



Integrated Service Delivery in Malawi A Case Study

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MEASURE
Evaluation

Integrated Service Delivery in Malawi

A Case Study



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Contents

Acknowledgements.....	iii
List of Tables and Figures.....	viii
List of Abbreviations.....	ix
Executive Summary.....	x
Context.....	1
Integration.....	1
Definition of Integration.....	2
Case Selection.....	3
Senegal and Malawi.....	3
The Case of Malawi.....	3
Support for Service Delivery Integration-Services Project.....	4
Objectives of the Study.....	6
Methodology.....	6
Study Design.....	6
Role of GHI Integration Results Framework.....	6
Data Collection Procedures.....	6
Sampling of Respondents and Sample Size.....	9
Indicator Feedback.....	10
Data Management.....	11
Data Analysis.....	12
Document and Secondary Data Review.....	13
Ethical Review.....	13
Results.....	13
Qualitative Key Informant Interviews.....	13
Consistency of Stakeholder Definition of Integration.....	13
Stakeholder Discussion of Health System Inputs Needed for Successful Integration.....	14
Indicator Feedback Results: Monitoring Progress of Integration Programming.....	18
Client and Provider Interviews and Client Flow Analysis Results.....	20
Client Interviews and Client Flow.....	20
Provider Interviews and Focus Group Discussions with Health Surveillance Assistants.....	23

Discussion	26
Conclusion.....	29
Bibliography	30
Appendix 1. Integration Results Framework.....	32
Appendix 2. Desk Review of Integrated Health Services in Malawi.....	33
Background	33
The Malawi Essential Health Package.....	33
HIV/AIDS and Sexually Transmitted Infections	36
Knowledge of HIV/AIDS.....	36
HIV Prevalence	37
HIV Testing	37
Antiretroviral Treatment/Use	38
Sexually Transmitted Infections	38
Integrated Provision of PMTCT at Antenatal Care Facilities	39
Malaria	39
Mosquito Net Ownership.....	39
Mosquito Net Use by Under-5 Children and Pregnant Women	39
Indoor Residual Spraying	40
Intermittent Preventive Therapy Use by Pregnant Women.....	40
Treatment for Fever	41
Availability of Malaria Medicines, Diagnosis, and Treatment in Health Facilities.....	41
Health Promotion/Exposure to Messages about Malaria	41
Child Vaccination.....	41
Maternal and Neonatal Care.....	42
Family Planning	42
Delivery Services	42
Diarrhoeal Diseases	43
Acute Respiratory Tract Infections	43
Tuberculosis	43
Child Nutrition	44
Breastfeeding.....	44
Micronutrient Supplementation	44
Conclusion.....	44

Appendix 3. Tools and Questionnaires	45
Provider Cover Sheet	45
Client Exit Interview: Under 5 Clinic	45
Client Exit Interview: ANC.....	45
Draft Proposed Indicator: Number of HIV service delivery points that have integrated at least one non-HIV service	45
Draft Proposed Indicator: Number of MNCH service delivery points that have integrated at least one other type of service	45
Draft Proposed Indicator: Number of clients who received two or more services during a single service delivery point visit	45
Appendix 4. Data Collection Tools and Interview Topics.....	46

List of Tables and Figures

Table 1. Summary of Primary Data Collection Activities and Instruments 8

Table 2. Sampled Facilities (All Health Centers) in Central Region 8

Table 3. Indicators Reviewed 10

Table 4. Client Demographics..... 21

Figure 1. Percent of clients receiving service by service type and point of contact..... 22

Table 5. Services Received by ANC and Under Age 5 Clients on Day of Interview by Percentage 22

Table 6. Provider Support and Incentives for Integration by Percentage 24

Table 7. Provider Reporting of Obstacles to Integrated Service Delivery 25

List of Abbreviations

AIDS	acquired immunodeficiency syndrome
ACT	artemisinin combination therapy
ANC	antenatal care
ARI	acute respiratory tract infections
ARV	antiretroviral therapy
DOTS	Directly Observed Therapy Short-course
DHS	Demographic and Health Survey
EHP	Essential Health Package
EmoNC	Emergency Obstetric and Neonatal Care
FGD	focus group discussion
GHI	Global Health Initiative
HIV	human immunodeficiency syndrome
HSA	health surveillance assistant
HSSP	health sector strategic plan
IRS	indoor residual spraying
ITN	insecticide-treated nets
JHU-CCP	Johns Hopkins Center for Communications Programs
KII	key informant interview
LLITN	long-lasting insecticide-treated nets
M&E	monitoring and evaluation
MCH	maternal and child health
MIS	Malaria Indicator Survey
MOH	Malawi Ministry of Health
PMTCT	prevention of mother-to-child transmission
NGO	nongovernmental organization
SP	sulfadoxine-pyrimethamine
SPA	Service Provision Assessment Survey
SSDI	Support for Service Delivery Integration
STI	sexually transmitted infections
TB	tuberculosis
TWG	technical working group

