rendre effectives, grâce à une répartition réelle de l’autorité et des pouvoirs de décisions, et un environnement de travail incitatif par exemple ? Comment combiner les modalités hiérarchisées et décentralisées d’organisation des prestations de service ou les alternatives d’intégration ? Comment promouvoir la
contractualisation ? Comment créer des liens structurels et fonctionnels avec le secteur privé souvent occulté ? Comment promouvoir la recherche sur les systèmes de santé ?

DÉFIS RELATIF À L'INFORMATION SANITAIRE
L'information sanitaire est vitale pour la prise de décision, le suivi/évaluation des programmes, des progrès, et de la performance du système de santé. Mais, rares sont les pays de la région où le système d'information sanitaire est assez performant pour le suivi des progrès dans l'atteinte des OMD, pour diverses raisons:

• caractère fragmenté et peu cohérent de ces systèmes, coordination difficile des parties prenantes ;
• surcharge des agents de santé ;
• faible degré de synthèse, analyse et utilisation des données collectées.

Quant à la mesure de la performance du système de santé, sa conception en est encore au stade expérimental.

Le système d'information sanitaire est alors confronté à plusieurs défis :

• Établir un cadre d'évaluation de la performance du système, et instaurer un processus continu suivi-évaluation-révision ;
• Sélectionner une série limitée d'indicateurs adaptés et conformes aux normes internationales ;
• Développer l'expertise requise en conception, gestion, utilisation de l'information et en recherche sur les SIS ;
• Créer un environnement de travail incitatif pour promouvoir une culture de prise de décision fondée sur des bases factuelles ;
• Mettre en place un mécanisme efficace de mesure de la performance du système de santé.

DÉFIS RELATIFS AU FINANCEMENT DE LA SANTÉ
Dans le domaine du financement de la santé, les pays de la région africaine se heurtent à d'énormes difficultés. Les ressources financières sont insuffisantes, mal gérées, affectées de façon peu stratégique, et mal coordonnées pour la part fournie par l'aide extérieure.8

Les défis suivants se posent alors :

• Adopter la meilleure combinaison des quatre modes d'organisation classiques (Régime unique financé par l'Etat, Sécurité sociale, Organismes communautaires et Caisses privées d'assurance maladie), de façon à mieux satisfaire les exigences d'équité et d'efficacité ;3
• Accroître les fonds pubiques en respectant les engagements des Chefs d'Etat et en mobilisant plus d'aides extérieures ;
• Afficher la volonté politique nécessaire pour instaurer des règles de gestion et d'allocation rigoureuses, en mettant à profit les bases de données constituées par l'OMS à cet effet.8

DÉFIS RELATIFS AUX RESSOURCES HUMAINES ET MATÉRIELLES
Un système de santé, pour être performant, doit disposer d'une masse critique de ressources humaines et matérielles. Or dans les pays de la région africaine, celles-ci sont insuffisantes dans un contexte de déséquilibre entre les dépenses d'investissement trop élevées (40 à 50% du budget de la santé dans le secteur public, contre 5% dans les pays riches) et les dépenses de fonctionnement.3 De la sorte, après les dépenses salariales, soit 2/3 des dépenses renouvelables, il reste peu de fonds pour les consommables y compris les produits pharmaceutiques dont l'accès est limité pour plus de la moitié de la population dans certains pays. Ce déficit de ressources est particulièrement ressenti concernant le capital humain qui est la pierre angulaire d'un système de santé performant.

L'ampleur du problème place l'Afrique à l'épicentre de la crise.
mondiale du personnel de santé, comme le montrent les éléments suivants.  

Face à cette situation préoccupante, les défis relatifs aux ressources humaines et matérielles consistent, pour les autorités nationales, à :

- **Etablir un meilleur équilibre entre les dépenses d’investissements et celles liées à l’entretien et au fonctionnement du capital tant humain que physique ;**
- **Affirmer la volonté politique d’appliquer les résolutions et recommandations prises par les pays eux-mêmes, notamment sur la crise du personnel, à travers l’OMS et le NEPAD par exemple, ou celles émanant des instances internationales partenaires tels que « Global Health Workforce Alliance » (GHWA), GAVI et Banque Mondiale ;**
- **Renforcer le dispositif des comptes nationaux de la santé pour disposer d’une information plus fiable sur les ressources et mieux guider les choix budgétaires ;**
- **Améliorer l’efficacité des mécanismes d’approvisionnement, de distribution et d’utilisation des produits pharmaceutiques et des équipements, tout en développant la production locale des produits de la médecine traditionnelle ;**
- **Améliorer l’efficacité en matière de planification et d’allocation des ressources et rendre leur gestion plus rigoureuse et transparente.**

### RÉPONSES DES PAYS DE LA RÉGION AFRICAINE DE L’OMS

Face aux nombreux défis du renforcement des systèmes de santé dont les gouvernements affirment avoir pleinement conscience, les pays de la région africaine ont pris des initiatives très variables d’un pays à l’autre, en fonction du contexte national et des opportunités. Elles ont toutes un trait commun : leur caractère limité au niveau local, leur expansion difficile à l’échelle nationale et leur manque de pérennité. Toutefois, elles constituent autant d’expériences acquises sur lesquelles il est possible de bâtir l’avenir, et certaines sont porteuses de perspectives prometteuses. A cet égard, les expériences à citer à titre d’illustration, portent sur l’approche sectorielle et la réforme du système de santé.

### APPROCHE SECTORIELLE

L’approche sectorielle communément appelée « SWAp » en anglais (sector-wide approach), peut être définie comme une situation de coopération entre gouvernements et partenaires, où « tous les financements importants du secteur appuient une seule politique sectorielle et un seul programme de dépenses sous la direction des gouvernements, qui optent pour une approche commune du secteur, et [où] les procédures nationales sont progressivement adoptées pour le décaissement et la comptabilisation de tous les fonds ».  

Toutefois, il faut souligner qu’une SWAP dépasse la seule mise en commun de fonds, et implique aussi un dialogue soutenu entre toutes les parties prenantes sur les aspects clés.

Cette approche a vu le jour comme moyen de renforcer l’efficacité de l’aide, face au constat que les efforts des donateurs « ont systématiquement été incapables de produire des résultats durables dans le système de santé. Les composantes clés d’une approche sectorielle sont :

- Une politique et une stratégie sectorielle claires que le pays s’est approprié ;
- Un programme de dépenses à moyen terme reflétant la stratégie sectorielle ;
- Un système de suivi des performances permettant de mesurer les progrès réalisés et de renforcer l’obligation de rendre compte ;
- Des mécanismes de consultation larges impliquant...
toutes les principales parties prenantes ;
• Un processus formalisé et conduit par le gouvernement de coordination de l’aide et de dialogue au niveau du secteur ;
• Un processus convenu permettant d’avancer sur la voie de l’harmonisation des systèmes d’établissement des rapports, de budgétisation, de gestion financière et de passation des marchés publics.11

Les appréciations suivantes faites en 2007, dans un rapport de l’institut « HLSP Institute »12 permettent de se situer par rapport au bilan de l’application des SWAps en Afrique. De ce rapport qui porte sur les expériences dans six pays (Ghana, Malawi, Mozambique, Tanzanie, Uganda et Zambie), il se dégage ce qui suit :
• Tous ces six pays ont mis en place les piliers fondamentaux de la SWAp : un plan stratégique sectoriel ; un budget pluriannuel ou un cadre des dépenses à moyen terme CDMT (sauf le Mozambique) ; des processus pour une gestion commune sous la direction du gouvernement ; des indicateurs communs pour le suivi des progrès sectoriels ; un mécanisme de fonds commun sous des formes variables selon le pays ; la mise en œuvre des outils pertinents leur permettant d’appliquer les principes de la déclaration de Paris.
• Tous ces pays ont connu une amélioration significative en matière de coordination de l’aide et des échanges d’information ; un renforcement de leurs capacités dans des domaines tels que la planification et la gestion. Ils ont pu élaborer des stratégies sectorielles axées sur les problèmes majeurs du secteur ; de plus il y a eu un accroissement significatif des fonds injectés dans le secteur santé.
• Cependant, dans quelques uns de ces pays, la SWAp a perdu son élan initial. On a assisté à une baisse des fonds canalisés à travers les mécanismes de la SWAp tandis que les coûts de transaction sont demeurés élevés. Des contraintes subsistent dans le domaine de la mise en œuvre, notamment en raison de la faible capacité au niveau des districts.12
• « Finalement, il est difficile de démontrer l’impact de la SWAp à ce stade de son développement, car les succès sont mitigés, avec des progrès dans certains aspects et des stagnations dans d’autres. Ce constat est loin de signifier que les SWAps n’ont pas fonctionné. Au contraire il reflète l’essence même des SWAps, qui ont vocation de jeter les bases d’un développement sectoriel durable, tout en permettant l’amélioration de la performance du système de
prestation des services dans son état actuel ».12

REFORME DU SYSTÈME DE SANTÉ
La reforme du système de santé peut être définie comme un processus de changement fondamental des dispositions de politique et institutionnelles, conçu par le gouvernement en vue d’améliorer le fonctionnement et les performances du secteur santé dans le but d’aboutir à des résultats meilleurs sur le plan de la situation de santé.13 Les réformes en cours en Afrique sont souvent des réponses à des problèmes spécifiques et développées sous forme de projets de santé parfois limitées à des espaces géographiques choisis dans le pays. Ces modèles d’expériences, bien que permettant d’obtenir des résultats, se trouvent néanmoins confrontés à des défis liés à leur généralisation et à leur pérennité.

Des opportunités intéressantes s’offrent aujourd’hui dans le domaine du renforcement des systèmes de santé des pays. Elles se résument ainsi :

➤ **Opportunités politiques dans les pays eux-mêmes et dans les organismes régionaux**
Dans les pays de la région africaine de l’OMS, la prise de conscience des gouvernements est grandissante et s’exprime de diverses manières. Les Chefs d’Etats ont maintes fois inscrit la question de la promotion de la santé et particulièrement le renforcement des systèmes de santé dans l’agenda de leurs sommets, pour souligner combien la santé est un facteur de développement qui mérite d’être élevée à un haut rang de priorité, pour prendre des résolutions qui les engagent à agir concrètement en terme de gouvernance et de leadership, mais surtout à travers des efforts financiers conséquents. A cet égard, il faut rappeler la déclaration d’Abuja en 2001 au Nigéria dans laquelle les Chefs d’Etats s’engagent à consacrer, au moins 15% des budgets nationaux de leurs pays respectifs, engagement renouvelé à Gaborone au Botswana en 2005 puis à Ouagadougou au Burkina Faso en 2006.

Le bureau régional de l’OMS pour l’Afrique, s’appuyant sur les orientations des Assemblées mondiales de la santé, stimule la réflexion des pays de la région en la recentrant davantage sur la problématique des systèmes de santé dans ses diverses facettes. Ce fut le cas au cours des comités régionaux en 1998,14 2001,15 2004,16 et 2007.17 En 2006, le rapport sur la santé dans la région africaine a consacré un volet conséquent sur les systèmes nationaux de santé comme « le grand défi pour la santé publique en Afrique ».8 Dans le rapport 2008 de l’OMS, sur la santé dans le monde « les soins de santé primaires : Maintenant plus que jamais », la Directrice générale, après avoir tiré les leçons du passé, a mis l’accent sur les défis et les voies que les systèmes de santé devraient suivre pour « combler le fossé intolérable qui sépare les aspirations de la réalité ». Ces voies sont définies à travers « (i) les réformes de la couverture universelle qui font en sorte que les systèmes de santé contribuent à l’équité, à la justice sociale et à la fin de l’exclusion, essentiellement en tendant vers l’accès universel aux soins et à la sécurité sociale ; (ii) les réformes des prestations de services qui réorganisent les services de santé autour des besoins et des attentes de la population, afin de les rendre plus pertinents socialement et plus réactifs aux changements du monde, tout en produisant de meilleurs résultats ; (iii) les
réformes des politiques publiques qui rendent les collectivités plus saines, en combinant mesures de santé publique et soins de santé primaires, en menant des politiques publiques saines dans tous les secteurs et en renforçant les interventions de santé publique sur le plan national et transnational; et (iv) les réformes du leadership qui remplacent à la fois la quête disproportionnée de résultats à court terme d'un côté et le laisser-faire du désengagement des pouvoirs publics de l'autre, par l'autorité dirigeante inclusive, participative et négociatrice qu'appelle la complexité des systèmes de santé contemporains ».

Par ailleurs, en 2008, deux conférences internationales ont été organisées, l'une à Ouagadougou sur les soins de santé primaires et les systèmes de santé en Afrique et l'autre à Alger sur la recherche pour la santé dans la région africaine. Elles ont toutes formulées des déclarations qui ont été dotées de cadres de mise en œuvre, comme outil permettant de mener les actions concrètes, de mesurer et de suivre les progrès.

D'autres instances et organismes au niveau régional, en collaboration avec l'OMS, se sont également engagés dans le combat en faveur du renforcement des systèmes de santé. C'est le cas de la conférence des ministres africains de la santé et aussi du NEPAD.

**Opportunités liées aux partenariats internationaux**

Un consensus grandissant émerge actuellement au sein de la communauté internationale pour reconnaître que les systèmes de santé défaillants constituent un obstacle majeur à la réalisation des Objectifs du millénaire pour le développement et qu'en conséquence il est bénéfique d'investir dans leur renforcement de façon innovante et coordonnée. C'est autour de cette vision partagée que de nouveaux partenariats mondiaux connaissent un véritable essor avec des parties prenantes fortement engagées tels que GAVI Alliance, le partenariat “Health 8”, le Partenariat international pour la santé et Initiatives apparentées.

**Opportunités d'ordre technique**

Les savoir et savoir-faire dans le domaine des systèmes de santé ont connu un niveau de développement appréciable en offrant aux systèmes de santé, des outils nécessaires pour obtenir des résultats. C'est le cas, à titre d'illustration : (i) du projet “CHOICE” en anglais (Choosing Interventions that are Cost-Effective), initié par l'OMS en 1998 afin de fournir aux décideurs les bases factuelles pour sélectionner les interventions et programmes ayant un meilleur rapport coût-efficacité ; (ii) de l'initiative pour l'amélioration de la performance des systèmes de santé (Initiative EHSP) dont le but est de permettre aux pays de développer une meilleure capacité en matière d'analyse de la performance des systèmes de santé, de mise en œuvre et de suivi-évaluation des actions visant à améliorer cette performance ; (iii) du cadre OMS pour le renforcement des systèmes de santé « WHO’s framework for action » publié en 2007, qui fournit un cadre conceptuel qui approche le système de santé dans une perspective systémique, le décompose ses six piliers fondamentaux, et offre finalement un creuset commun pour sa configuration ou son renforcement selon le contexte de chaque pays ; (iv) du cadre du Réseau de métrologie sanitaire pour la mise en place et le renforcement des systèmes d'information sanitaire des pays assortis d'une série d'outils d'évaluation, de planification, et d'aide à la formulation et la soumission des requêtes en vue de l'obtention d'un appui technique ou d'un financement du réseau ; (v) de la série de boîtes à outils mises au point par l'OMS, la Banque Mondiale et d'autres partenaires en 2008, et qui décrit un ensemble d'indicateurs ainsi que des stratégies pertinentes, afin de permettre aux pays de
disposer d’un cadre cohérent et unifié pour le monitorage du renforcement des systèmes de santé.24

Une question essentielle se pose alors, au vu de ces opportunités
Comment en tirer le meilleur bénéfice possible et capitaliser au maximum les expériences accumulées par les pays pour faire des avancées décisives dans le domaine du renforcement des systèmes de santé ? Cette question constitue elle-même un défi qui interpelle les gouvernements des pays eux-mêmes à qui il appartient d’assumer pleinement leurs responsabilités pour entrer en possession de cet immense trésor de potentiels qui est maintenant à leur portée. C’est alors que l’accompagnement des partenaires engagés à leurs côtés, pourra démontrer toute son efficacité.

Toutefois, il faut reconnaître, à la suite du rapport de la Banque mondiale, édition 2006, sur le financement de la santé, que « toute réforme du secteur de la santé, dans quelque pays du monde que ce soit, est une opération complexe ».25 Les dirigeants des pays de la région africaine se doivent de répondre à cette interpellation avec un engagement à la mesure des enjeux vitaux que recouvre le renforcement des systèmes de santé dans leurs pays.

CONCLUSION
Malgré leur importance vitale reconnue, les systèmes de santé des pays de la région africaine de l’OMS ne jouissent pas de l’attention méritée de la part des gouvernements, en termes de priorité d’action et d’allocation de ressources. Aussi connaissent-ils généralement de graves dysfonctions en rapport avec leurs multiples défaillances au regard des structures, des infrastructures, et des moyens humains et matériels. Toutefois, la prise de conscience est grandissante au sein des pays concernés quant à la nécessité impérieuse d’intensifier les actions dans la perspective d’atteindre les OMD relatifs à la santé à l’heure du bilan. Les défis à relever à cet égard sont immenses et complexes et touchent à plusieurs domaines : leadership et gouvernance ; aspects organisationnels et institutionnels ; information sanitaire ; financement ; ressources humaines et matérielles.

Plusieurs initiatives ont été engagées dans les pays selon le contexte et les opportunités, mais elles restent généralement localisées et leur expansion à l’échelle nationale difficile. Certaines sont néanmoins suffisamment prometteuses, comme les approches sectorielles
développées dans quelques pays. Il y a lieu de capitaliser les acquis de ces initiatives pour faire des avancées significatives, surtout que les opportunités immenses s’offrent aux pays de la région africaine, et qui sont soit d’ordre politique au sein de ces pays, soit liées aux partenariats mondiaux qui se sont développés, soit d’ordre technique.

Mais cela ne suffit pas pour relever les défis du renforcement des systèmes de santé. Dans tous les cas, un changement de paradigme s’impose afin de pouvoir, dépasser la simple notion que le système de santé peut être construit uniquement autour des maladies ou des interventions verticales, pour se convaincre que la clé n’est pas dans les outils techniques mais dans le processus politique et les valeurs de société. Armé d’une telle vision nouvelle, ils pourront et devront alors inscrire le renforcement des systèmes de santé dans le cadre d’un plan stratégique qui devrait s’exécuter graduellement dans une perspective à long terme, selon des priorités clairement définies.

RÉFÉRENCES BIBLIOGRAPHIQUES

This paper reports on an assessment conducted in 2007 of the global progress towards achieving the health Millennium Development Goals (MDGs) which showed disparities, with sub-Saharan Africa trailing the rest of the developing world. This situation exists despite the existence of cost-effective interventions for addressing the targeted health problems. It is increasingly assumed that the missing link has been ineffective use of the interventions and the weakness of health systems that are unable to scale up implementation of the interventions. Consequently, a health systems review was conducted in five countries of sub-Saharan Africa, namely Kenya, Malawi, Namibia, Uganda and Zambia. The countries were purposefully selected on the basis of the availability of country reports. A literature review was carried out, focusing primarily on country health sector reports and United Nations data on MDG indicators complemented by on-line literature. The status of health systems was assessed using WHO’s six health system building blocks, covering the period up to 2007. Whereas Malawi, Namibia and Zambia are likely to achieve the measles immunization targets, only Malawi and Zambia are likely to meet the under-five mortality targets. However, in considering the maternal mortality rate (MMR), where approximately 5.5% annual average reduction is required in order to meet the MDG target, all countries are not on track, although Namibia has made progress in the provision of skilled birth attendance. In all the countries reviewed, there is a weakness in health policies and guidelines, and a shortage of human resources and medicines, while public expenditure on health has not risen as expected towards the 15% Abuja target. Health information systems are fragmented and not fully utilized and health service coverage is not adequate. Overall, there is inadequate progress towards achieving the selected MDG impact indicators in the five reviewed countries, against a background of non-conducive health sector policy environment and inadequate resources and service coverage. Achieving the MDGs will require timely national refocusing of health sector policies and commitment to health systems strengthening.
A avaliação dos progressos em relação a consecução mundial dos Objectivos de Desenvolvimento do Milênio (ODM) em 2007 revelou disparidades, com a África Subsariana a ficar atrás do resto dos países em desenvolvimento. Esta situação verifica-se apesar da presença de intervenções custo-eficazes para os problemas de saúde visados. Assume-se cada vez mais que o elo em falta tem sido a utilização ineficaz e ineficaz das intervenções e a fragilidade dos sistemas de saúde, que se mostram incapazes de as implementar adequadamente. Consequentemente, foi feita uma análise dos sistemas de saúde em cinco países da África Subsariana, nomeadamente no Quênia, no Malawi, na Namíbia, no Uganda e na Zâmbia. Os países foram deliberadamente selecionados com base na disponibilidade de relatórios nacionais. Foi feita uma análise da literatura incidindo sobretudo nos relatórios nacionais do sector da saúde e nos dados das Nações Unidas sobre os indicadores dos ODM, complementada por literatura online. O estado dos sistemas de saúde foi avaliado utilizando as seis componentes essenciais do sistema de saúde da OMS, abrangendo o período até 2007. Embora o Malawi, a Namíbia e a Zâmbia consigam provavelmente alcançar os objetivos em termos da taxa de mortalidade em menores de cinco anos, restam outras questões a serem resolvidas para alcançar os objetivos dos ODM.

MDGs 4, 5 and 6 directly relate to health namely; reducing under five child mortality by two thirds, reducing maternal mortality by three quarters and to halt and begin reversing the spread of HIV/AIDS, malaria and other major diseases, using 1990 as the baseline and 2015 as the target year for achievement.3,4

However, assessment of progress in 2007 showed uneven results globally with sub-Saharan Africa trailing behind the rest of the developing world not withstanding that proven and cost-effective interventions to implement against the targeted health problems are known and well understood.3,5 The interventions are not effectively used and health systems are not always capable of implementing them to scale.3 It was with this background that a literature review was conducted to gain an insight into the current status and role of health systems in meeting the health MDGs in sub-Saharan Africa.
**METHODOLOGY**

A desk review of the literature on health systems and MDGs was performed between the months of July and September 2009 for five countries from Eastern and Southern Africa, namely Kenya, Malawi, Namibia, Uganda and Zambia. The countries were selected purposefully based on the availability of national health sector reports. The review primarily focused on country health sector reports that are in the public domain and data from the United Nations on MDG indicators. These sources were complemented by literature search in the following electronic databases: national ministry of health websites, WHO’s Global Information Full Text, Pub Med and Google Scholar. The status of country health systems was assessed using the WHO’s six health system building blocks’ selected desirable attributes as outlined in the Framework for Action for Strengthening Health Systems to Improve Health Outcomes. See Table 1.

**RESULTS**

**PROGRESS ON SELECTED HEALTH MDG IMPACT INDICATORS**

Health impact indicators monitored through the United Nations include MMR and under five mortality rate. Among the reviewed countries, the MMR in 2005 was 210 maternal deaths per 100 000 live births for Namibia representing 6.7% reduction from the 1992 level translating into 0.5% average annual decrease; in the same year Uganda was at 435/100 000 with a 13.9% reduction from 2000 level, a 2.8% average annual decrease; so too was Kenya at 560/100 000, a 16.4% decrease from 1990 making 1% average annual decrease; 449/100 000 for Zambia in 2007 representing a 30.8% decrease 1996 and 2.8% average annual decrease; and 807/100 000 for Malawi in 2006, a 30.2% increase from the 1992 level.

The trend of under five mortality rate from 1990 to 2007 among the countries is shown in Figure 1. Malawi and Uganda show a declining trend in under

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<table>
<thead>
<tr>
<th>Health system building block</th>
<th>Reviewed attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership and governance</td>
<td>Availability of sector strategies</td>
</tr>
<tr>
<td></td>
<td>Collaboration</td>
</tr>
<tr>
<td></td>
<td>Accountability</td>
</tr>
<tr>
<td>Sustainable financing</td>
<td>Adequacy of funding for health</td>
</tr>
<tr>
<td></td>
<td>Out of pocket expenditure payments</td>
</tr>
<tr>
<td>Health workforce</td>
<td>Quantity</td>
</tr>
<tr>
<td></td>
<td>Distribution</td>
</tr>
<tr>
<td>Medicines and vaccines</td>
<td>Availability</td>
</tr>
<tr>
<td>Information</td>
<td>Facility based data utilization and reporting</td>
</tr>
<tr>
<td>Service delivery</td>
<td>Package of integrated services</td>
</tr>
<tr>
<td></td>
<td>Coverage</td>
</tr>
</tbody>
</table>

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**Table 1. Assessment criteria using the six WHO health system building blocks**

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**Figure 1. Under five child mortality rate among the reviewed countries, 1990 to 2007**

Source: United Nations MDG indicators official website.
five mortality while the other three countries seem to have a generally stable trend.\textsuperscript{6}

**LEADERSHIP AND GOVERNANCE**

All reviewed countries have incorporated the MDGs in national policies and plans as follows: through the national MDG based planning process in Kenya; the Growth and Development Strategy in Malawi; Vision 2030 in Namibia; the Poverty Eradication Action Plan in Uganda; and the Fifth National Development Plan in Zambia.\textsuperscript{9,10,11,12,13} They also generate periodic reports on national progress of achievement of the MDGs.\textsuperscript{9,10,11,12,13}

By the time of this review, all countries except Malawi had National Health Policies and all of them except Namibia had National Health Sector Strategic Plans or Programmes of Work.\textsuperscript{14,15,16,17,18} By the year 2008 some national policies and guidelines relating to the three MDGs were either in draft form or needed updating: in Namibia on the minimum essential package, health promotion, patient referral, Expanded Programme on Immunization (EPI) and essential medicines list; in Uganda on EPI, national health laboratory and public private partnership; in Kenya the reproductive health strategy, child health, communication strategy and the immunization policy; in Malawi the national health policy; and the health facility policy for Zambia in 2007.\textsuperscript{14,15,16,17,18}

With the exception of Namibia, all the reviewed countries have a formal collaborating arrangement with development partners through the sector-wide approach (SWAp) whose objective is to have all significant health sector funding supporting a single policy and expenditure programme.\textsuperscript{14,15,16,18,19,20} Since inception of SWAp in these countries, they hold annual joint review meetings with stakeholders as one form of accountability; Namibia held its first health and social services system review in 2008.\textsuperscript{14,15,16,18,20}

**SUSTAINABLE FINANCING**

General government expenditure on health as a percentage of total government expenditure in 2006 compared with 2002 has generally been stable in all reviewed countries except Zambia where it has increased\textsuperscript{21} (see Table 2). Notable also is that only Malawi and Zambia are above the 15% target of the Abuja Declaration 2001.\textsuperscript{22}

Comparing the years 2006 and 2002 the per capita total health expenditure (THE) has increased in all countries varying from a 31% increase in Malawi to over 100% for Namibia and Zambia\textsuperscript{21} (see Table 2). While external resources for health as a percentage of THE slightly decreased between the years 2002 and 2006 in Kenya, it increased for the rest of the countries with Namibia experiencing over 100% increase.\textsuperscript{21} Out of pocket (OOP) expenditure as a percentage of private expenditure on health, varied from 5.7% in Namibia to 80% in Kenya in the year 2006\textsuperscript{21}. See Table 2.

**Table 2. Selected health expenditure indicators for the reviewed countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Per capita THE $</th>
<th>General government expenditure on health as % of total government expenditure</th>
<th>External resources for health as % of THE</th>
<th>OOP expenditure as % of private expenditure on health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>2006</td>
<td>29</td>
<td>9.7</td>
<td>14.9</td>
<td>80.0</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>18</td>
<td>8.9</td>
<td>16.4</td>
<td>80.0</td>
</tr>
<tr>
<td>Malawi</td>
<td>2006</td>
<td>21</td>
<td>17.1</td>
<td>59.6</td>
<td>28.4</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>16</td>
<td>17.6</td>
<td>44.4</td>
<td>44.4</td>
</tr>
<tr>
<td>Namibia</td>
<td>2006</td>
<td>281</td>
<td>11.1</td>
<td>22.4</td>
<td>5.7</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>105</td>
<td>11.1</td>
<td>3.2</td>
<td>9.8</td>
</tr>
<tr>
<td>Uganda</td>
<td>2006</td>
<td>24</td>
<td>8.9</td>
<td>31.2</td>
<td>51.0</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>17</td>
<td>9.8</td>
<td>21.5</td>
<td>51.4</td>
</tr>
<tr>
<td>Zambia</td>
<td>2006</td>
<td>58</td>
<td>16.4</td>
<td>38.1</td>
<td>67.2</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>23</td>
<td>13.6</td>
<td>26.0</td>
<td>77.0</td>
</tr>
</tbody>
</table>

Source: WHO selected National Health Accounts indicators.
Kenya and Namibia’s public health services have a policy of applying user fees at the hospital level with the former exempting under five children.14, 23 Uganda abolished the user fees in public facilities in 2001 while Zambia removed them in 54 selected rural districts in 2004; Malawi does not have a user fee policy for public health facilities.16,24,25

**HEALTH WORKFORCE**

Malawi, Namibia, Uganda and Zambia have national human resources for health (HRH) strategic plans focusing on training, recruitment, retention and management; however, in all cases implementation was slow.14,15,16,18 Training institutions have inadequate human and infrastructural capacity; by 2008 Malawi and Zambia’s comprehensive human resources information systems were still under development and Namibia’s was paper based.14,15,16,18 Namibia and Uganda were experiencing lengthy recruitment processes and implementation of HRH rural retention schemes were making slow progress because of inadequate funding, while Namibia abolished its rural retention schemes in 1995.14,15,16,18

The density of public sector medical doctors, nurses and midwives combined per 1000 population was 0.18/1000 in Malawi in 2006; 0.98/1000 for Zambia in 2007; 1.4/1000 in Kenya in 2004; and 2.0/1000 for Namibia in 2008.14,16,23,25 Overall, public sector vacancy rates were at 27% for Namibia and 49% for Uganda in 2008; while Zambia and Malawi reached 50% and 77% for laboratory personnel and nurses respectively in 2006 and 2008.14,15,16,18,25 See Table 3. The vacancy rates were worsened by recruitment freezes in Kenya and Uganda in 2005 and 2007 respectively.11,12

By 2008, the majority of doctors, dentists and pharmacists and close to half of registered nurses in Namibia were working in the private sector, serving an estimated 15% of mostly urban populations.14 The distribution of HRH in favour of urban areas was also experienced in Zambia and Uganda.15,16

**MEDICINES AND VACCINES**

A health system review in Namibia in 2008, reported medical stock outs in a number of regions of the country with 50% of health facilities in one region having had a stock out of oral rehydration salts (ORS) and 35% for Coartem in a three-month period.14 In 2008 a Uganda national facility survey, established that 72% of surveyed health facilities had stock outs of one or more of the six tracer medical products that included Coartem, Cotrimoxazole, ORS and measles vaccine in the 2007/08 fiscal year; while in Kenya 33% of health facilities were without national tracer drugs for a period of more than two weeks in the same fiscal year.15,17

A national survey in Kenya in 2004 established that first line medicines that included anti-malarial drugs and antibiotics for the treatment of children’s conditions were available in 83% of facilities and pre-referral medicines were available in 25% of the facilities; it further reported that 40% of the facilities had all components for providing quality child immunization.27

In Malawi a national review in 14 purposefully selected district

<table>
<thead>
<tr>
<th>Workforce category</th>
<th>Malawi</th>
<th>Namibia</th>
<th>Uganda*</th>
<th>Zambia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors</td>
<td>67</td>
<td>36</td>
<td>36</td>
<td>27</td>
</tr>
<tr>
<td>Nurses</td>
<td>77</td>
<td>24</td>
<td>29</td>
<td>42</td>
</tr>
<tr>
<td>Dental personnel</td>
<td>69*</td>
<td>48</td>
<td>34</td>
<td>nd</td>
</tr>
<tr>
<td>Pharmacy personnel</td>
<td>79*</td>
<td>41</td>
<td>43</td>
<td>44</td>
</tr>
<tr>
<td>Laboratory personnel</td>
<td>30*</td>
<td>nd</td>
<td>nd</td>
<td>50</td>
</tr>
<tr>
<td>Environmental personnel</td>
<td>38*</td>
<td>56</td>
<td>nd</td>
<td>50</td>
</tr>
<tr>
<td>Radiographers</td>
<td>69*</td>
<td>34</td>
<td>nd</td>
<td>55</td>
</tr>
</tbody>
</table>

Source: country reports. nd = no data available. *data from general and regional hospitals only. * 2006 data, the rest 2008.
hospitals and 11 health centres reported consistently higher average stock out rates at health centre level than district hospitals with Amoxicillin capsules having an average of 134 stock out days as compared with 70 days for hospitals in 2008. Stock outs were also reported in Zambia on some vaccines, anti-malarial drugs and family planning commodities in purposefully selected facilities in the same year.

INFORMATION
All reviewed countries have established health information systems (HIS) as the main source of routine health data. It was noted in 2008 that Namibia has multiple stand alone information systems managed by different divisions of the central Ministry of Health and Social Services and running on different software in addition to the HIS. A similar situation was reported in Malawi where there are separate, individual reporting systems particularly for national disease control programmes operating both at national and district levels. The private health sector in Namibia and Malawi does not participate in the routine HIS reporting.

In 2005–06 Namibia achieved 80% of timeliness and completeness of national reporting of disease surveillance data from districts while in Zambia it was 99% in 2007. Uganda reports that while 83% of districts submitted the disease surveillance weekly reports to the national level, only 56% submitted them on time. Local utilization of the data through trend analysis was reported at 66% of health facilities in Uganda while in Zambia it was at 100% in 2007.

SERVICE DELIVERY
All the reviewed countries except Namibia are implementing health services based on an integrated essential health package by level of health services; Namibia’s policy towards developing this package was in draft form in 2008. In 2008 40% of Namibia’s population lived within 5 kilometres of a health facility; 46% for Malawi in 2004; 50% for Zambia in 2008 and 75% for Uganda in 2008.

Health service provision coverage, as exemplified by measles immunization, antenatal care (ANC) and the provision of skilled attendance during delivery, is shown in figures 2 and 3. The immunization trends show stagnation or little increase in coverage. However, Malawi, Namibia and Zambia are reported potentially likely and Uganda unlikely to achieve the measles immunization target by 2015.

From demographic and health surveys, skilled attendance during delivery varies from 81% in Namibia to 42% for Uganda in 2006. Namibia reported good progress towards attaining the MDG goal of providing skilled attendance at births while the rest of the reviewed countries reported inadequate progress.
The percentage of under five children sleeping under insecticide treated bed nets was at 4.6% in Kenya in 2003, and 9.7%, 22.8%, and 23% for Uganda, Zambia and Malawi respectively in 2006.6

Discussion

This review has shown that the progress in meeting the health MDG goals among the selected countries is quite varied with inadequate progress overall. The reduction of MMR which requires a 5.5% annual reduction to meet the MDG target is not on track in all countries.7 Only Malawi seems likely to meet the under five mortality targets; the rest of the countries are performing below the required 4.3% average annual reduction to meet the target.29 Only Namibia made progress in the provision of skilled attendance at birth; while Malawi, Namibia and Zambia were likely to achieve the measles immunization targets. This inadequate progress is against a background of weak health systems unable to effectively deliver health services required to reach the MDGs.