Executive Summary

Integration of services has been adopted in recent years across the health sector as a strategy to improve the availability and access to quality services for populations. Case studies were launched in Senegal and Malawi to conduct in-depth assessments of the integration process. These countries were selected because they expressed a willingness to participate and were in the process of scaling up an integrated service delivery intervention. This report presents the findings from Malawi.

In Malawi, the Malawi Ministry of Health (MOH) and its partners have introduced a package of essential services referred to as the Essential Health Package (EHP). The design of these services responds to national health priorities, including the reduction of maternal, newborn, and child morbidity and mortality. The EHP is meant to be implemented at the fullest extent possible at every level of the health system, from the community health surveillance assistant level to the health center and hospital level. The EHP consists of a package of essential services that should be available directly or by referral wherever a patient with a health need makes contact with the formal health service.

The U.S. Agency for International Development (USAID) supports the implementation of these priorities through its health program Support for Service Delivery Integration (SSDI), led by Abt Associates with Save the Children and other members of a consortium. SSDI works with the MOH to support the implementation of EHP services within the formal public health sector.

The purpose of this study was to document the changes required within the health system to make service integration a reality with the support of such implementing partners as SSDI. The study also aimed to document how the monitoring and evaluation (M&E) systems have been or could be strengthened to better monitor and evaluate integration, including documentation of indicators and information sources in use.

This case study used a mixed-methods approach, combining quantitative and qualitative dimensions. The central region of Malawi was chosen for the study. Within Central Region, 10 MOH facilities were chosen at random. Given the focus on maternal and child health within the EHP, under age 5 and antenatal care (ANC) clinics in each of these 10 facilities were chosen in

which to conduct client (n=762) and provider (n=75) interviews and time studies. Districts and zones representing these facilities were also included in the study. Focus group discussions were held with health surveillance assistants who served in both facilities and communities in Central Region. Representatives from policy, programming, and M&E from the MOH and international implementing partners at the national, regional, zonal, and district level were invited to participate in key informant interviews regarding the inputs, processes, and expected outputs of the study, as well as provide information on how integrated service delivery is monitored and evaluated. M&E specialists among the key informants were also asked to provide feedback on a trio of proposed, non-service-specific, indicators. Data collection took place in September and October of 2014.

All the interviews and analysis, including three of the four indicators were informed by the results framework of integration in the *Global Health Principles Monitoring and Evaluation Resource Guide* (see annex 1 for the framework). Integration inputs included policy and governance; information systems and planning and management functions; human resources; and demand creation. The outputs and results integration were coherent integration of services and increased coverage, acceptability, quality, efficiency, and use.

The case study example demonstrates how Malawi has implemented a comprehensive program to increase the coverage of and access to health services. At the core of the approach is the implementation of a minimum package of services. Our study shows that a majority of patients seen in ANC and under age 5 clinics on the day of interview did receive more than one EHP service. Ongoing supportive supervision was another critical part of ongoing support to providers in assuring the provision of integrated services. Both providers and clients reported greater satisfaction with integrated services over stand-alone services, even when integrated service delivery meant a longer wait for services.

The implementation of integrated service delivery, however, was not without challenges in Malawi. Providers and stakeholders at all levels noted the challenges in maintaining equipment and supplies, having adequate space, and adequate availability of referral services. These findings were echoed in the recent 2013-2014 Service Provision Assessment for maternal and child health (MCH) and HIV services recently carried out in Malawi. Further, the standardized reporting on the outcomes achieved through integrated service delivery and the implementation of the EHP

remains challenging. A single reporting system or set of registers has not been implemented, leading outcomes tracked to vary by implementing partner and service-specific registers and forms to be maintained within single clinics and to be filled by a single provider.