MDGs are meant to influence realignment of national priorities towards human development; effective national leadership in this regard will ensure that strategic policies and plans are formulated or existing ones aligned to the MDGs and followed by effective oversight and coalition building.8,30 The finding that all countries have adapted the MDGs to national policies and strategies is the right step in this direction; and this finding is in contrast to the global survey finding of 2005 in 118 countries where only one third of national strategies were amended to reflect the MDGs.30,31

At health sector level, the policy environment was not conducive to effectively guide the implementation of health services towards meeting the MDGs in the reviewed countries. The finding that some health policies and guidelines were in draft form or needed updating (and in some countries had been that way for a number of years), raises questions over the sector’s stewardship in meeting the MDGs.14,15,16,17,18 Some of the reasons advanced for this situation include inadequate institutional capacity for policy analysis and development in Namibia and the lengthy legislation process in Uganda.14,15

The introduction of SWAp in four of the reviewed countries has the potential of promoting collaboration in the formulation of national health strategies and plans, resources mobilization, monitoring and bolstering government leadership.9,32,33 SWAp reduces the fragmentation and duplication of planning and programmes which is quite prevalent in Namibia where there were 36 parallel agreements with individual development partners by the
year 2008.\textsuperscript{14} Besides improving donor collaboration, stronger intersectoral collaboration would assist countries in effectively combating other determinants of health crucial to meeting the MDG targets as indicated by Malawi and Namibia.\textsuperscript{9,13}

A good health financing system raises adequate funds in ways that allow people to use needed services while being protected from financial catastrophe and impoverishment associated with having to pay.\textsuperscript{8} For low-income countries, this requires an optimized combination of in-country equitable health financing and funding from donors.\textsuperscript{3} Namibia and latterly Zambia have shown higher per capita expenditure, meeting the US$ 34 recommended by WHO’s Commission on Macroeconomics and Health unlike the rest of the countries.\textsuperscript{34} Indeed per capita expenditure on health in sub-Saharan Africa is lower than any other region, averaging US$ 23.\textsuperscript{35} Government expenditure on health as a percentage of total government expenditure has generally been stable between 2002 and 2006, whereas (except for Kenya) financing has increased. This raises questions on the fungibility of public funds in the face of favourable donor support – increases in external support do not seem to lead to increases in the allocations to health, but are absorbed elsewhere. In all countries except Namibia OOP expenditure, though seemingly decreasing or stable, was higher than the 15% threshold that would protect most households from catastrophic expenditure.\textsuperscript{36} This situation is probably linked to the countries’ user fees policies. Inadequate health financing has adverse implications for the other health systems such as health worker remuneration, the availability of medicines and supplies and health service coverage scale up.

A well performing health workforce is the one that has sufficient numbers and mix, is fairly distributed, competent and productive.\textsuperscript{8} The density of public health sector medical doctors, nurses and midwives combined varied from 0.8/1000 population in Malawi to 2.0/1000 in Namibia. This is against a background of high vacancy rates and national maldistribution in favour of the private sector and urban areas. Even though there is no universal norm for minimum HRH density because it is context specific, it has been estimated that a density of less than 2.28/1000 generally fails to achieve 80% coverage for skilled birth attendance and child immunization.\textsuperscript{37} The shortage of HRH has affected most sub-Saharan Africa countries; as of 2001, only 360 of the 1200 physicians trained in Zimbabwe in the 1990s were still practising in the country; while in Swaziland 44% of posts of physicians and 19% of posts of nurses were unfilled in the year 2004.\textsuperscript{38,39} The maldistribution of HRH is also the case in Ghana where the Greater Accra Region has a doctor density 30 times that of the
Northern Region. The shortage of HRH will affect the quality and availability of services, in turn contributing to poor health outcomes.

A well functioning health system ensures adequate and equitable access to essential medical products, vaccines and technologies. The findings have reported medicine and vaccine stock outs in all reviewed countries with respect to ORS, anti-malaria drugs, antibiotics, measles vaccines and family planning commodities, all of which are crucial to meeting MDG targeted services. Similar situations pertain elsewhere in Africa. For example, the unavailability of medicines reported in South Africa in 2003 was among the factors contributing to health service quality weaknesses in three provinces. System issues of procurement, management and logistical challenges have been identified as the primary causes of the medicine and vaccine stock outs in Malawi and Zambia. The shortage of medicines and vaccines makes services unavailable to the people that need them most, the poor, who may be pushed to make catastrophic expenditures as they resort to purchasing necessary products.

A well functioning health information system will ensure the production, analysis, dissemination, and use of reliable and timely data. All the reviewed countries have established HIS as a source of routine data; however, they face challenges of fragmentation, non-involvement of the private sector, untimeliness and incompleteness have been attributed to lack of feedback on the submitted data; and inadequate utilization to capacity and motivation constraints in Malawi, Uganda and the United Republic of Tanzania. “Projectization” of development assistance has been advanced as one of reasons for the fragmented HIS; and the private sector’s non involvement and lack of legislative provision and noncompliance in Malawi and Namibia. Untimeliness and incompleteness have been attributed to lack of feedback on the submitted data; and inadequate utilization to capacity and motivation constraints in Malawi, Uganda and the United Republic of Tanzania. Health information that is of poor quality due to incompleteness and untimeliness negatively affects decision making at both policy and operational levels which then impacts the performance of the health systems.

Good health services are those that deliver health interventions to those who need them, when and where needed. Malawi, Namibia and Zambia reported potentially likely and Uganda unlikely to achieve the measles immunization MDG target; while only Namibia reported good progress in providing skilled attendance at birth. See figures 2 and 3. Under five insecticide treated bed nets utilization varied
from 4.6% in Kenya to 23% for Malawi; the reviewed countries have quite a long way to go in the fight against malaria. The delivery of an integrated essential package, a guaranteed minimum of interventions by level of health services in four of the five countries would focus resources to the most common local causes of disease burden and the integration would make services more accessible and convenient to users, increase service efficiency through sharing of resources, and reduce duplication in delivery and administration. However, the challenge is inadequate funding of the packages as exemplified by Uganda’s costing of the package at US$ 28 per capita but by the year 2008 the country was spending only US$ 8.2 per capita. It is recommended that developing countries invest US$ 34 per capita per annum for delivering basic essential health care interventions. The application of the user fees policies in three of the five countries and the low population density per health facility could prove to be barriers to accessing health services; the abolition of user fees in Uganda in 2001 saw a rapid increase in health service utilization especially for the poorest populations.

It should be recognized that all the health system building blocks are interdependent on each other and therefore require an integrated approach to improvement. For example while skilled attendance at birth is essential, maternal outcomes will still be affected by the systems in which they occur; in 2005, Uganda had over three times the skilled attendance rate (39%) than Bangladesh (12%) but still estimates of MMR were higher in Uganda at 505 compared with 322 for Bangladesh. Explanations for this disparity were systemic such as the quality of hospital care; availability of medicine and doctors to handle complications and geographical barriers to accessing health service.

Limitations of this review include the use of data from multiple sources that included routine data in some instances whose quality could not be ascertained; and the unavailability of data from some of the selected countries. The strength of the review includes the use of data from population based and other country surveys. There is need for further review to assess the quality of the adaptation of national health sector policies to the MDGs; to explore the operational bottlenecks faced by the health system building blocks; and to consider the private sector’s role in contributing to achieving the MDGs in the face of public service health system challenges.

In conclusion this paper has highlighted varied and inadequate progress towards achieving selected MDG indicators in the five reviewed countries against a background of non conducive health sector policy environment, underfunding, shortage of HRH, unavailability of medicines and vaccines and inadequate service coverage. Meeting the MDGs requires an urgent refocus of national sector policies and commitment to improving all health system building blocks holistically. National health sector leadership has to be displayed by timely formulation of relevant policies and guidelines and sufficient funding of the sector to sustainably complement the increased donor funding. In turn, health sector resources should be effectively funded to improve their availability. Health information systems should be strengthened so that they provide reliable data for resource planning, management and improvement of service coverage.

The recently adopted Ouagadougou Declaration on Primary Health Care and Health Systems seems to provide an opportune framework to sub-Saharan African countries to scale up health interventions and accelerate their progress towards meeting the MDGs in 2015.
ACKNOWLEDGEMENTS

The authors would like to thank all those who made contributions during the draft and review stages of this article.

REFERENCES

Aucune enquête relative à l'utilisation des capacités basée sur la technique Pabón Lasso (PL) n'a été conduite au Malawi jusqu'à ce jour. La présente étude examine l'efficacité technique des hôpitaux publics et confessionnels au niveau du district. La technique Pabón Lasso est appliquée en évaluant la performance relative d'un échantillon de 40 hôpitaux au niveau du district (60% d'hôpitaux publics et 40% d'hôpitaux confessionnels) au Malawi. Le calcul des taux d'utilisation des hôpitaux et l'élaboration du diagramme Pabón Lasso ont été effectués à l'aide de STATA 10. Seulement 27,5% des hôpitaux se situaient dans la zone souhaitable du diagramme de Pabón Lasso (la zone la plus en haut à droite), alors que près de 50% d'entre eux se trouvaient dans la zone la plus en bas à gauche, qui correspond à la situation la moins souhaitable et se caractérise par un faible ratio de rotation associé à un faible taux d'occupation des lits. L'utilisation des capacités est meilleure dans les hôpitaux publics de premier niveau, en comparaison avec les hôpitaux confessionnels. En dépit d'une faible densité de lits, il existe une sous-utilisation importante de l'offre d'hospitalisation. Les causes principales doivent être identifiées et les interventions appropriées mises en œuvre pour améliorer la situation. En outre, pour identifier les inefficiences liées à l'échelle/taille, il est nécessaire d'utiliser des méthodes avancées de détermination de l'efficacité (par exemple : analyse d'enveloppement de données ou modèles stochastiques de frontière, incluant les fonctions de production et de coût).

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Inefficiency in the allocation and use of health sector resources is one of the inherent problems of health systems in sub-Saharan Africa. Cognizant of this fact, in 2006, at a special session of the African Union, health ministers undertook to institutionalize efficiency monitoring within national health management information systems.¹

The few studies on the technical efficiency and productivity of hospitals conducted in Africa indicate the pervasiveness of technical inefficiency and wastage of resources that could have been used to improve access and quality of care.²³⁴ Zere et al (2001)² in their study of the technical efficiency and productivity of public sector hospitals in South Africa found technical inefficiency levels ranging between 34–38%. The efficiency saving that could have been realized was equivalent to the amount needed for the construction of about 50 clinics. This implies that there is a significant potential to mobilize resources from within the system if technical efficiency levels are improved.

As is the case in other countries in sub-Saharan Africa, per capita spending on health in Malawi is low despite a growing burden of disease. In 2005/2006 per capita spending on health in Malawi was estimated at US$ 25,⁵ which is far less than the US$ 34 recommended by the WHO Commission on Macroeconomics and Health to provide a basic package of services in low-income countries.⁶ Hence, to provide health services with such a low level of funding, it is very important to avoid wastage in the use of the meagre resources available. Technical inefficiency contributes to the shortage of resources and adversely affects governments’ initiatives to improve access and bridge any inequities in health care.

In sub-Saharan Africa, hospitals account for the bulk of government’s health sector expenditure, ranging between 45–69%.⁷ Malawi is no exception to this. Moreover, district/primary level hospitals play a significant role in providing support to primary care teams to ensure comprehensive responsibility for their population⁸ and therefore, facilitate the implementation of the Primary Health Care approach. The need to assess the technical efficiency of district hospitals cannot be overemphasized.

Studies on capacity utilization using the Pabón Lasso⁹ technique have not been conducted in Malawi before. The current exercise is therefore aimed at bridging the information gap and generating important evidence on the state of capacity utilization of district, community and rural hospitals for the purposes of planning and resource allocation.

This study seeks to examine the technical efficiency of district, community and rural hospitals (henceforth called primary level hospitals), including both public and private with a view to assessing efficiency and pave the way for further detailed studies of efficiency and its determinants using more robust frontier techniques.
Malawi

COUNTRY PROFILE

Malawi is a low income country in Southern Central Africa. The total population is estimated at a little more than 13 million.\textsuperscript{10} With a human development index (HDI) in 2005 of 0.437, the country is classified with the group of low human development countries, most of which are in sub-Saharan Africa.\textsuperscript{11}

The gross domestic product (GDP) per capita was US$ 154 (in constant 2000 prices) in 2005.\textsuperscript{12} About 52\% of the population is classified as poor, i.e. below a national poverty line of the equivalent of US$ 147.\textsuperscript{12}

Health and development indicators of Malawi are those typical of other low-income countries in sub-Saharan Africa, as depicted in the Table 1.

Malawi, like many countries of sub-Saharan Africa, faces a growing burden of disease. The epidemiological profile is characterized by a high prevalence of communicable diseases including malaria, tuberculosis and HIV/AIDS; high incidence of maternal and child health problems; an increasing burden of noncommunicable diseases and resurgence of neglected tropical diseases.

The per capita total expenditure on health (THE) that stood at US$ 25 in 2005/2006 falls short of the US$ 34 recommended by the WHO Commission on Macroeconomics and Health to provide the basic package of services in low income countries. The health expenditure per capita is also not adequate to cover the Malawi Essential Health Package (EHP) that is estimated to cost about US$ 22 (it should be noted that this includes interventions not included in the EHP and health system administration costs). The health system suffers from a critical shortage of human resources for health. In the period 2000–2007 there were about 6 nursing and midwifery personnel per 10 000 population.\textsuperscript{13} The number of doctors per 10 000 was less than one.\textsuperscript{13}

To address the health and health care challenges effectively the government adopted the sector-wide approach (SWAp) in 2004 and designed an essential health care package that addresses the most common causes of morbidity and mortality to be provided at community, primary and secondary levels of the health care system. The government in conjunction with its development partners has formulated a six-year Emergency Human Resources Programme (2005–2010) at an estimated cost US$ 272 million to ameliorate the chronic shortage of human resources for health.

The country’s health service delivery system is four-tiered, consisting of community, primary, secondary and tertiary care levels. At the community level, service is provided through health surveillance assistants. The focus is on preventive interventions. Primary care is delivered through clinics and health centres. District and central hospitals provide secondary and tertiary care services respectively. The private not-for-profit sector plays a significant role in service provision. A health facility survey conducted in 2002–2003 indicated that there were 14 612 inpatient beds giving a bed density of 13 per 10 000 population.\textsuperscript{15}

Table 1. Selected health and development indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life expectancy at birth, 2007 (both sexes)</td>
<td>50</td>
</tr>
<tr>
<td>Infant mortality rate, 2006 (per 1000 live births)</td>
<td>69</td>
</tr>
<tr>
<td>Under five mortality rate, 2006 (per 1000 live births)</td>
<td>118</td>
</tr>
<tr>
<td>Maternal mortality ratio (per 100 000 live births)</td>
<td>807</td>
</tr>
<tr>
<td>Total fertility rate</td>
<td>6.3</td>
</tr>
</tbody>
</table>

Sources: 13, 14, 15.
THE MEASUREMENT OF HOSPITAL EFFICIENCY: BASIC ISSUES

The performance of hospitals can be evaluated using ratios that mainly measure capacity utilization or frontier techniques such as data envelopment analysis (DEA) and stochastic frontier methods including production and cost functions that are more robust.\textsuperscript{16}

Ratio analysis involves the piecemeal examination of different key ratios, such as average cost per inpatient day, bed occupancy rate or cost per child immunized. Although easy to use, ratios have some pitfalls. First, the requirement for identical measurement units makes the identification and measurement of inputs and outputs difficult. Second, ratios are only meaningful and easy to understand in single input, single output situations. Comparisons of multiple outputs by means of ratio analysis require \textit{a priori} weights and/or a standardizing measurement to get an overall indicator. The arbitrariness and pre-determination of these weights and standardization has often been questioned.

THE PABÓN LASSO (PL) TECHNIQUE

It has to be stressed that an assessment based on only one of the ratios of hospital bed capacity utilization (see box opposite) may be flawed and misleading. For example, bed occupancy rate may be relatively high in the presence of unnecessarily high average length of stay emanating from such factors as poor nursing care, improper scheduling of diagnostic and therapeutic interventions and the development of nosocomial infections. Thus, although the bed occupancy rate may indicate that there is a good level of capacity utilization, the reality is that this is due to under performance/inefficiency of the hospital. Therefore, to avoid such misleading conclusions, it becomes necessary to make use of all three indicators simultaneously so as to have a better picture. To this end, the method devised by Pabón Lasso to analyse the performance of a

<table>
<thead>
<tr>
<th>Performance indicator ratios commonly used by hospitals include:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average length of stay (ALS):</strong> This measure refers to the average number of days that a patient stays in a hospital. It is calculated using the following formula:</td>
</tr>
</tbody>
</table>
| \[
    ALS = \frac{\text{inpatient days}}{\text{admissions}}
    \]
| **Bed occupancy rate (OCC):** The occupancy rate is a measure of utilization of the available bed capacity. It indicates the percentage of beds occupied by patients in a defined period of time, usually a year. It is computed using the following formula: |
| \[
    OCC = \frac{\text{inpatient days}}{\text{bed days}} \times 100
    \]
| Where, |
| \textit{inpatient days} = \textit{admissions} \times \textit{ALS}; and |
| \textit{bed days} = \textit{number of beds} \times 365 (i.e. the number of days in a year) |
| **Bed turnover ratio (BTR):** The turnover ratio is a measure of productivity of hospital beds and represents the number of patients treated per bed in a defined period of time (usually a year). It is computed as follows: |
| \[
    BTR = \frac{\text{total patient admissions}}{\text{number of beds}}
    \] |
| Turnover ratio in acute care hospitals is expected to be higher than chronic care hospitals. |
group of hospitals in Colombia is useful.

The PL technique is a graphical method that makes use of the three indicators (BTR, OCC and ALS) concurrently in assessing the relative performance of hospitals. In this method, the occupancy rate (horizontal axis), is plotted against the turnover ratio (on the vertical axis), with vertical and horizontal lines dividing the diagram into four regions. The horizontal and vertical demarcations represent the mean values of the turnover ratio and occupancy rate. It follows from the functional relationship of the three measures that the slope of the line linking the origin to any of the observations (any point on the graph) represents the reciprocal of the ALS of the hospital under consideration. Figure 1 represents the possible features of hospitals located in each of the four regions.

The setting of the cut-off points at the mean values of the BTR and OCC may be contentious. However, Pabón Lasso also suggests using other cut-off points (e.g. allowing a margin of one standard deviation from the mean).

The size of a hospital may sometimes be a cause for inefficiency. A hospital may be too large for the volume of activities that it undertakes; and therefore, may experience diseconomies of scale. On the other hand, a hospital may be too small for its level of operation, and thus experience economies of scale. In the presence of diseconomies of scale, a hospital is inefficiently large. Unit costs increase as the scale of production increases. Diseconomies of scale may arise due to problems such as red tape, poor communication and poor labour relations that are often encountered in large organizations. In the presence of economies of scale a hospital is inefficiently small. Unit costs decrease as the scale of production increases, thus an inefficiently small hospital may improve its efficiency by increasing its size. Economies of scale may occur as a result of staff being able to specialize in their areas of expertise, the ability to spread overhead costs over a larger number of output units, discounts from bulk buying of supplies and the ability to use expensive diagnostic equipment at full capacity. Hence, the assessment of hospital efficiency should also take into account inefficiencies caused by a non-optimal hospital size, which may not necessarily be under the control of the hospital management.

**Data and Methods**

**Sampling**

Based on the availability of usable data, a sample of 40 of district level hospitals in Malawi were included in the study. These included both public sector and mission hospitals. Non-public hospitals are of different categories and therefore to ensure comparability, the study team deliberately selected those that are comparable with government district hospitals.

**Data Collection**

Data for the financial year 2005/2006 was collected using a questionnaire that included information on inputs, outputs and other factors that influence.
the technical efficiency of hospitals.

DATA ANALYSIS
The computation of hospital utilization ratios and construction of the Pabón Lasso diagram was performed using STATA 10.

RESULTS
GENERAL DESCRIPTION
Analysis was performed on data from 40 hospitals, 60% of which were public and the rest were mission hospitals. A descriptive of the statistics of the relevant input and outputs is depicted in Table 2.

It is observed from Table 2 that the primary level hospitals have a wide variation in terms of size and resource endowment. For example, in terms of bed capacity, the range is between 30 beds for Kaluluma rural hospital to 450 beds for Mangochi district hospital. The input and output profile of the hospitals was influenced by the ownership type of the hospitals as can be discerned from Table 3.

PUBLIC hospitals are larger than the mission ones in terms of bed capacity and have more staff. Furthermore, public hospitals produce more outputs as measured by outpatient days and inpatient visits. This is, however, more than proportionate to their relative resource endowment. For example, while public hospitals have about 1.4 times more beds than the mission hospitals, their output in terms of inpatient days is about two times more than that of mission hospitals.

CAPACITY UTILIZATION RATIOS
There is a wide variation in the performance of the hospitals as measured by capacity utilization measures: bed occupancy rate, bed turnover ratio and average length of stay. The bed occupancy rate ranged from 14–105%, while the bed turnover ratio fluctuated between 15 and 204 (Table 4).

As can be seen from Table 4, public hospitals had higher bed occupancy rate and turnover ratio. The average length of stay for both types of hospitals was within the range of 3–5 days recommended for acute care hospitals. The occupancy rates are far below the conventionally accepted norm of 80–85% indicating the presence of a significant proportion of unutilized capacity. Hospital capacity utilization measures for each hospital are presented in Table 5.

As discussed earlier, analysis based on only one of the above mentioned capacity utilization ratios may not give a comprehensive picture. Hence, it is necessary to use the three
measures simultaneously using the Pabón Lasso diagram as shown in Figure 2.

In Figure 2A, the vertical and horizontal lines are set at the mean values of the bed occupancy rate and bed turnover ratio, while in 2B, the vertical line is set at the accepted norm of 85% for bed occupancy rate.

Table 5. Hospital capacity utilization measures, 2005/2006

<table>
<thead>
<tr>
<th>Hospital ID</th>
<th>Hospital</th>
<th>Average length of stay (days)</th>
<th>Bed turnover ratio (patients per bed)</th>
<th>Bed occupancy rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Balaka</td>
<td>2.3</td>
<td>118</td>
<td>74.0</td>
</tr>
<tr>
<td>2</td>
<td>Chikwawa</td>
<td>6.7</td>
<td>51</td>
<td>93.8</td>
</tr>
<tr>
<td>3</td>
<td>Chiradzulu</td>
<td>5.1</td>
<td>33</td>
<td>46.2</td>
</tr>
<tr>
<td>4</td>
<td>Chipa</td>
<td>2.5</td>
<td>41</td>
<td>28.7</td>
</tr>
<tr>
<td>5</td>
<td>David Memorial</td>
<td>8.1</td>
<td>21</td>
<td>46.0</td>
</tr>
<tr>
<td>6</td>
<td>Dedza</td>
<td>1.7</td>
<td>205</td>
<td>95.1</td>
</tr>
<tr>
<td>7</td>
<td>Dowa</td>
<td>5.4</td>
<td>47</td>
<td>70.5</td>
</tr>
<tr>
<td>8</td>
<td>Dwambazi</td>
<td>1.7</td>
<td>31</td>
<td>14.2</td>
</tr>
<tr>
<td>9</td>
<td>Ekwendeni</td>
<td>2.6</td>
<td>32</td>
<td>23.0</td>
</tr>
<tr>
<td>10</td>
<td>Embangweni</td>
<td>4.2</td>
<td>26</td>
<td>30.3</td>
</tr>
<tr>
<td>11</td>
<td>Holy Family</td>
<td>5.7</td>
<td>35</td>
<td>54.6</td>
</tr>
<tr>
<td>12</td>
<td>Kaluluma</td>
<td>2.4</td>
<td>66</td>
<td>36.0</td>
</tr>
<tr>
<td>13</td>
<td>Karonga</td>
<td>4.3</td>
<td>55</td>
<td>65.3</td>
</tr>
<tr>
<td>14</td>
<td>Kasungu</td>
<td>2.4</td>
<td>61</td>
<td>40.7</td>
</tr>
<tr>
<td>15</td>
<td>Likuni</td>
<td>5.2</td>
<td>50</td>
<td>72.4</td>
</tr>
<tr>
<td>16</td>
<td>Machinga</td>
<td>3.8</td>
<td>91</td>
<td>93.7</td>
</tr>
<tr>
<td>17</td>
<td>Madisi</td>
<td>3</td>
<td>33</td>
<td>26.6</td>
</tr>
<tr>
<td>18</td>
<td>Mangochi</td>
<td>4</td>
<td>37</td>
<td>40.5</td>
</tr>
<tr>
<td>19</td>
<td>Mchinji</td>
<td>2.3</td>
<td>133</td>
<td>84.6</td>
</tr>
<tr>
<td>20</td>
<td>Montfort</td>
<td>3</td>
<td>27</td>
<td>22.6</td>
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<td>Mponela</td>
<td>3.1</td>
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<td>Muliwannyi</td>
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<td>54.0</td>
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<td>Mwanza</td>
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<td>Mzambazi</td>
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<td>21.3</td>
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<td>72.4</td>
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<td>2.6</td>
<td>60</td>
<td>42.2</td>
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<td>27</td>
<td>Nkhamenya</td>
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<td>52</td>
<td>56.8</td>
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<tr>
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<td>Nhatabay</td>
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<td>55</td>
<td>25.8</td>
</tr>
<tr>
<td>29</td>
<td>Nkhotakota</td>
<td>6.2</td>
<td>15</td>
<td>26.2</td>
</tr>
<tr>
<td>30</td>
<td>Nsanje</td>
<td>3.8</td>
<td>38</td>
<td>39.4</td>
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<tr>
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<td>Ntcheu</td>
<td>4.5</td>
<td>48</td>
<td>58.8</td>
</tr>
<tr>
<td>32</td>
<td>Ntchisi</td>
<td>5.7</td>
<td>51</td>
<td>79.3</td>
</tr>
<tr>
<td>33</td>
<td>Rumphi</td>
<td>4.9</td>
<td>38</td>
<td>50.3</td>
</tr>
<tr>
<td>34</td>
<td>Salima</td>
<td>5.4</td>
<td>12</td>
<td>17.9</td>
</tr>
<tr>
<td>35</td>
<td>Sister</td>
<td>4.1</td>
<td>18</td>
<td>20.5</td>
</tr>
<tr>
<td>36</td>
<td>St Anne’s</td>
<td>3</td>
<td>50</td>
<td>41.5</td>
</tr>
<tr>
<td>37</td>
<td>St Gabriel’s</td>
<td>4.8</td>
<td>70</td>
<td>91.7</td>
</tr>
<tr>
<td>38</td>
<td>St John’s</td>
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<td>36</td>
<td>29.7</td>
</tr>
<tr>
<td>39</td>
<td>St Martin’s</td>
<td>4.4</td>
<td>34</td>
<td>40.6</td>
</tr>
<tr>
<td>40</td>
<td>St Peter’s</td>
<td>2.8</td>
<td>21</td>
<td>15.6</td>
</tr>
</tbody>
</table>

From Figure 2A, it is observed that only 27.5% of the hospitals are located in the desirable region of the Pabón Lasso diagram (right upper region), while close to 50% were located in the left lower region, which is the most undesirable situation that is characterized by low turnover ratio and low bed occupancy rate. When the cut-off for the bed occupancy rate is increased to the conventionally suggested benchmark of 85%, the number of those hospitals located in the desirable (efficient) region decreases to only 12.5%, while the proportion of those located in the most undesirable region increases to 65%. The distribution of hospitals among the four regions of the Pabón Lasso diagram is depicted in Figure 3.

It is observed that even when the mean occupancy rate of the group of hospitals in the study is used as the benchmark, most of the hospitals lie in the region which lies below the means of the occupancy rate and turnover ratio (left lower region). This implies one or more of the following scenarios:

- excess bed supply
- less need for hospitalization
- low demand for or utilization of hospital services

It is also observed that when the benchmark occupancy rate is increased to 85%, the number of hospitals with the above
mentioned scenarios increases. Given the scope of the study, it is not possible to identify the exact nature of the problem. However, whether due to less need for hospitalization or low demand for hospital services, there is an excess supply of hospital beds that merits further investigation. Given the low bed density in the country, we would expect the presence of unmet need for hospitalization and therefore, the case for less need for hospitalization may not be a plausible explanation. Only a few of the hospitals are located at the right upper region, which is the desirable state of capacity utilization.

This study has assessed the technical efficiency of primary level hospitals using hospital capacity utilization ratios and the Pabón Lasso method. The use of the Pabón Lasso technique helps to draw more robust conclusions by using the three measures of hospital capacity utilization (average length of stay, bed turnover ratio and bed occupancy rate) simultaneously, as using each of the measures separately may lead to misleading conclusions.

The findings clearly indicate the presence of excess bed capacity given the current level of utilization. It should, however, be noted that this does not imply the presence of excess capacity relative to need. In fact, the bed density in Malawi is far lower than that recommended for the size of the population. There may possibly be demand-side barriers of any type (e.g. financial, geographical, cultural etc) that negatively influence utilization of hospital services.

The evidence indicates that capacity utilization is better in public primary level hospitals compared with the mission ones. Public hospitals have
more resources in terms of staff and beds compared with the non-public ones. However, their output, as measured by outpatient visits and inpatient days, is more than proportionate to their resource endowment.

Issues related to economies of scale may also contribute to capacity underutilization and inefficiency. Some hospitals may experience economies of scale (inefficiently small size) and others may be experiencing diseconomies of scale due to their inefficiently large size. Identification of economies or diseconomies of scale is beyond the scope of the analytical technique used and calls for further study using frontier techniques of efficiency measurement.

In the light of the findings discussed above, the following recommendations are proposed with a view to improve hospital efficiency and capacity utilization:

1. Studies need to be conducted to identify individual, household and systemic level barriers to utilizing hospital services and institute appropriate measures that will enhance optimal use of the existing hospital capacity. Demand-creating interventions have to be instituted to counter barriers related to health-seeking behaviour of individuals and households. Systemic bottlenecks need tailor-made interventions depending on the nature of the problem. These, will in the end, stimulate demand/utilization.

2. Given the low bed density in the country, the supply of beds may not match the population’s need for hospital services. Therefore, it is not desirable to reduce the number of hospital beds. However, in the interim, that is until the demand-creating interventions bear the desired behavioural change, innovative ways of using the existing relative excess capacity need to be explored.

3. In order to identify inefficiencies related to scale/size, it is necessary to conduct an assessment using frontier techniques of efficiency measurement (e.g. data envelopment analysis or stochastic frontier models including production and cost functions). Furthermore, to assess changes in productivity over a period of time, efforts must be made to collect panel data.

4. As the Pabón Lasso technique is a valuable tool that is easy to use, it is recommended that annual health management information system (HMIS) reports include this kind of analysis in order to provide evidence for management decision-making purposes.

REFERENCES

In order to address the challenge of improving access to quality care in family planning, a number of partners in Ghana, led by the WHO, developed a work aid – the simplified Medical Eligibility Criteria (MEC) Wheel in 2004. Following the field tests in Ghana and Eritrea, the tool was finalized, produced and distributed to family planning providers in several countries including Ghana. Having been in use for a few years, it was timely to determine the usefulness of the tool. A study was therefore commissioned by the WHO Country Office in Ghana to evaluate the usefulness of the simplified Medical Eligibility Criteria Wheel with technical and financial support from AFRO. The present report describes the evaluation and summarizes the results of the study, which were strongly positive.

Résumé

En 2004, pour relever le défi de l’amélioration de l’accès à des soins de qualité en matière de planification familiale, un certain nombre de partenaires du Ghana, OMS en tête, ont mis au point un instrument de travail, à savoir le disque pour le choix des méthodes contraceptives selon les critères de recevabilité simplifiés. Suite aux essais menés sur le terrain au Ghana et en Érythrée, l’outil a été finalisé, produit et distribué à des prestataires de services de planification familiale de plusieurs pays, dont le Ghana. Puisque l’outil a été utilisé depuis plusieurs années, il a été jugé opportun d'en déterminer la pertinence. Une enquête a donc été commandée par le Bureau de Représentation de l’OMS au Ghana pour évaluer l’utilité de la roue des critères de recevabilité médicale, avec l’appui technique et financier de l’OMS/AFRO. Le présent rapport décrit l’évaluation et résume les résultats de l’étude, qui se sont révélés très positifs.
Family planning (FP) is recognized as a key intervention for reducing maternal mortality and improving the health of women and children.

Over the past 40 years, there have been major advances in scientific knowledge as a result of research. This has resulted in the development of a wider choice of new contraceptive methods and improvements in the safety and effectiveness of existing methods. Unfortunately the full range of modern family planning methods still remains unavailable to at least 350 million couples worldwide, many of whom want to space or prevent future pregnancies.

In 1996, WHO published a document entitled “Improving Access to Quality Care in Family Planning: Medical Eligibility Criteria” (WHO, 1996). A second edition of this document was published in 2000 (WHO, 2000). The document was intended to be used by policy-makers and family planning programme managers to enable them prepare guidelines for service delivery of contraceptives. A number of countries including Ghana had used the document to develop guidelines for use by service providers. Unfortunately the documents produced were often too bulky, not user-friendly and time consuming to use.

In order to address this challenge, a number of partners in Ghana led by the WHO used the WHO guide to develop a work aid – the simplified MEC Wheel in 2004 (see Figure 1).

The development of the tool was an attempt to adapt the MEC Wheel for utilization by service providers especially those in more remote settings where information on the safety of methods may be lacking.

Following field tests in Ghana and Eritrea, the tool was finalized, produced and distributed to family planning providers in several countries including Ghana.

Having been in use for a few years, it was timely to determine the usefulness of the tool.

A study was therefore commissioned by the WHO country office in Ghana to evaluate the wheel’s usefulness with technical and financial support from AFRO.

OBJECTIVES
The objective of the evaluation is to provide WHO, Ghana Health Services and partners evidence that the MEC Wheel is an effective tool for family planning.

SPECIFIC OBJECTIVES
- To determine the completeness, accuracy, user-friendliness, usefulness and handiness of the MEC Wheel.
- To ascertain whether there are any sections of the wheel culturally unacceptable to family planning service providers.
• To identify the most useful and least useful sections of the wheel.
• To determine the proportion of family planning service providers who would recommend the regular use of the MEC wheel.

METHODOLOGY

A survey involving family planning service providers in public health facilities throughout the 10 regions of Ghana was conducted. The main data collection tools employed were structured questionnaires with open- and close-ended questions.