This study used the case study methodology and did not seek to be representative; so these results, particularly in terms of clients and providers, can not necessarily be generalized to the rest of the country. However, the diversity of the types of respondents and study sites should inspire some confidence that the results reflect the typical experience in Malawi, especially at the national level. These findings should be relevant to planners and donors in other contexts who plan and implement integrated interventions and systems that monitor and evaluate the interventions.

Context

Integration

Health service integration is promoted as a way to provide greater access to comprehensive care and ultimately to improve health outcomes for populations while gaining system efficiencies and facilitating sustainable development. Studies suggest integrated health services improve quality of care, increase service uptake, and improve outcomes.^{1,2,3} As such, countries seek guidance on how to plan for, implement, monitor, and evaluate integrated projects. Country-specific integrated strategies need to ensure that the right combinations of services are integrated for the local epidemiology, that interventions build on that health system's strengths and address particular weaknesses, and similarly, that the monitoring and evaluation (M&E) systems are tailored to be able to measure that response.⁴ Such approaches are compatible with the goals of increasing the sustainability and country ownership of public health initiatives.

The challenge to providing guidance to countries on how to plan, monitor, and evaluate integration efforts is to determine what activities they can undertake that will support this highly country-specific process of designing, implementing, and monitoring and evaluating the most appropriate integrated health interventions for their context. The Global Health Initiative (GHI) Integration Principle Technical Working Group (TWG) has begun the process of addressing this challenge by publishing a paper entitled *GHI Principle Paper on Integration in the Health Sector*.⁵ This document provides an overview of the state of integration, definitions, and examples of service delivery packages and integrated approaches. It also contains a scoping tool that can be used to better understand the scope and nature of integration in a specific country.

¹ Spaulding AB, Brickley DB, Kennedy C, Almers L, Packer L, Mirjahangir J, et al. Linking family planning with HIV/AIDS interventions: a systematic review of the evidence. *AIDS*. 2009. 23(Suppl 1):S79-S88.

² Wilcher R, Hoke T, Adamchak SE, Cates W. Integration of family planning into HIV services: a synthesis of recent evidence. *AIDS*. 2013. 27(Suppl 1):S65-S75.

³ Lindegren ML, Kennedy CE, Bain-Brickley D, Axman H, Creanga AA, Butler LM, et al. Integration of HIV/AIDS services with Maternal, Neonatal and Child Health, Nutrition, and Family Planning Services. *Cochrane Database of Systematic Reviews*. 2012. Issue 9. Art. No.: CD010119. doi:10.1002/14651858.

⁴ Reynolds HW, Sutherland ES. A systematic approach to the planning, implementation, monitoring, and evaluation of integrated health services. *BMC Health Services Research*. 2013. 13:168. [Http://www.biomedcentral.com/1472-6963/13/168](http://www.biomedcentral.com/1472-6963/13/168).

⁵ Available at: <http://www.ghi.gov/principles/docs/principlePaperIntegration.pdf>.

In 2014, the United States government produced the *Global Health Principles Monitoring and Evaluation Resource Guide*, which provides ideas for how to measure program-level implementation of the seven core principles of the Global Health Initiative, including “increasing impact through strategic coordination and integration”.⁶ The guide includes an integration results framework that identifies the health systems inputs and processes that lead to the modification of those inputs to result in “coherently” integrated services (i.e., services that are intentionally conceived and implemented to advance an explicit health agenda). The guide also includes three integration global indicators that address increased coverage of effective interventions and expanded access.

In an effort to learn more about the activities countries are undertaking to pursue integration in their context, and to apply that learning to further inform guidance to plan, implement, and monitor and evaluate integration, MEASURE Evaluation, with support from the United States Agency for International Development (USAID) carried out a multi-country assessment in ten countries to achieve a landscape perspective on how countries are choosing services to integrate, the model of integration, the health system elements that facilitate and challenge integration, and the M&E systems.⁷ Those results led to the selection of two countries, Senegal and Malawi, for an in-depth case study. The purpose of this document is to present the results of the study, and to synthesize learning from the assessment and case studies that will help USAID missions and host countries in the planning, implementation, and M&E of integrated health services, and help the U.S. government in general to define and articulate further the learning questions relating to integrated service delivery.