Statistical analysis of the data was performed using EPI-Info (version 6). Qualitative responses from open-ended questions were analysed manually in terms of emerging themes and related to the study objectives.

Ethical approval was obtained from the Director General of the Ghana Health Service, the 10 regional directors and district directors in the selected districts.

KEY FINDINGS

A total of 121 health providers responded to the questionnaires giving a response rate of 81%. They were made up of nurses (59.5%), midwives (22.3%) and Community Health Nurses (CHN) (7.4%) among others. A majority of them (38%) were working in hospitals compared with 28.1% each in clinics and health centres. (The headquarters of the Ghana Health Service accounted for 5%.)

Usefulness

Approximately 71% of medical officers found the MEC wheel useful while 83% and 73% of midwives and nurses respectively found the wheel very useful.

Difficulties in decision making following the introduction of the MEC Wheel

In terms of decision making on the choice of method for the clients (77.7%) of the respondents reported having no difficulties in deciding on whether a client could use a particular method or not following the introduction of the MEC Wheel to them.

User-friendliness

The majority (94.2%) of respondents described the wheel as very friendly to use and 95% also described it as extremely useful to their operations. Most (82.6% of the respondents) found all four sections of the wheel useful.

Accuracy

Almost all the respondents (98%) described the MEC Wheel as very accurate with only one respondent describing it as not very accurate.

Acceptance of the MEC Wheel guidelines

A majority of the respondents (98.3%) reported agreeing with all the guidelines provided with the MEC Wheel.
Comprehensiveness
On how comprehensive they have found the MEC Wheel, 86% described it as most comprehensive while about 11% felt it was somewhat comprehensive. Only one respondent found the MEC Wheel totally incomprehensive. About 92% of the respondents reported to have found the directions for the use of the wheel to be very clear and easy to understand. Though there were differences in the level of clarity and understanding among the professionals interviewed, it was not statistically significant ($X^2 = 13.852$, $p = 0.537$).

View on the size of the wheel
Most of the respondents (92%) found the size of the wheel to be just the right. While 5.8% of them felt it was too big, the remaining 2.2% felt it was too small.

Handiness
About 94% of the respondents were of the view that the MEC Wheel was very handy while 5.8% felt otherwise.

Information provided
Though a majority (79.3%) of the respondents felt the information on the wheel was adequate, nearly 20% of them reported that there were times that they felt they needed more information in order to use the wheel. Some of the additional information needed included pictures, to explain further to the clients, and information on menstruation.

Cultural acceptability of the wheel
Almost all respondents (112) found the MEC Wheel to be culturally acceptable. Only one respondent reported to have found sections of the wheel to be culturally unacceptable. Most (89.3%) indicated that they never found it embarrassing anytime they had to refer to the MEC Wheel to find out whether a patient could use a particular method or not. Only 3 (2.5%) of them, consisting of one CHN and two nurses reported this difficulty. On whether they would recommend the use of the wheel on a daily basis for family planning service providers, almost all the respondents (98.3%) responded in the affirmative. An overwhelming majority (97%) of the respondents considered the development of the MEC Wheel as a “best practice” to improving accessibility to family planning. Only three respondents (three CHNs) answered negatively.

GENERAL IMPRESSIONS OF THE WHEEL
Table 1 presents the general rating of respondents’ impressions about the MEC Wheel. Nearly 50% of the respondents assessed the completeness of the wheel to be excellent while another 38% felt it was very good. In this regard only 2.5% called for further improvements. A little over half of them scored the accuracy of the wheel as excellent. About 8% however felt it was satisfactory. With regard to its user-friendliness, the majority scored either very good or

### Table 1. Respondents’ impression of the MEC Wheel

<table>
<thead>
<tr>
<th>Impressions</th>
<th>Completeness Frequency</th>
<th>Accurate Frequency</th>
<th>User-friendliness Frequency</th>
<th>Usefulness Frequency</th>
<th>Handiness Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Needs improvement</td>
<td>3</td>
<td>2.5</td>
<td>1.0</td>
<td>1.0</td>
<td>0.8</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>9</td>
<td>7.4</td>
<td>8.3</td>
<td>6.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Very good</td>
<td>46</td>
<td>38.0</td>
<td>44.0</td>
<td>29.0</td>
<td>24.0</td>
</tr>
<tr>
<td>Excellent</td>
<td>60</td>
<td>49.6</td>
<td>63.0</td>
<td>52.1</td>
<td>67.8</td>
</tr>
<tr>
<td>No response</td>
<td>3</td>
<td>2.5</td>
<td>3.0</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
excellent. Again, it was generally described as incredibly useful. Finally, about 60% assessed its handiness as excellent, while 4%, however, felt there was the need for some improvement.

CONCLUSIONS

The evaluation results show that the MEC Wheel was found useful by all categories of staff as it provided guidelines in assisting their clients to choose and use a family planning method appropriate for them. In addition, the MEC Wheel is regarded as a good tool and should be extended to all cadres of health care providers including family planning attendants in public and private health facilities.

Currently, the training and use of the MEC Wheel is limited to only in-service training, as a result only those providing family planning services benefit from it. The trainings should therefore take into consideration pre-service medical, midwifery and nursing students in both public and private institutions.

The evaluation also documented some of the challenges in using the MEC Wheel. They included the absence of pictures. The fact that some providers did not recognize vital conditions on the wheel such as sickle-cell diseases, renal failure and, essentially, side effects of contraceptives, which are present on the wheel, has serious implications for their training in the use of the MEC Wheel and should be carefully addressed in future programmes.

Finally, the MEC Wheel is a working tool and should be kept safe at facility level for other health providers in the FP field to access and use. Related to this, providers who are privileged to have the opportunity to participate in the training programme should share their new knowledge with colleagues to make the whole programme more useful and effective.

REFERENCES

The Global Strategy for Infant and Young Child Feeding (IYCF) aims to address inappropriate infant feeding practices. Although breastfeeding of infants aged up to six months has increased in sub-Saharan Africa over the last decade the regional average is 31% (as compared with a global average of 37%). Numerous other problems impact upon child feeding in the Region. To address this issue, over 30 of the 46 countries in the WHO African Region are implementing national strategies. This paper reviews the development and implementation processes of national strategies, identifying the challenges and proposing a way forward to improve infant and young child feeding practices in the Region. Effective coordination of all the agencies concerned is identified as a key to effective implementation. The under-six month breastfeeding rate has improved in most countries that have implemented IYCF strategies. Capacity building of health workers, and evaluation of strategies have played an important role in this regard. However, challenges remain – notably inadequate funding, high turnover of staff and bureaucratic delays. Establishing and sustaining community involvement has also proved difficult. A key to making progress is to enact the International Code of Marketing Breast-milk Substitutes into national law – as clearly shown by Ghana. Implementing national communication and capacity building plans also plays a vital role in improving IYCF. Addressing this issue will be critical to attaining MDG 4 on infant mortality.

La stratégie mondiale pour l'alimentation du nourrisson et du jeune enfant (ANJE) vise à résoudre le problème posé par des pratiques inadéquates d'alimentation de l'enfant. Certes, le taux d'allaitement maternel des nourrissons âgés de 0 à 6 mois a augmenté en Afrique subsaharienne au cours de la dernière décennie, mais la moyenne régionale est de 31 %, contre 37 % dans le monde. De nombreux autres problèmes se répercutent sur l'alimentation des enfants dans la Région. Pour traiter cette question, plus de 30 des 46 États Membres de la Région africaine de l’OMS appliquent des stratégies nationales. Le présent document passe en revue ces processus de développement et de mise en œuvre, en identifiant les obstacles et en proposant des voies d’action susceptibles de contribuer à l’amélioration de l’alimentation du nourrisson et du jeune enfant dans la Région. Une coordination efficace de toutes les institutions concernées est identifiée comme un facteur clé de succès. Le taux d’allaitement maternel des nourrissons de moins de six mois est en hausse dans la plupart des pays qui ont mis en œuvre des stratégies ANJE. Le renforcement des capacités des agents de santé et l’évaluation des stratégies ont joué un rôle important dans cette embellie. Cependant, des écueils subsistent, notamment le financement inadéquat, une rotation élevée du personnel et des pesanteurs administratives. Il s’est également avéré difficile d’obtenir et pérenniser l’adhésion des communautés. La solution semble donc résider dans la promulgation dans le droit national du Code international de commercialisation des substituts au lait maternel, comme l’a déjà fait le Ghana. La mise en œuvre de plans nationaux de communication et de renforcement des capacités joue également un rôle clé dans l’amélioration de l’ANJE. Relever ce défi demeure un enjeu crucial pour atteindre l’OMD 4 relatif à la mortalité infantile.

A Estratégia Global para a Alimentação dos Lactentes e das Crianças visa abordar práticas de alimentação infantil não adequadas. Embora a amamentação dos lactentes com idades até aos seis meses tenha aumentado na África Subsariana na última década, a média regional é de 31% (comparativamente com 37% a nível mundial). Inúmeros outros problemas têm impacto na alimentação das crianças na região. Para abordar esta questão, 30 dos 46 países na Região Africana da OMS estão a implementar estratégias nacionais. Este relatório analisa esse processo de desenvolvimento e implementação, identificando os desafios e propondo uma forma de melhorar as práticas de alimentação infantil na região. A coordenação eficaz de todas as agências envolvidas é identificada como um elemento chave para uma aplicação eficiente. A taxa de amamentação nos primeiros seis meses de vida dos lactentes tem melhorado na maioria dos países que implementaram as estratégias da IYCF (política nacional abrangente para a gravidez, parto e alimentação de lactentes e crianças); o reforço das capacidades dos profissionais de saúde e a avaliação das estratégias desempenharam um papel importante. No entanto, os desafios permanecem – financiamento inadequado, elevada rotação do pessoal e atrasos burocráticos. Desenvolver e manter a participação comunitária revelou-se igualmente difícil. A chave para o progresso reside na promulgação do Código Internacional de Comercialização dos Substitutos do Leite Materno na legislação nacional– conforme foi claramente demonstrado pelo Gana. A execução de planos nacionais de reforço das capacidades e comunicação desempenha também um papel fundamental na melhoria da IYCF. Abordar esta questão será fundamental para atingir o ODM 4 em termos de mortalidade infantil.
INTRODUCTION

The Global Strategy for Infant and Young Child Feeding (GSIYCF) was endorsed by the World Health Assembly (WHA) in May 2002 through resolution WHA 55.251 and by the UNICEF Executive Board later in the same year. This strategy takes into account previous WHA resolutions, building upon past and continuing achievements particularly the Baby Friendly Hospital Initiative, the International Code of Marketing of Breast-milk Substitutes and the Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding. The Global Strategy for Infant and Young Child Feeding aims to address the problems of inappropriate infant feeding practices through the promotion and support of optimal feeding to assure adequate growth and development, nutritional status, health and, thus, the survival of infants and young children.

Malnutrition is a major public health problem worldwide. Globally, maternal and child under nutrition contributes to 35% of the disease burden in children younger than 5 years and is the underlying cause of 3.5 million deaths. Twenty three out of the 40 countries with child stunting prevalence of 40% or more are in Africa. In sub-Saharan Africa, the proportion of infants 0–6 months who are exclusively breastfed increased by at least 20 to 50 percent over the last decade in some countries, however, the regional average is 31%, which is lower than the global average of 37%. There are a number of socio-cultural practices in the region which do not support good nutrition and deprive infants of the irreplaceable protection that breast milk provides. Some examples of such practices include giving water, herbal teas and porridge to babies less than six months old.

Africa continues to face natural and man-made disasters, including civil conflicts, famine and droughts, resulting in increasing numbers of refugees and internally displaced people. Living under such precarious situations compromises the care and feeding of infants and young children. The continent bears the highest burden of the HIV pandemic. The risk of mother-to-child HIV transmission through breastfeeding has undermined the resolve of many governments in Africa to promote breastfeeding, even among unaffected families.

As part of the efforts to address the above problems, over 30 out of 46 countries in the WHO African Region have developed and are implementing their national infant and young child feeding (IYCF) strategies in accordance with the global strategy. Plans are under way to support the remaining countries in developing their national strategies.

This paper reviews the development and implementation processes for national IYCF strategies in the African Region. It also identifies the challenges encountered and proposes the way forward to improve infant and young child feeding practices in the region.

DEVELOPMENT PROCESS

Following the adoption of the GSIYCF by the World Health Assembly and the UNICEF Executive Board in 2002, the WHO Regional Office for Africa (WHO/AFRO) organized three separate planning meetings for 13 countries. The meetings came up with a list of key activities and elements for consideration in the national strategy and developed a framework for a detailed action plan for implementation. They also identified the monitoring and evaluation tools for the national strategy.

The lessons learnt from these regional meetings led to the development of the Infant and Young Child Feeding: Guide for
The global strategy clearly states that the primary obligation of governments is to formulate, implement, monitor and evaluate a comprehensive national policy and plan on IYCF. Adequate resources – human, financial and organizational – will have to be identified and allocated to ensure timely and successful implementation of the strategy.

The governments that have...
successfully translated the global strategy into national strategies have done so by effective national coordination to ensure full collaboration of all concerned government agencies, international organizations and other relevant stakeholders.

Currently over 30 countries have developed national IYCF strategies with implementation plans. These countries are at various levels of development and implementation of their strategies. Some countries are using draft strategies and implementation plans though these are not yet finalized and published. Other countries have gone through the entire process of publishing and launching their strategies and plans. These final national strategies have been widely disseminated to all key stakeholders at various levels including the provincial and district health administrations.

The national strategies form the basis for a comprehensive package and provide guidance for subsequent interventions and care in the countries. The strategies have been used as a tool for the planning and implementation of IYCF activities by all the levels of the health ministries and by partners. In some countries such as Nigeria, the strategy serves as a guide for action in IYCF and a benchmark for setting annual targets.

Implementation of national strategies has contributed towards improvement in the coverage of some key breastfeeding interventions such as exclusive breastfeeding rates. Figure 1 compares the under six months exclusive breastfeeding rates of selected countries before and after the development and implementation of their national IYCF strategies. Most countries significantly increased their exclusive breastfeeding rate after their strategies were developed. However, in countries such as Nigeria, Madagascar, Uganda and Zimbabwe the rates

![Figure 1. Comparison of under six month exclusive breastfeeding rates of countries before and after development of national IYCF strategy](image-url)
decreased after their strategies were put in place. The reasons for the decreased rates are not clear, and will require further investigations. Other related improvements include the enactment of the international code on the marketing of breast milk substitutes (Code) into national laws in Cape Verde, The Gambia and Zambia, while Kenya, Swaziland and South Africa are at the final stages of the enactment process. Implementation of the Baby Friendly Hospital Initiative (BFHI) in the context of HIV/AIDS has been revitalized in 12 countries with BFHI assessment and reassessment conducted in some of these countries. Capacity building of health workers has seen exponential increases in countries with rapid cascading and expansion of training at the district level with over 6500 trainers available at national, provincial and district level to train health workers in countries.

In most countries implementation was aided by the accompanying implementation plan, which clearly outlines the strategic areas, with objectives and targets as well as, when and how to reach the set targets. These strategic areas included policies and regulations; promotion of appropriate IYCF practices; IYCF in emergencies; HIV and infant feeding; partnership and coordination; capacity building; research, monitoring and evaluation; and advocacy and communication.

Commitment from ministries of health (MOH) has been crucial for successful development and implementation of the national strategy. When the MOH is in the driving seat, directing and coordinating the entire process, there is stability and sustainability to keep the process on course even if some members of the working groups change. The MOH is also able to revitalize interest and commitment among all stakeholders through active dialogue and engagement with key partners. Active involvement of key partners to support the initiatives of the MOH has kept the process on course. Countries have engaged in constructive dialogue and active collaboration with appropriate groups working for the protection, promotion and support of appropriate feeding practices. Key partners, such as WHO, UNICEF, USAID, IBFAN etc., have made technical, financial and materials support available to the MOHs. Sharing of best practices has been another facilitating factor as peers share their experiences on how they have overcome challenges in regional forums.

**CHALLENGES**

The process of developing and implementing national IYCF strategies has not been without challenges to countries. The process can take from an average of six months to three years, meanwhile, principal actors (within the various working groups and task forces) may change jobs or move on to other programmes; funds voted for the process may no longer be available or reduced in value due to local currency depreciation; and some key stakeholders may no longer be in the country or their focus may shift to other issues.

The major inhibiting factors include delays and the long duration of the process. This is mainly due to various bureaucratic bottlenecks. The process of getting permissions and clearance for meetings, documents and approval can be unduly lengthy (between six weeks and three months); in the meantime there are other competing activities of equal importance in which the same people are expected to participate.

Where IYCF issues are not prominent or high on the political and development agenda, such as featuring in national development plans and strategies, and only seen as a health issue, the lack of high political stimulus needed to drive implementation of a national strategy is an issue.

The absence of a comprehensive national communication and social marketing strategy makes
advocacy and sensitization of policy makers at all levels and the general public challenging. The lack of data driven advocacy messages leads to ineffective communication to the target population.

Establishing and sustaining the involvement of the community, especially the motivation of volunteers among mother support groups and failing to deal with some cultural norms concerning the role of mother-in-laws, grandmothers and fathers can make grassroots implementation difficult. The lack of a comprehensive national capacity building plan which addresses in-service, pre-service and community workers’ training is a hindrance.

Counselling skills are crucial in IYCF support yet these are often not taught in nursing and medical schools. Bridging this knowledge and skill gaps has not always been easy. The high attrition rate of health workers means that trained and competent health workers are constantly in short supply. Trained health workers get attracted to places and programmes with better salaries; such a scenario can sometimes make a well thought out implementation plan unachievable.

IYCF makes a huge contribution towards child survival; about 19% of under five mortality can be prevented if there is universal coverage of breastfeeding and complementary feeding. However, the size of budget allocations that both governments and partners commit to child survival in general and IYCF in particular is disproportionately low and unrealistic. This is one of the major challenges most countries encountered achieving the goals of their national IYCF strategies.

**WAY FORWARD**

The enactment of the International Code of Marketing of Breast-milk Substitutes into national law is an important step forward. The existence of a well informed and motivated government agency responsible for the laws and policies on the marketing breast-milk substitutes such as (the Food and Drugs Board in Ghana and the National Agency for Food and Drug Administration and Control in Nigeria) and an oversight committee that ensure the enforcement of the law is important. Dynamic leadership in the government ministries (Ministry of Health, Labour and Employment, Justice etc.) is instrumental to the enactment and enforcement of laws on the Code and maternity protection for working mothers and child rights etc. Development partners, particularly UN agencies such as ILO, WHO and UNICEF, should continue to serve as powerful advocates and provide technical support to governments for the realization of key policy and legislation in favour of child survival including putting IYCF programmes high on the political and developmental agenda.

The activities of socio-cultural structures existing in communities – NGOs, community based organizations (CBOs), traditional leadership groups – need to be harnessed for advocacy and social mobilization for IYCF. Technical and financial support of development partners should be invested in the skills of locally available human resources to ensure availability and sustainability of competent people in the communities.

There is a need to develop:

- A comprehensive national communication and social marketing strategy which uses data driven advocacy messages to create awareness and behavioural change among the target audience.
- Comprehensive national capacity building plans which include equipping training institutions to facilitate capacity development in IYCF at pre-service and in-service levels.
- Counselling in all areas dealing with IYCF at every contact point with mother and child.
To reduce the long development process period, efforts to remove bureaucratic bottlenecks need to be intensified by ensuring that advance preparations for activities are done and communication among the various stakeholders is good.

Financial allocation to IYCF activities should be proportionate to the burden of disease and the deaths that could be averted by improved breastfeeding and complementary feeding practices. District health management teams should develop need-based plans and budgets for child survival and appropriately fund IYCF activities based on the contribution of IYCF towards child survival in their respective districts.

WHO, in collaboration with other partners, should intensify advocacy to countries without national strategies to develop one, while continuing to provide technical support to countries to scale up the implementation of their strategies. The year 2012 will be ten years since the adoption of the global strategy and an opportune time to conduct a comprehensive multi-country evaluation to assess the effects of the strategy on the support, promotion and protection of appropriate IYCF as well as its contribution to reducing child morbidity and mortality.

**CONCLUSION**

Promotion, protection and support for IYCF in general and breastfeeding in particular has been going on actively since the early 1990s; a lot of the activities were done by different and many parties without much coordination. However, the introduction of the Global Strategy on IYCF revitalized enthusiasm, national strategies emphasized the strong coordination role of the MOH and the roles and responsibilities of government, NGOs, UN agencies and other partners were clearly stated. National strategies are data driven, more focused on specific country needs and involve key stakeholders ensuring ownership and sustainability.

The development and implementation of national strategies has not been without challenges. Overcoming the challenges identified will require concerted efforts from government, partners and the community to eventually ensure that IYCF practices are taken to scale to make a meaningful contribution towards child survival and the attainment of Millennium Development Goal (MDG) 4.

**REFERENCES**

10. Ethiopia, Ghana, Gambia, Lesotho, Kenya, Malawi, Nigeria, Senegal, Sierra Leone, United Republic of Tanzania, Uganda, Zambia and Zimbabwe.
L’Organisation Mondiale de la Santé définit la cybersanté (eHealth) comme l’utilisation rentable et sécurisée des technologies de l’information et de la communication (TIC) pour la santé et les secteurs connexes. Les TIC fournissent une gamme de technologies destinées à rassembler, stocker, récupérer, traiter, analyser, transmettre et recevoir des données et des informations. Elles comprennent la radio, la télévision, les téléphones portables, les ordinateurs, le matériel de réseau informatique et les logiciels, ainsi que les services et applications qui leur sont associés, y compris la vidéoconférence et l’apprentissage à distance. La cybersanté est un terme générique qui recouvre différents domaines tels que l’informatique de la santé, la santé numérique, la télésanté, la télémédecine, l’apprentissage à distance et la santé mobile. Le Comité régional de l’OMS pour l’Afrique a appelé les États Membres à adopter et à mettre en œuvre des stratégies de cybersanté pour améliorer leurs systèmes de santé. Les Déclarations de Ouagadougou et d’Alger et le Cadre pour la mise en œuvre de la Déclaration d’Alger soulignent également l’importance de la cybersanté dans les systèmes de santé. Ce document met en lumière certaines questions clés à traiter et propose des actions concrètes pour adopter des solutions de cybersanté, en tant qu’outils visant à renforcer les systèmes de santé afin d’accélérer les progrès en vue de la réalisation des objectifs du Millénaire pour le développement et de l’amélioration des résultats sanitaires dans la Région.
INTRODUCTION

The World Health Organization (WHO) defines eHealth as the cost-effective and secure use of information and communication technologies (ICTs) for health and health-related fields. ICTs provide a range of technologies for gathering, storing, retrieving, processing, analysing, transmitting and receiving data and information. These include radio, television, mobile phones, computer and network hardware and software, as well as the services and applications associated with them, including videoconferencing and distance learning. eHealth is an umbrella term that covers a variety of areas such as health informatics, digital health, teleHealth, telemedicine, eLearning and mobile health.

Recognizing the significant developmental role and cross-cutting impact of ICTs in regard to all aspects of national life, including health, an ICT-related target was included in Millennium Development Goal number 8. The World Health Assembly resolution on eHealth, WHA58.28, noted the potential impact that ICT could have on health-care delivery. Subsequently the WHO Executive Board endorsed a set of activities to be implemented by the WHO Secretariat aimed at, among others, creating an environment that ensures data privacy, security and confidentiality, and improves interoperability. This included the establishment of the Global Observatory for eHealth to improve the evidence base and guide policies for integrating eHealth into health systems.

Through Resolution AFR/RC56/R8, Member States were called on to adopt and implement eHealth strategies to improve their health systems. The Ouagadougou and Algiers declarations and the Framework for Implementation of the Algiers Declaration also underscore the importance of eHealth in health systems strengthening.

Major eHealth projects in the Region include the Telemedicine Network for Francophone African Countries (RAFT), HINARI Access to Research in Health Programme, ePortuguese Network and Pan-African e-Network Project. Several countries in the Region are implementing telemedicine and eLearning projects, including Algeria, Benin, Burkina Faso, Burundi, Cameroon, Chad, Republic of Congo, Cote d’Ivoire, Ethiopia, Ghana, Kenya, Madagascar, Mali, Mauritania, Niger, Rwanda, Senegal and South Africa. Some of these are using mobile phones to support the delivery of health care, awareness and education; remote data collection; remote monitoring and home care; communicating treatments to patients; and reporting and responding to disease outbreaks and emergencies. Others are using satellite technologies to broadcast health promotion to patients and health workers in hospitals and clinics.

While eHealth projects in the Region continue to be on a small scale and are fragmented, the rapid advances in ICT have put countries under intense market pressure to adopt ICT-associated
services. There is a need to ensure that the introduction of ICT in the health sector is driven by country needs and appropriate policies, rather than by pressures from technology producers.

This document highlights some key issues that need to be addressed and proposes concrete actions for adopting eHealth solutions as tools for strengthening health systems in order to accelerate progress towards the achievement of the MDGs and the improvement of health outcomes in the Region.

ISSUES AND CHALLENGES

Some major issues in the Region include the “digital divide,” i.e. inadequacy of ICT infrastructure and services and the limited ability and skills to use them. It is estimated that in sub-Saharan Africa, access to fixed telephone lines in 2007 was 1.5 per 100 population, access to mobile phone subscriptions was 22.9 per 100 population, and the level of internet use was 3.7 per 100 population. This contrasts with the global average of 19.0 per 100 population, 50.3 per 100 population and 20.6 per 100 population, respectively. While mobile phone services are booming, the African Region has extremely little bandwidth, and the costs of internet services are beyond the reach of the majority of the people.

Development and maintenance of ICT infrastructure are expensive and the costs are beyond the budget of many institutions in Africa, particularly when technology is sought for largescale use. The ICT infrastructure development needs of the health sector are not within the purview of ministries of health. Economic situations and financial constraints both countrywide and in the health sector are such that many health facilities and medical training institutions are unable to cater for their needs, including computerization. Dependence on external resources or donor funding for the introduction of eHealth in the Region has become the rule rather than the exception.

The key challenges countries need to address include limited awareness about eHealth; lack of an enabling policy environment; weak leadership and coordination; inadequate human capacity; weak ICT infrastructure and services; inadequate financial resources; and weak monitoring and evaluation systems.

LIMITED AWARENESS OF eHEALTH

Policy-makers, health authorities and health practitioners are not fully aware of the potential benefits of the use of ICT for health. Neither has the health sector developed medium- or long-term strategic plans for developing eHealth infrastructure and services.

LACK OF AN ENABLING POLICY ENVIRONMENT

Most countries in the Region have not developed national policies, strategies or regulatory frameworks that are necessary for establishing common technical infrastructure, interoperability and standardization protocols. Countries also need to address ownership, confidentiality, security of data and quality of information.

WEAK LEADERSHIP AND COORDINATION

In several countries, there is a multiplicity of players and partners in several eHealth projects being implemented with limited capability for interoperability. The challenge is to strengthen coordination and collaboration among all stakeholders, partners and donors as well as improve the capacity of the health sector to lead the process.

INADEQUATE HUMAN CAPACITY TO PLAN AND APPLY eHEALTH SOLUTIONS

The number of health workers capable of leveraging ICT in their work remains limited. Health workers are not systematically trained in the use of ICT. There
are insufficient numbers of health workers with the capacity to design, deploy and effectively manage eHealth projects and programmes. The use of ICT facilitated learning remains limited in most health training institutions.

**Weak ICT Infrastructure and Services Within the Health Sector**

Existing eHealth projects within the health sector are small scale and fragmented, and their scope and coverage are rather limited. In most countries, the ministries in charge of communications, technology and finance are primarily responsible for national ICT infrastructure. The challenge is for ministries of health to ensure that ICT needs and adequate coverage of the health sector are taken into consideration during the preparation and implementation of national ICT plans.

**Inadequate Financial Resources**

Financing eHealth infrastructure and services requires collaboration and coordination between multiple partners from both the private and public sectors. The challenge is for the health sector to partner with other governmental sectors and the private sector to mobilize the resources required for eHealth.
WEAK MONITORING AND EVALUATION

The majority of the eHealth projects, initiatives, national plans or frameworks implemented so far in the Region have not been adequately monitored or evaluated. Indeed, comprehensive frameworks for monitoring and evaluation have yet to be developed. The challenge is to ensure the availability of efficient systems for monitoring and evaluation and for sharing of experiences and lessons learnt.

Despite these challenges, opportunities exist for planning and deploying eHealth solutions. These include the rapid advances in ICT, increasing access to mobile phones and broadband connectivity, increasing interest by donors and countries in strengthening health systems, and the partnerships being built by agencies such as WHO, International Telecommunication Union, World Bank, United Nations Economic Commission for Africa and others. The partnerships seek to develop national road maps for eHealth, facilitate connectivity of health facilities in districts, and provide health workers access to a suite of eHealth applications and solutions for enhancing professional capacity.
PROPOSED ACTIONS

In order to strengthen national health systems and improve the health of the people, countries should take actions leading to increased access to eHealth tools and services. Crucially, these actions should be taken in the context of the implementation of the Algiers and Ouagadougou declarations, and be integrated with other efforts to strengthen national health systems.

1 Promote national political commitment and awareness of eHealth: It is necessary to raise the awareness of policymakers and the general public on the benefits of eHealth, including the identification and use of champions (e.g. celebrities within and outside the health sector) for that purpose. It is important to develop health sector capacity to advocate for eHealth solutions, negotiate with other ministries and lead the national process.

2 Develop an enabling policy environment: All countries should carry out a national needs assessment for eHealth and follow this with the development of long-term strategic plans and frameworks for eHealth. Countries should develop policies on eHealth which articulate the commitment of the government to invest in an ICT-based health system that will improve access to quality services at affordable prices. The policies should be based on the national ICT policy. Countries should also develop strategies, norms and appropriate governance mechanisms related to legal liability, ethical standards, and confidentiality and privacy protection.

3 Strengthen leadership and coordination: A multisectoral and multidisciplinary consultative process involving all key stakeholders, including the users and beneficiaries, should be used to develop national plans, policies, strategies, and ethical and legal frameworks. Each country should consider establishing multidisciplinary and intersectoral support mechanisms. The top leadership in the health sector should lead by example in acquiring the skills and utilizing the relevant technologies.

4 Build infrastructure and establish services for eHealth: Countries should select appropriate technologies and solutions to be used within their specific environments, bearing in mind the current state of power supply standards, health systems and telecommunications infrastructure. Health needs should drive technology acquisition and adoption. Some of the key areas of focus include building the ICT infrastructure necessary to support eHealth services; establishing internet connections for health institutions; establishing websites for ministries of health; building local area networks and establishing telemedicine facilities. The adoption of open ICT platform technologies should be encouraged, and maintenance of adopted technologies should be given high priority.

5 Develop human capacity for eHealth: Systematic education in eHealth for health personnel must be at the heart of any strategy designed to facilitate eHealth. Countries need to introduce ICT in the curricula of all health training institutions. Training in eHealth should be included in continuing education programmes for health workers. The use of eLearning programmes for professional education should be promoted in the health sciences as well as in ongoing professional development. Local academics
and researchers as well as external technical experts should be involved in these efforts. Countries should consider establishing centres of excellence to train eHealth professionals and reach a critical mass of expertise for service, training and research. Experts in eHealth are also to be recruited.

6 M o b i l i z e f i n a n c i a l resources for eHealth: Countries need to make the necessary investments in ICT infrastructure and services in the health sector, using domestic and external financing. Countries will need to ensure integration of ICT in all budgetary processes to promote sustainability.

International partners and donors should be encouraged to support national efforts. Governments should establish an enabling policy environment that will encourage the private sector to seek funds for capital investments that will allow the introduction of new cost-effective technologies.

7 M o n i t o r a n d e v a l u a t e national eHealth plans and frameworks: Countries should establish monitoring and evaluation systems to measure progress in the implementation of national eHealth strategic plans. This is crucial to ensure delivery of the expected benefits.

In conclusion, countries can benefit from using eHealth tools to strengthen their health systems and improve the health of their populations. They should, however, tackle existing eHealth challenges related to limited awareness, policies, leadership, infrastructure, human and financial resources.

REFERENCES

3. Target 18F: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications. 
Health information and monitoring systems (HMIS) provide necessary data to health systems to monitor the utilization and quality of health services and make evidence-based decisions. Ethiopia has undertaken an extensive reform and re-design of its HMIS introduced in six of Ethiopia's nine regions in 2008. To assess the data management and reporting systems, verify the data quality as well as the level of information use for decision-making an assessment was undertaken to identify areas for improvement. Data were collected via questionnaires to evaluate data collection and reporting functioning. Six functional areas of the data management and reporting systems were assessed on a scale of 0 to 2.0. Data accuracy was assessed by comparing data at the three reporting levels for consistency. These levels were: service delivery site (SDS); intermediate aggregation level (IAL) where reports from SDSs are aggregated; and programme monitoring and evaluation units at national level (M&E). Data accuracy of the nine selected key national indicators was compared at each level.

Data was collected from 17 health districts; 32 service delivery facilities (26 health centres and 6 hospitals). Integrated data collection and reporting tools, standard operating guidelines and procedures were in place at all levels. Documentation and sources were available at all SDSs. However, resources were weakest at the SDS and IAL (scores of 0.5). Data management processing had an average score of 1.2. Content completeness and reporting timeliness remained below the 85% national target at all levels (SDSs 76.7% and 67.7%; IALs 62% and 39% and 29%, and 53% at national level). Data accuracy was 76% for the SDS level and 71% for the IALs. At the facility and district levels, 37% had utilized data from the HMIS in discussions and decision-making activities. Sustained monitoring and action to maintain good HMIS and data accuracy are essential in evaluating progress on health outcomes.
INTRODUCTION

In 2008, to strengthen the HMIS in Ethiopia, the Federal Ministry of Health (FMOH) introduced a new system. The newly designed HMIS was implemented in six of nine regions, namely Benishangul-Gumuz, Dire Dawa, Gambella, Harari, Amhara and Southern Nations, Nationalities and People’s Region. The objective of the new system is to ensure improved measurement and standardization to ensure good quality data – enabling better decisions and thus better health outcomes.

The quality of reported data and use of information is dependent on the underlying data management and reporting systems. Stronger systems ought to produce better quality data. In other words, for good quality data to be produced by and flow through a data management system, key HMIS functional components need to be in place at all levels of the system (see Figure 1).

An assessment was performed to inform users and stakeholders of the current status of the functioning of the HMIS and its ability to provide quality monitoring and data to decision-makers. Three areas of HMIS were assessed:

- Six functional components of the data management and reporting systems:
  - M&E capabilities, role and responsibilities;
  - inputs/resources;
  - data management process;
  - linkage with national system;
  - data collection and reporting forms;
  - indicator definition and reporting guidelines;

- The data quality in terms of:
  - accuracy;
  - timeliness;
  - completeness.

- Information use.