Definition of Integration

The term *integrated health services* takes into account at least two different service types.⁸ The different types of services considered are child health, maternal and newborn health, reproductive health/family planning, HIV, malaria, tuberculosis, and non-communicable diseases such as diabetes, cardiovascular disease, and chronic respiratory diseases. *Integration* is the set of interdependent activities that contribute to improving the social and health conditions of the

⁶ United States government. *Global Health Principles Monitoring and Evaluation Resource Guide*. Chapel Hill, NC: MEASURE Evaluation; 2014.

Available at <http://www.cpc.unc.edu/measure/publications/ms-14-85>.

⁷ MEASURE Evaluation. *Findings from a Multi-country Assessment on Integrated Health Services*. Chapel Hill, NC: MEASURE Evaluation; 2014. Available at: <http://www.cpc.unc.edu/measure/publications/tr-14-115>.

⁸ United States government, 2014.

population and environment through the provision of quality interventions and based on the skills and capabilities of human resources and the availability of equipment, materials, medicines, and financial resources.⁹

Case Selection

Senegal and Malawi

Senegal and Malawi were chosen as countries in which to carry out case studies on integrated service delivery. Case study countries were selected based on the following criteria:

- successful implementation at scale (or near scale) of an integrated service delivery intervention;
- participation in the 10 country assessment;¹⁰
- willingness to participate as a case study model; and
- implementing integration in a low-resource setting.

The Case of Malawi

Malawi is a landlocked country in southern Africa that is bordered by Mozambique, Tanzania, and Zambia. The country has 28 districts and is divided into three administrative regions: North, Central, and Southern. In 2011, Malawi's population was estimated to be 14.4 million with approximately 15.3% residing in urban areas. Children under five years of age constitute approximately 17% of the country's population and women 15-49 years old comprise another 22%.

Malawi's national health sector strategic plan (HSSP) 2011-2016 is focused around the delivery of an Essential Health Package (EHP) of services. The HSSP aims to increase coverage of high-quality EHP services; strengthen performance of the health system to support the delivery of EHP services; reduce risk factors to health; and improve equity and efficiency in the delivery of quality EHP services.

⁹ United States government, 2012.

¹⁰ MEASURE Evaluation, 2014.

Since the diseases and conditions that are included in the EHP affect the majority of the population in Malawi, and especially the poor, the MOH is committed to ensuring that EHP services are delivered free of charge, with universal coverage for all Malawians. The EHP conditions are the following:

- HIV/AIDS
- acute respiratory infections
- malaria
- diarrheal diseases
- adverse maternal and neonatal outcomes
- non-communicable diseases and trauma
- tuberculosis (TB)
- malnutrition
- cancer
- vaccines
- neglected tropical diseases
- mental illness
- eye, ear, or skin infections

Support for Service Delivery Integration-Services Project

Support for Service Delivery Integration (SSDI) services is Malawi's flagship USAID-funded service integration project. The project is led by Jhpiego and implemented in partnership with Save the Children, CARE, Plan International, and 10 local community-based organizations. The project leverages the work of two other USAID-funded projects—SSDI-Communication, led by Johns Hopkins Center for Communications Programs (JHU-CCP); and SSDI-Systems, led by Abt Associates—to support a comprehensive approach to strengthening health systems in 15 of Malawi's 28 districts.

The goal of SSDI-Services is to assist Malawi in successfully reducing fertility and population growth, lowering the risk of HIV, and reducing maternal, infant, and under-five mortality rates, by scaling up access to EHP services, enhancing the quality of care through training, clinical mentoring, supervision and facility improvements, and increasing community participation to

improve health outcomes. The project strategy is to bring high-impact, cost-effective services out of facilities and into communities to increase access to services while simultaneously easing the burden placed on over-worked health facilities.

SSDI-Services is working with the MOH to integrate family planning and nutrition into HIV, HIV into MCH, and nutrition into community-based programs to achieve “no missed opportunities.” This means that any time a client comes into contact with the health system, the client should be able to access as many needed services as possible. MCH is considered the base service platform onto which other services are integrated. The specific integration model may vary depending on differing conditions (including the health system level, infrastructure, services offered, number of providers at the facility, and the national guidelines). For example, in small facilities a single provider may offer all available services, whereas in larger facilities services may be offered by different providers within the same facility.