METHODS AND MATERIALS

STUDY DESIGN

A cross-sectional design was used and data were collected through observation, interview and data review at the various respective critical levels of the flow of information.

SELECTION OF STUDY SITES

Study sites where activities supporting the indicators were implemented were selected. The selection of study sites involved identifying regions, districts and individual health facilities using a multistage cluster sampling technique. As the study units have different volumes of service, the sampling involved a stratified random sampling of sites.

DATA COLLECTION PROCEDURES AND TOOLS

The assessment included three protocols, with data collection for all protocols occurring at all sites.

Firstly, functional components assessed six areas of the data management and reporting system.
systems. Trained data collectors, with experience in data management, visited each site and collected observational data using a standardized checklist and a questionnaire. Scores were generated for each functional area at the three levels – SDS, IAL and M&E. For each of the six functional components questions were asked, with responses coded as follows:

0 – no, not at all;
1 – partly;
2 – yes, completely.

The scores were intended to be compared across functional areas as a means of prioritizing system strengthening activities.

The second data verification protocol evaluated two stages; an in-depth verification at the SDS and a follow-up verification at the IAL and programme M&E level (region or FMOH). The relationship between the SDS and IAS data was measured to establish if the selected indicators were reported accurately and on time. Nine indicators were selected among the key national indicators in the HMIS. Selection was based upon their relative application for decision-making. Indicators were evaluated for two months (May and June 2010).

The data quality assessment determined if a sample of SDSs had accurately recorded the activity related to the selected indicators via a documentation review, and trace and verification. Data accuracy at the SDS was calculated by comparing the verified numbers to the site reported numbers during the period specified. Data verification at the IALs was determined by dividing the sum of reported counts from all SDSs divided by the total count contained in the summary report prepared by the relevant IAL. Likewise, data accuracy at the M&E unit level was calculated by dividing the sum of reported counts from all IALs by the total count contained in the summary report prepared by the relevant M&E unit. Values under 85% represent over reporting and over 130% under reporting. Availability, completeness and timeliness of reports from all SDSs and IALs were determined based on the MOH guidelines.

The third protocol concerned information use.

DATA ANALYSIS
Data was entered and analysed on SPSS version 19 software.

RESULTS
A total of 17 health districts (woredas) were randomly selected from the six regional states implementing HMIS in Ethiopia. These districts contributed a total of 32 SDSs of which 26 health centres and 6 district hospitals were reviewed. An HMIS was fully implemented over the previous two years in 19 of the 32 (59.4%) SDSs, in 7 of 17 (41.2%) of IALs and in 1 of 6 (16.7%) of the regions.

Observations on the basic infrastructure required for HMIS showed that a card room was a standard specification in 7 of 32 (21.9%) sites, and a standard Master Patient Index (MPI) box was available in 13 of 32 (40.6%) sites. Moreover, standard shelves were available in 15 of 32 (46.9%) of SDS (see Table 1). HMIS reporting formats were observed at 32 of 32 (100%) of the SDSs.

An assigned focal person for HMIS was observed at 25 of 32 (78%) facilities with 7 of 25 (28%) focal persons having information technology training. Regular budget allocation for HMIS running costs were found at 7 of the 32 (22%) facilities, 5 of 17 (29.4%) districts and 2 of 6 (33.3%) region level offices (see Table 1).
quality controls scored 1.2 and links with the national reporting system scored 1.3. For SDSs the system shows relative strengths in the data collection and reporting tools (score 1.5).

**IAL and M&E:** The IALs had data collection and reporting tools scores of 0.5 at district, 1.25 at regional and 1.5 at national levels (see Figure 3). For resources the mean score value ranged between 1.5 at district level to 2.0 at regional and national levels. The M&E structure and capabilities scored 1.0 at district level, 1.5 at regional level and 1.6 at national level. Data management processes and data quality controls scored 1.0 at district, 1.25 at regional and 1.1 at national levels. Furthermore, links with the national reporting system scored 1.0, 1.6 and 1.4, at district, region and national levels respectively, indicating the presence of parallel reporting.

**DOCUMENTATION AND REPORTING PERFORMANCE**

**SDS:** Indicator source documents were available in 31 of the 32 (95%) sites. Completion of reporting forms was seen in 24 out of the 31 (77%) sites. However, regarding the dates for the indicator source documents only 21 of 31 (68%) fell within the agreed national reporting period (see Figure 4).
IAL & M&E: reports were available in 12 of 17 districts (71%). Completion of the fields of the key indicators were seen in 7 of 12 (62%) available district reports and in 6 of the 17 districts (39%) reports were received on time at the district level (see Figure 5). Furthermore, the reporting performance at regional and national levels showed that though the representative completeness reached 87% and above for both administrative levels, the content completeness and timeliness of reporting were as low as 39% and 73% at regional level. At national level content completeness and timeliness were at 29% and 53% respectively.

DATA ACCURACY
The accuracy ratio was related to over reporting at the SDS and IAL and under reporting at the M&E level. Accuracy of the observed data in 24 of 32 (76%) SDSs had an accuracy ratio that fell within the accepted range, 11% had accuracy ratio less that 70% and 7% were above 130% indicating under reporting. Comparing services, under reporting was more common for voluntary counselling and testing (VCT), proportion of deliveries attended by skilled persons (SBA) and tuberculosis case detection rate (TBCDR). There was over reporting for measles, Pentavalent, antiretroviral
Figure 6. Data accuracy at service sites by indicator, Ethiopia, September 2010

Figure 7. Accuracy ratio at all levels by indicator, Ethiopia, September 2010
therapy (ART) and contraceptive acceptance rate (CAR) in the majority of the SDSs (see Figure 6).

Data accuracy within the acceptable range in the IALs was 88% at the district and 71% at the regional level; and below 70% in 8% of the districts and in 13% of the regions. Between indicators, the accuracy was highest for antenatal care (ANC), TBCDR and measles but lowest for CAR, prevention of mother to child transmission therapy (PMTCT) and ART (see Figure 7). 

INFORMATION USE
Data was compiled on quarterly basis at 30 of 32 (94%) of SDSs and 12 of 17 (71%) IALs. Feedback reports based on HMIS data was observed in 35.3% of IAL and 50% of M&Es. Discussion and decisions based on HMIS data occurred in 37% of the facilities. These included patient utilization of services, service coverage and medicine stock-outs. Routine meetings to review managerial or administrative matters were conducted in 23.5% and 50% cases for the studied IAS and M&E levels respectively.

DISCUSSION
Results from the data management and reporting systems assessment enabled the team to understand qualitatively and quantitatively the operationality as well as the relative strengths and weaknesses of functional areas that affect the overall quality of data in the health systems. Findings showed that standard data collection and reporting tools were in place. However, implementation was low. Major factors were: inadequate provision of the required resources or inputs, including lack of trained focal persons, inadequate start-up costs that including basic infrastructure, such as the availability of card rooms, standard MBI boxes and shelves. The majority of administrative levels tended to allocate inadequate funding to operationalize the new HMIS on regular basis. A study done previously on the implementation progress of the country’s HMIS had observed similar findings.6

Furthermore, though source documents for the selected indicators were available for the reporting being verified, content completeness and reporting timeliness remained far below the national 85% target. Accuracy of reported data, moreover, was generally inadequate. A tendency to over report for the indicators was a common finding in nearly all of the reporting levels. Findings indicated that the level of data accuracy among the various levels was over-reported in nearly all of the health facilities, districts and regions, and was under reported at the M&E national level.

The study further acknowledged the inadequacy of regular supervision and feedback from senior levels to address the problems of inadequate documentation, late and incomplete reporting and inaccurate reporting.

These findings indicate the extent to which data quality can be adversely affected by limited investment in infrastructure and human resource capacity as well as by the performance of the data aggregation and reporting units of the system.

Furthermore, the study observed a limited culture of using information for decision-making in planning and management of implementing programmes. Just 37% of the facilities had exercised discussion and made decisions using findings from routine health information.

CONCLUSION
The present study documents the challenges and limitations of the information systems to serve as the foundation of decision-making and for monitoring the quality of service delivery. While achieving and maintaining data quality requires ongoing attention and a comprehensive
approach in addressing the issues of data management and reporting systems and data accuracy, strengthening health information systems is one of the most powerful ways of improving health outcomes. To this effect, the assessment recommends instigating:

- A favourable administrative and legal environment that ensures or reinforces mandatory routine reporting;
- Sound data archiving;
- The designation of institutional responsibilities for the approval of national data collection instruments and methods;
- Infrastructure support to enhance the efficiency and quality of reporting as well as building capacities of health information experts. The latter will enhance the use of evidence based practices during supervision, planning and budgeting;
- Adopting procedures to address late, incomplete or inaccurate reports received from sub-reporting levels and corrections to earlier discrepancies in reports through regular integrated supportive supervision.

This study recommends that follow-up assessments on data management and reporting systems should be integrated into the routine supervision systems as a means identifying and monitoring necessary improvements.

ACKNOWLEDGEMENTS

The authors are keen to express their appreciation to the WHO country office for the technical as well financial support to undertake this relevant and timely work. Thanks also go to all experts at the M&E unit of the FMOH. The team offers its appreciation to the service delivery facilities and the various tiers of the health care system for their willingness and active participation in this important endeavour.

REFERENCES

Integrated Disease Surveillance and Response (IDSR) in the WHO African Region now goes beyond the scope of communicable diseases. Noncommunicable health conditions and events are also a priority in IDSR.

However, this March 2011 issue attempts to provide information on the burden of some of the regional priority communicable diseases such as cholera, cerebrospinal meningitis, influenza and yellow fever in the WHO African Region. The data presented were collected through the implementation of the Integrated Disease Surveillance Strategy in the region.

A number of questions remain unanswered in this report. What do the increased cholera and meningitis case-fatality rates (CFR) in the region tell us about the case management capacities of Member States? Is the apparent reduction in meningitis cases due to *N. Meningitidis A* (*Nm A*) in Burkina Faso, Mali and Niger a result of the recent introduction of the men A conjugate vaccine?

We hope you will find the contents of this report useful. Your comments and suggestions are most welcome and should be addressed to the Editor of the Communicable Diseases Epidemiological Report.

Dr J B Roungou
Director, DPC Cluster

**VIROLOGICAL EPIDEMIOLOGY OF INFLUENZA INFECTION IN THE AFRICAN REGION (2011)**

There are 29 national influenza laboratories in the 24 countries of the WHO African Region responsible for providing information on the virological epidemiology of influenza in the region. These are members of the African Influenza Laboratory Network. The main goal of this network is to continue building the national laboratory capacity of African countries to conduct virological surveillance of viral respiratory diseases in general and influenza in particular. The primary laboratory diagnostic test used to generate virological information is the reverse transcriptase polymerase chain reaction (RT-PCR) technique. In addition to this test, 11 of the 24 countries also perform virus isolation.
During the first quarter of 2010, the network laboratories tested 11,353 specimens of which 2,018 (18%) were positive compared with 9,013 specimens tested in 2011 of which 1,347 (15%) were positive. 1,264 (63%) of the positive specimens were pandemic A (H1N1) in 2010 compared with 517 (38%) in 2011.

As shown in Figure 2, Pandemic A (H1N1) was the predominant influenza type during the first quarter of 2010 as opposed to the same period 2011, where both Pandemic A (H1N1) and seasonal influenza B were co-predominant. Overall there was a comparative drop in the number of Pandemic A (H1N1) cases in first quarter of 2011.
CHOLERA SITUATION IN THE FIRST QUARTER OF 2011 IN THE AFRICAN REGION

By the end of the first quarter of 2011, 16 countries in the African Region had reported a total of 20,394 cholera cases with 406 deaths compared with 18 countries, 20,882 cases and 313 deaths in the corresponding quarter in 2010 as shown in Table 1 and Figure 3.
### Table 1. Suspected and confirmed cholera cases reported in first quarters 2010 and 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>First quarter 2010</th>
<th>First quarter 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Deaths</td>
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<tr>
<td>Angola</td>
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<tr>
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<tr>
<td>Central African Republic</td>
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<td>2</td>
</tr>
<tr>
<td>Chad</td>
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<tr>
<td>Zimbabwe</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20 882</strong></td>
<td><strong>313</strong></td>
</tr>
</tbody>
</table>

Source: Member States.

In 2011, countries reporting cases of cholera in the region continue to have an unacceptably high case-fatality rate, above the 1% threshold. High case-fatality rates may reflect the limited country preparedness to respond effectively to cholera outbreaks or an inability to detect cholera circulation at district level in good time.

Combating cholera calls for the development of comprehensive response plans that should include:
- Health education campaigns on the prevention of cholera especially when the season or conditions are ripe for outbreaks;
- Pre-positioning of equipment and supplies to detect and respond in time to any outbreaks;
- Health worker training and re-training on outbreak detection and response.

Recently, discussions have commenced on the possibility of using cholera vaccines as an additional tool in the fight of this disease (ref: WER No. 13, 2010, 85, 117–128).
CLINICAL CASES OF YELLOW FEVER IN THE FIRST QUARTER OF 2011 IN THE AFRICAN REGION

In first quarter of 2011, 11 countries reported 282 clinical cases of yellow fever with 11 deaths compared with 16 countries, 350 cases and 12 deaths recorded during the same period in 2010. The case-fatality rate for the suspected cases remained below the 4% threshold in both 2011 and 2010. Significant laboratory confirmed outbreaks were reported in Côte d’Ivoire and Uganda in 2011. The Uganda outbreak was unusual in that this was the first time in many years that yellow fever had been detected in the country.

Figure 4. Countries that reported clinical cases of yellow fever in the first quarters of 2010 and 2011

Table 2. Summary of yellow fever cases reported in the WHO Region, first quarters 2010 and 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>First quarter 2010</th>
<th>First quarter 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Deaths</td>
</tr>
<tr>
<td>Benin</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Chad</td>
<td>30</td>
<td>2</td>
</tr>
<tr>
<td>Congo</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>102</td>
<td>3</td>
</tr>
<tr>
<td>Democratic Republic of the Congo</td>
<td>21</td>
<td>3</td>
</tr>
<tr>
<td>Gabon</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Ghana</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>Guinea</td>
<td>33</td>
<td>2</td>
</tr>
<tr>
<td>Liberia</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Mali</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Niger</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Nigeria</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Senegal</td>
<td>53</td>
<td>0</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>South Africa</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Uganda</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>350</td>
<td>12</td>
</tr>
</tbody>
</table>

Source: Member States.
CEREBROSPINAL MENINGITIS IN THE FIRST QUARTER OF 2011 IN THE AFRICAN REGION

Figure 5 and Table 3 compare the burden of cerebral spinal meningitis during the first quarters of 2010 and 2011. A total of 20 countries reported cases of cerebrospinal meningitis in the first quarter of 2011 compared with 26 during the same period in 2010.

There were 9535 cases and 994 deaths attributable to cerebral spinal meningitis reported in the first quarter of 2011 compared with 15 003 cases and 1739 deaths in 2010 (see Table 3).

Table 3. Suspected and confirmed cerebral spinal meningitis cases, first quarters 2010 and 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>First quarter 2010</th>
<th>First quarter 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Deaths</td>
</tr>
<tr>
<td>Angola</td>
<td>116</td>
<td>4</td>
</tr>
<tr>
<td>Benin</td>
<td>159</td>
<td>29</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>3827</td>
<td>544</td>
</tr>
<tr>
<td>Burundi</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Cameroon</td>
<td>498</td>
<td>47</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>212</td>
<td>63</td>
</tr>
<tr>
<td>Chad</td>
<td>1705</td>
<td>162</td>
</tr>
<tr>
<td>Congo</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>58</td>
<td>18</td>
</tr>
<tr>
<td>Democratic Republic of the Congo</td>
<td>2252</td>
<td>244</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Gabon</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Ghana</td>
<td>728</td>
<td>77</td>
</tr>
<tr>
<td>Guinea</td>
<td>66</td>
<td>9</td>
</tr>
<tr>
<td>Kenya</td>
<td>44</td>
<td>14</td>
</tr>
<tr>
<td>Liberia</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Mali</td>
<td>238</td>
<td>16</td>
</tr>
<tr>
<td>Mozambique</td>
<td>309</td>
<td>88</td>
</tr>
<tr>
<td>Namibia</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Niger</td>
<td>1453</td>
<td>128</td>
</tr>
<tr>
<td>Nigeria</td>
<td>2938</td>
<td>218</td>
</tr>
<tr>
<td>Senegal</td>
<td>26</td>
<td>1</td>
</tr>
<tr>
<td>Seychelles</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Togo</td>
<td>289</td>
<td>71</td>
</tr>
<tr>
<td>United Republic of Tanzania</td>
<td>56</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>15 003</td>
<td>1739</td>
</tr>
</tbody>
</table>

Source: Member States.
Cerebral spinal fluid (CSF) samples were collected, tested and reported on in countries with enhanced surveillance namely: Benin, Burkina Faso, Cameroon, Chad, Mali and Niger. During the first quarter of 2011, of the 1889 CSF samples tested, 757 were positive and overall the predominant pathogens were *Streptococcus pneumoniae* (47%), *Neisseria meningitidis W135* (30%) and *Neisseria meningitidis A* (14%). During the same quarter of 2010, of the 1755 CSF samples tested, 843 were positive with *Streptococcus pneumoniae* (25%), *Neisseria meningitidis A* (30%) and *Neisseria meningitidis W 135* (29%). (Refer to tables 4 and 5.) A significant observation is that there has been a decline in the overall confirmed cases of *Neisseria meningitidis A* in 2011. Of note is that before the meningitis season, the men A conjugate vaccine was introduced in Burkina Faso, Mali and Niger. Although it is early days, it is possible that this could be the reason for the drop in *Neisseria meningitidis A* related cases.