To complement what is happening at the facility level, a national community-based health worker program offers integrated services at the community level in an effort to improve household-to-health facility continuum of care (linking households to the health center and, as needed, on to the district hospital). In this program, services are offered at the community level in an integrated fashion by trained community health workers known as health surveillance assistants (HSAs). HSAs conduct health education activities, distribute mosquito nets, provide family planning services, provide antenatal support and referral, and provide case management and referral for febrile and diarrheal illnesses.

SSDI-Services aims to improve performance at all levels, including community, facility, and district levels, through a clinical mentoring process that utilizes a variety of approaches, including regular and timely supportive supervision, PQI assessments of service delivery, recognition of good performance, and use of mobile technologies to reinforce learning. All of these approaches are designed to build the capacity of community and facility-based health workers and their supervisors to deliver and manage high-quality EHP services.

Objectives of the Study

The purpose of this study was to document the changes required within the health system to make service integration a reality with the support of such implementing partners as SSDI. The study also aimed to document how the M&E systems have been or could be strengthened to better monitor and evaluate integration, including documentation of indicators and information sources in use.

Methodology

Study Design

The study design is a mixed method case study that included primary qualitative and quantitative data collection and a desk review of secondary data. The study was limited to the Central Region of Malawi due to budgetary and logistical constraints. Despite this, the team believes that the types of health facilities and wide range of health outcomes found in Central Region are similar to those that might be encountered in public facilities nationwide.

Role of GHI Integration Results Framework

The GHI integration results framework (see appendix 1) guided the design of the interview guides and generated themes for the analysis of the interview transcripts. The framework was used to understand what inputs, processes, outputs, and outcomes were being applied and examined in the Malawi integration example.

Data Collection Procedures

Respondents: Data were collected from respondents from all levels of the health system who were relevant for the study of integration. In summary, the following types of data were collected from the following types of respondents:

1. Key informant interviews (KIIs) were conducted with national, zonal, and district-level program staff, including MOH staff, at each level; and with donors, and implementing

partners. In addition, KIIs were also conducted with M&E officials associated with these programs to seek more in-depth perspectives on M&E processes unique to integration and feedback solicited on three draft integration indicators developed by the Interagency Technical Working Group on Integration.

2. Interviews were conducted with service providers of ANC and under age 5 services on the challenges and opportunities related to integrated service delivery in a sample of health facilities in the Central Region. In addition, focus group discussions (FGDs) were conducted with HSAs to seek their perspectives on integrated service delivery.
3. Interviews were conducted with ANC and under age 5 clients (i.e., pregnant women and mothers of children under age 5) about their experiences in accessing care in clinics providing integrated services.

Data collection: The primary data collection activities and tools used for the study are summarized in table 1.

MEASURE Evaluation subcontracted with the UNC Malawi Project, based in Malawi, to handle the collection and management of data for the study (with oversight and support from MEASURE Evaluation).

All data collection tools were initially developed in English, translated into Chichewa, pre-tested, revised as appropriate after the pre-test and finalized in both English and Chichewa. Data were collected in both English and Chichewa, depending on the respondent type. All final data were translated into English.

Sampling of facilities: For the provider interviews, client flow analysis, and patient exit interviews ten health facilities were randomly selected from all government facilities providing both ANC and under age 5 services in Malawi's Central Region. The sampled facilities and facility characteristics are summarized in table 2.

Table 1. Summary of Primary Data Collection Activities and Instruments

Data Collection Activity	Data Collection Tool	Level of Data Collection	Respondents
Qualitative data on links between integration and the health system	In-depth Key Informant interviews	National	Administrative representatives of national-level stakeholders familiar with programs and policy
Qualitative data on the M&E of integration	In-depth Key Informant Interviews	National	M&E specialists representing national-level stakeholders who can speak to the details of M&E of integrated health services in Malawi
Feedback on proposed integration indicators	Indicator Review Tools	National	M&E specialists representing national-level stakeholders who can speak to the details of M&E of integrated health services in Malawi
Qualitative data from zonal and district health officers	In-depth Key Informant interviews	Zone/ district	MOH officials who represent the Zones and Districts containing the sampled health facilities
Qualitative data from providers of integrated services	Provider Interviews	Facility	Providers, Supervisors, and Managers providing or supervising services in ANC and under age 5 services on the interview
Quantitative client flow analysis	Client Flow Analysis Tool	Facility	Providers serving clients within ANC and under age 5 clinics
Qualitative data from clients of integrated services	Client Exit Interviews	Facility	Clients who have received services in ANC and under age 5 clinics on the interview
Qualitative data from health surveillance assistants	Focus Group discussions	Community	HSAs who provide integrated services to children, mothers, and young families in the communities

Table 2. Sampled Facilities (All Health Centers) in Central Region

Zone	District	Facility name
Central West	Lilongwe	Diamphwe
Central East	Kasungu	Kawamba
Central East	Salima	Lifeline
Central West	Lilongwe	Matapila
Central West	Lilongwe	Mbang'ombe 2
Central East	Salima	Mchoka
Central East	Kasungu	Mpepa
Central West	Lilongwe	Nathenje
Central East	Kasungu	Ofesi
Central East	Dowa	Thonje

Sampling of Respondents and Sample Size

This is a descriptive case study that seeks to maximize sample sizes in order to describe client and provider experiences with respect to integration. Qualitative interviews and focus group sample sizes were chosen to provide the greatest amount of data richness possible given the limitations of budget and logistical constraints.

The sample size varied depending on the data collection technique that was used.

National, zonal, and district KIIs: The study team attempted to interview a representative from all national-level partners and stakeholders involved in integrated service delivery, and wherever possible, a M&E representative from the partner. The total number of national stakeholder representatives and M&E representatives interviewed was eleven and six, respectively.

Representatives from the Central Region were chosen for the zonal and district level interviews. Three zonal (one M&E representative) and eight district (four M&E representatives) KIIs were conducted.

Provider interviews, provider time budgets, client flow analysis, and client exit interviews: Service providers and clients were selected for the provider and client interviews and provider and client flow analysis from the 10 sampled health facilities (see table 3). Seventy-five ANC and under age 5 providers, and 762 ANC and under age 5 clients were interviewed.

The sample size for client interviews was calculated to determine whether more than half of all clients were receiving more than one service. This point estimate was chosen because the goal of integrated services is to meet the multiple health needs of clients during a single clinic visit. The team's assumption was that it would be reasonable to hope that more than half of all clients were experiencing this intended benefit of integration. Furthermore, the sample size to calculate a point estimate of 50% was the greatest possible sample size for a point estimate, as this was the point with the widest confidence interval.

HSA focus group discussions: Finally, focus group discussions were conducted with HSAs in the districts where the 10 sample facilities were located. A total of three HSA FGDs were conducted. Each focus group discussion included eight to 12 participants.

Indicator Feedback

The Integration Principle TWG, through program document and literature review and a series of consultations with experts from the U.S. government, implementing partners, and other donors with field experience implementing, monitoring, and evaluating integrated programs, developed a set of indicators to measure and track progress towards integrated service delivery in the health sector.

Three of these indicators, referred to as global indicators, were reviewed in the field as part of this study to assess the feasibility of collection at the country level for global GHI reporting, analysis, and use. These indicators, summarized below, attempted to measure increased coverage of effective integrated interventions, expanded access of integrated services per client contact, and improved uptake of integrated services.

Table 3. Indicators Reviewed

Integration Results Framework Element	Indicator	Proposed Data Source
Coverage and access	<ul style="list-style-type: none"> Number of HIV service delivery points that have integrated at least one non-HIV service. Part 1: Number of HIV service delivery points supported by PEPFAR that are directly providing integrated voluntary family planning services. Part 2: Number of HIV service delivery points that have integrated at least one non-HIV service other than family planning. 	Routine monitoring
Coverage and access	Number of MNCH service delivery points that have integrated at least one other type of service.	Routine monitoring
Uptake	Number of clients who received two or more services during a single service delivery point visit.	Special study or routine monitoring

Details for the indicators, including guidance on disaggregation, are found in the *Global Health Principles Monitoring and Evaluation Resource Guide*. The objective of the indicator field review was to assess whether the indicators made sense in the country context and, if these or similar indicators were already being collected; whether the indicators could be collected through routine data sources or if they required special studies; if the indicators could be collected through routine sources; if primary data collection tools could easily be adapted to capture the indicators; and the feasibility of other elements such as frequency of collection.