Table 4. Pathogens\(^1\) identified by PCR, latex and culture, reported first quarter 2010

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of CSF</th>
<th>Results</th>
<th>Nm A</th>
<th>Nm X</th>
<th>Nm W135</th>
<th>S. Pneum</th>
<th>Hib</th>
<th>Positive samples</th>
<th>Nm A</th>
<th>Nm W135</th>
<th>S. Pneum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>50</td>
<td>Neg</td>
<td>17</td>
<td>33</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>66.0</td>
<td>0.0</td>
<td>0.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>414</td>
<td>193</td>
<td>221</td>
<td>66</td>
<td>41</td>
<td>7</td>
<td>125</td>
<td>7</td>
<td>53.4</td>
<td>29.9</td>
<td>3.2</td>
</tr>
<tr>
<td>Cameroon</td>
<td>16</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>50.0</td>
<td>87.5</td>
<td>0.0</td>
<td>12.5</td>
</tr>
<tr>
<td>Chad</td>
<td>241</td>
<td>165</td>
<td>76</td>
<td>48</td>
<td>0</td>
<td>14</td>
<td>12</td>
<td>31.5</td>
<td>63.2</td>
<td>18.4</td>
<td>15.8</td>
</tr>
<tr>
<td>Mali</td>
<td>17</td>
<td>11</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>35.3</td>
<td>68.7</td>
<td>0.0</td>
<td>16.7</td>
</tr>
<tr>
<td>Niger</td>
<td>1017</td>
<td>518</td>
<td>499</td>
<td>132</td>
<td>2</td>
<td>223</td>
<td>40</td>
<td>49.1</td>
<td>26.5</td>
<td>44.7</td>
<td>8.0</td>
</tr>
<tr>
<td>Total</td>
<td>1755</td>
<td>912</td>
<td>843</td>
<td>257</td>
<td>43</td>
<td>244</td>
<td>212</td>
<td>48.0</td>
<td>30.5</td>
<td>28.9</td>
<td>25.1</td>
</tr>
</tbody>
</table>

\(^1\) Nm B, Nm C, Nm Y and other unknown pathogens were also screened for but are not shown in the table.
Table 5. Pathogens identified by PCR, latex and culture reported first quarter 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of CSF</th>
<th>Nm A</th>
<th>Nm B</th>
<th>Nm C</th>
<th>Nm W135</th>
<th>S. Pneum</th>
<th>Hib</th>
<th>Positive samples</th>
<th>Nm A</th>
<th>Nm W135</th>
<th>S. Pneum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>52</td>
<td>19</td>
<td>33</td>
<td>0</td>
<td>0</td>
<td>31</td>
<td>2</td>
<td>63.5</td>
<td>0.0</td>
<td>0.0</td>
<td>93.9</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>857</td>
<td>341</td>
<td>324</td>
<td>2</td>
<td>42</td>
<td>16</td>
<td>257</td>
<td>7</td>
<td>37.8</td>
<td>0.6</td>
<td>4.9</td>
</tr>
<tr>
<td>Cameroon</td>
<td>147</td>
<td>124</td>
<td>23</td>
<td>6</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>0</td>
<td>15.6</td>
<td>26.1</td>
<td>21.7</td>
</tr>
<tr>
<td>Chad</td>
<td>228</td>
<td>107</td>
<td>121</td>
<td>98</td>
<td>0</td>
<td>6</td>
<td>13</td>
<td>4</td>
<td>53.1</td>
<td>81.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Mali</td>
<td>121</td>
<td>101</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>8</td>
<td>1</td>
<td>16.5</td>
<td>0.0</td>
<td>55.0</td>
</tr>
<tr>
<td>Niger</td>
<td>484</td>
<td>248</td>
<td>236</td>
<td>3</td>
<td>1</td>
<td>187</td>
<td>38</td>
<td>1</td>
<td>48.8</td>
<td>1.3</td>
<td>79.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1889</strong></td>
<td><strong>940</strong></td>
<td><strong>757</strong></td>
<td><strong>109</strong></td>
<td><strong>43</strong></td>
<td><strong>225</strong></td>
<td><strong>357</strong></td>
<td><strong>15</strong></td>
<td><strong>40.1</strong></td>
<td><strong>14.4</strong></td>
<td><strong>29.7</strong></td>
</tr>
</tbody>
</table>

1: Nm B, Nm C, Nm Y and other unknown pathogens were also screened for but are not shown in the table.
2: 192 samples from Burkina Faso were contaminated.

COUNTRY-SPECIFIC REPORTS ON CEREBRAL SPINAL MENINGITIS

Burkina Faso, Mali and Niger located in the “meningitis belt” have been supported to conduct enhanced meningitis surveillance that includes monitoring cases and deaths as well as sero-typing the causative agents using polymerase chain reaction (PCR) techniques. Below we examine in more detail country specific reports from Burkina Faso, Niger and Mali using data in tables 3, 4 and 5.

**Burkina Faso:** The number of meningitis cases reported in the first quarter has decreased by 50% in 2011 (1903 cases and 340 deaths) when compared with 2010 (3827 cases and 544 deaths). Despite this there has been an increase in the case-fatality rates which went up slightly in 2011. In the first quarter 2011, Burkina Faso tested 857 samples of which 324 (38%) were positive for *S. pneumoniae* accounting for 79% of positive samples and Nm A only 0.6%. In the corresponding quarter of 2010, *S. pneumoniae* accounted for 53% of positive samples and Nm A 30%. There is a clear drop in the proportion of cases due to Nm A in 2011 compared with 2010 possibly related to the men A conjugate vaccine introduction.

**Niger:** Reported 676 cases and 78 deaths in the first quarter of 2011 compared with 1453 cases and 126 deaths in 2010, suggesting a 50% drop in both cases and deaths. In the first quarter of 2011, of the 484 specimens received, 236 (49%) were positive with the predominant pathogen being Nm W135 (79%), *S. pneumoniae* 16% and Nm A 1.3%. In the corresponding quarter 2010, the predominant pathogen was still Nm W135 (45%) followed by Nm A (27%). As is the case for Burkina Faso, the drop in proportion of positive specimens due to Nm A in 2011 compared with 2010 possibly related to the men A conjugate vaccine introduction.

**Mali:** In the first quarter of 2011 153 cases and 7 deaths were reported, compared with 238 cases and 16 deaths in the corresponding quarter of 2010. Of the 121 CSF samples received only 20 (16.5%) were positive with the predominant species Nm W135. In the corresponding period in 2010, only 6 samples were positive of which 4 were Nm A. Given the small sample sizes, it is difficult to interpret the trends.

**CONCLUSION**

Burkina Faso, Mali and Niger have recently introduced the men A conjugate vaccine. The first vaccination campaigns were conducted just before the beginning of the traditional meningitis season before December. The introduction of this vaccine may be responsible for the reduction in the number of Nm A cases in these countries. However, more data and analysis are needed to confirm the apparent decline.
WHO AFRICAN REGION GETS ITS OWN STRATEGIC HEALTH OPERATIONS CENTRE

A Strategic Health Operations Centre, known simply as the AFRO SHOC Room, has been established at the Brazzaville headquarters of the WHO Regional Office for Africa.

The facility will serve as the hub for coordinating the response to outbreaks, epidemics, pandemics, natural or man-made disasters and other public health emergencies in the region.

“*We are witnessing a very important moment for WHO in the African Region and for this office in particular*”, WHO Regional Director for Africa, Dr Luis Sambo, said during the official commissioning ceremony which took place recently in Brazzaville.

“This state-of-the-art facility, complete with video and telephone conferencing facilities will ensure real-time communication with WHO Headquarters; other WHO regions; our Country Offices and Intercountry Support Teams (ISTS) at base locations in Libreville, Ouagadougou and Harare; partners, and other rapid response teams operating in the field,” Dr Sambo said.

He added: “*The AFRO SHOC Room will revolutionize our ability to mount coordinated rapid responses, and to save lives more quickly.*”

Built-in electronic storage systems in the AFRO SHOC will ensure storage of large volumes of epidemiological data as well as facilitate detailed analysis of these data.

Situated in a room on the first floor of AFRO’s headquarters in the Congolese capital, the AFRO SHOC is fitted with a dedicated VSAT communication system and satellite plasma television screens which receive dozens of TV channels in different languages, thus enhancing the collection, compilation, verification, risk assessment and monitoring of public health events that could threaten regional health security.

To support the process of outbreak detection, verification, risk assessment and monitoring, WHO has developed a web based application called Event Management System (EMS) which uses the latest information technology and acts as an early warning and response system.

Management of the AFRO SHOC Room

The centre is managed by WHO AFRO’s Epidemic and Pandemic Alert and Response Programme whose primary mission is to support Member States of the African Region to establish and implement functional integrated early warning and epidemic preparedness and response systems that will result in the improved prediction, early detection and rapid and effective response to epidemic- and pandemic-prone diseases that will be the foundation of an integrated regional alert and response system for epidemics and other public health emergencies.

**Functionality of the SHOC Room:**

- Provide facilities for coordination of response to health emergencies within the region.
- Ability to access satellite television broadcasts on multiple touch screens.
- Ability to access political and geographical maps of the region’s 46 Member States, using sophisticated software able to zoom into specific locations (city, village or site as much as possible).
- Communication via e-mail telephone, fax, video, satellite phone, high frequency radio using one or the other as an alternative and backup.
- Ability to access video-conferencing facilities.
- Connection to situation rooms at HQ, regional and country offices as well as WHO AFRO’s ISTs.
- Ability to function 24 hours a day 7 days a week.

The AFRO SHOC boasts an equipment room, a main operations room, two outbreak rooms and a control room.
AFRICAN HEALTH MINISTERS ADOPT BRAZZAVILLE DECLARATION ON NONCOMMUNICABLE DISEASES

The first Africa Regional Ministerial Consultation on noncommunicable diseases (NCDs) ended in the Congolese capital with the adoption of the Brazzaville Declaration on NCDs (available at http://www.afro.who.int/en/clusters-a-programmes/dpc/non-communicable-diseases-managementndm.html).

The Declaration urged urgent action by various stakeholders to address major NCDs and priority conditions which represent “a significant challenge” to people in the African Region: cardiovascular diseases, diabetes, cancer and chronic respiratory diseases, diseases of blood disorder (in particular sickle-cell disease), mental health, violence and injuries.

In the Declaration, the ministers also committed to develop national NCD action plans and strengthen institutional capacities for NCD prevention and control; urged the United Nations to include NCD prevention and control in all future global development goals; and called on WHO, partners and civil society organizations to provide technical support to Member States for implementing, monitoring and evaluating recommendations contained in the Declaration.

The Declaration specifically requested heads of state and governments in the Region to endorse the Declaration and present it to the September 2011 UN General Assembly High-Level Summit on NCDs as the position of the Region on NCDs.

The ministers also requested the UN Secretary General to establish a mechanism to monitor progress of the commitments taken at the UN High-level Summit on NCDs, and called on the WHO Regional Director for Africa to include the regional NCD strategic plan in the agenda of the 62nd session of the WHO Regional Committee for Africa and report progress made in the implementation of the declaration to the Regional Committee in 2014.

Highlights of the Declaration include commitment by the ministers to:

- Strengthen and standardize national health systems to generate disaggregated data on NCDs, their risk factors and determinants and monitor their magnitude, trends, and impact.
- Use all appropriate means including information and communication technologies to promote, intensify and increase health awareness and empowerment of individuals and communities.
- Develop and implement NCD prevention and control strategies, guidelines, policies, legislations and regulatory frameworks including the WHO Framework Convention on Tobacco Control (FCTC) to protect individuals, families and communities from unhealthy diets, harmful use of alcohol, tobacco use and exposure to tobacco smoke and unsafe food; and from violence and injuries, advertising of unhealthy products.
- Reorient national health systems towards the promotion and support of healthy lifestyles by individuals, families and communities within the primary health care context in order to effectively respond to complex social, cultural and behavioural aspects associated with NCDs.
- Further strengthen health systems with appropriate attention to, among other things, health financing; training and retaining the health workforce; procurement and distribution of medicines, vaccines, medical supplies and equipment; improving infrastructure; and, evidence-based and cost-effective service delivery for NCDs.
- Identify and harness existing health initiatives, including global initiatives, to accelerate the prevention and control of NCDs and address integrated care in the context of primary health care and health systems strengthening.
- Support and encourage partnerships, alliances and networks bringing together national, regional and global players including academic and research institutions, public and private sectors, and civil society in order to collaborate in NCD prevention and control and to conduct innovative research relevant to the African context.
- Allocate, from national budgets, financial resources that are commensurate to the burden of NCDs to support NCD primary prevention and case management using primary health care approach and establish sustainable innovative and new financing mechanisms at national and international levels.
MINISTERS LAUNCH PIONEERING INITIATIVES TO TACKLE HEALTH AND ENVIRONMENT ISSUES IN AFRICA

The Second Inter-Ministerial Conference on Health and Environment, held from 25 to 26 November 2010 in Luanda, Angola, adopted the Luanda Commitment which outlines the continent’s health and environment priorities and commits countries to take actions to address them, and accelerate the implementation of the Libreville Declaration. The conference was jointly organized by WHO (World Health Organization) and UNEP (United Nations Environment Programme) and hosted by the Government of Angola.

The priorities listed in the Luanda Commitment include provision of safe drinking water; provision of sanitation and hygiene services; management of environmental and health risks related to climate change; sustainable management of forests and wetlands; and management of water, soil and air pollution as well as biodiversity conservation.

Other priorities are vector control and management of chemicals, particularly pesticides and wastes; food safety and security, including the management of genetically-modified organisms in food production; children’s health and women’s environmental health; health in the workplace and the management of natural and human-induced disasters.

With the Luanda Commitment, countries pledge to accelerate the implementation of the Libreville Declaration, especially because of the effect this will have on the attainment of Millennium Development Goals 4, 5, 6 and 7 relating to child health, maternal health, communicable diseases and environmental sustainability respectively.

The ministers also agreed to mobilize resources available from government budgets and the private sector, and to advocate for and monitor the allocation of 15% of government expenditure to the health sector, as stated in the 2001 Abuja Declaration by African Heads of State, and a substantial increase in government spending on the environment sector.

WHO and the UNEP, the co-organizers of the conference, are requested in the Luanda Commitment to increase their support for the implementation of the Libreville Declaration; broaden the participation of other relevant inter-governmental organizations, development banks and regional economic communities; and establish a mechanism to facilitate access by countries to existing financial resources for health, the environment and sustainable development, especially climate change funds.

The ministers also formally established the Health and Environment Strategic Alliance (HESA), a novel mechanism to stimulate policies and investments in favour of enhanced joint actions for health and environment in Africa. HESA, the first ever collaboration framework of its type between African countries and two United Nations agencies in Africa, was adopted alongside the other major conference outputs.

Building on the linkages between the health and environment sectors, HESA, now institutionalized, will develop and coordinate actions to effectively protect and promote public health and ecosystem integrity with a view to helping countries attain the Millennium Development Goals.

It will concretely support country efforts through advocacy, resource mobilization, capacity building, technical assistance as well as progress monitoring, as part of the implementation of the Libreville Declaration, adopted in 2008 to reduce environmental threats to human health and well-being.

Also, for the first time, African ministers of health and environment made their strongest pronouncement ever on climate change and health in the region, with the adoption of a Joint Statement on Climate Change and Health.

The statement articulates Africa’s common position on climate change and health, and calls for support for actions aimed at reducing vulnerability and building resilience in the health sector in African countries. It also captures commitments by African ministers to address climate change in the continent, particularly as its effects are likely to be more severe than originally anticipated and may exacerbate the effects of traditional and emerging environmental risk factors on human health, thereby hampering Africa’s efforts to attain the Millennium Development Goals.

The Joint Statement on Climate Change and Health will be tabled before the 16th Conference of the Parties to the United Nations Framework Convention on Climate Change taking place from 29 November to 10 December 2010 in Cancun, Mexico.

Speaking at the closing ceremony of the conference, the Minister of Environment of Angola, Ms Fatima Jardim, said, “Angola can contribute by setting the example and through interaction and information, consolidate the mutual commitments set out in the important tools we have adopted at this meeting and which will serve not only as a link between the health and environment sectors but also to connect us in a commitment as countries of a continent.”

The Regional Director and Representative of UNEP in Africa, Mr Mounkaila Goumandakoye said, “The Luanda Conference is a milestone as the health and environment sectors become credible and strategic partners. I leave this meeting further convinced that the future of Africa is not cast anywhere. It is we who determine this by our commitments, our determination and our actions.”

Assessing the outcomes of the conference, the WHO Regional Director for Africa, Dr Luis Sambo said, “The three tools that we have adopted at this conference are clear and consistent and the decisions we have taken will serve us well in the implementation of the Libreville Declaration.”
The African Health Monitor is a magazine of the World Health Organization Regional Office for Africa (WHOAFRO) published four times a year. It is a multilingual publication with peer reviewed articles in English, French and Portuguese.

The aim of the African Health Monitor is to promote and facilitate evidence-based policy and decisions to strengthen programmes for health promotion, protection, and restoration in the African Region. In order to achieve its aim, the Monitor serves as a medium for publication of articles that monitor the health situation and trends, and track progress toward the health-related Millennium Development Goals and other internationally agreed-upon goals. It will publish and disseminate relevant and scientifically rigorous public health information. It will also disseminate information on public health interventions carried out in the Member States with the cooperation of AFRO technical programmes.

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