Data Management

Data collection and management for the study was handled by the UNC Malawi Project with oversight and support from MEASURE Evaluation. Specifically, the UNC Malawi Project was responsible for recruiting, training and supervising data collectors, translating data collection instruments from English to Chichewa, pre-testing the instruments and advising on the needed revisions, and managing the study data until all data files and interview transcripts were transferred to UNC's secure servers via a secure file transfer. At UNC, the data were stored and archived on a secure server housed by UNC's Odum Institute.

Data collector training and supervision: The data collection team consisted of experienced data collectors, a data collection supervisor, and a data management expert who was responsible for all aspects of data collection. All data collectors were fluent in both English and Chichewa.

All data collectors received study-specific training on the data collection instruments, data handling procedures, and research ethics. An M&E Advisor from MEASURE Evaluation traveled to Malawi to facilitate the data collector training and participate in the pre-testing of tools to ensure quality control.

Instrument pre-test: All data collection tools were developed in English, translated into Chichewa, and pre-tested during the period from September 23, 2014 to September 25, 2014. Afterwards, the tools were revised, as appropriate, and finalized.

Translation of interviews: Interviews and focus group discussions were conducted in either English or Chichewa, depending on the fluency and comfort level of the different types of respondents.

All finalized interviews were translated into English by the data collectors.

Data Analysis

The analysis and presentation of results were guided by the main elements of the Integration TWG Results Framework that is presented in appendix 1. Analysis is descriptive and includes summary tables and the presentations of major themes with illustrative quotes.

Qualitative analysis: All key informant interviews and focus group discussions were recorded and transcribed. Thematic analysis of the data was done using NVivo. The interviews were analyzed using theme analysis. Codes for the theme analysis were initially structured by the Integration Results Framework. Other codes were developed as they emerged during the analysis. The framework is organized by levels: integration inputs, integration outputs, integration outcomes, health outcomes, and impact. The impact of integration programming is envisioned to be sustainable improvements in health status. Before this vision can be realized, however, it is expected that integration programming will contribute to specific health outcome indicators for HIV/AIDS, TB, malaria, NTDs, maternal mortality, family planning, child mortality, and nutrition. Integration outcomes can be described as the direct benefits of integration programming to the health service delivery. Expected outcomes include improved coverage, access, acceptability, use, quality, and efficiency of health interventions. Integration outputs are not service delivery results, but rather health system level results. Examples include manuals, trainings, policies, and procedures that facilitate the implementation of coherent service integration models by health providers. These changes can be documented at the facility level. Service integration models include minimum packages of essential services, no missed opportunity in service provision, linkages across facility-based and community-based care, and effective referrals. And finally, integration inputs are the resources necessary to run the health system. These resources are grouped together into sub-systems, which include policy and governance, planning and management, human resources, laboratory, health management information systems, and demand creation.

Quantitative analysis: Patient and provider flow data were collected in pen and paper surveys and entered into a pre-programmed Microsoft Access database. The data files, once queried and cleaned, were then imported into Stata for analysis. Data analysis included the presentation of

summary statistics and descriptive analysis. Analysis was univariate and bivariate due to the descriptive nature of the study. Presentation of data includes frequencies, proportions, means, medians, and data ranges.

Document and Secondary Data Review

A thorough document review was conducted to understand how integration is captured in national policies, national M&E plans, programmatic guidance, operating procedures, etc. Data that shed light on the key inputs and outcomes associated with integration in Malawi (such as the most recent DHS, MICS, and UN Child Health Household Survey), were reviewed and secondary analysis from these sources used to place results of the case study thoroughly in the context of the current health context of Malawi. The full review is included in appendix 2.

Ethical Review

The study protocol including informed consent language, documentation of ethical training, all study data collection instruments, and study procedures were submitted to and approved by both the Malawian National Health Sciences Research Committee and the UNC Institutional Review Board.

Results

Qualitative Key Informant Interviews

KIIs document views on integration and the health system inputs, processes, and outputs that make integration possible in Malawi.

Consistency of Stakeholder Definition of Integration

Varying definitions of integration were addressed in all 17 key informant interviews. A diverse set of definitions from participants was collected. Almost all participants reported that there was not a common definition of integration in Malawi. Some participants were not able to provide a definition, but could provide examples of integration programming. Participants who provided definitions often included the concept, “more than one service is provided to a patient at the same

visit.” Model-based definitions were also common and included terms such as “under one roof,” and “one-stop shop.” Another program or model referenced by participants was Option B+, which was defined as “where family planning services were integrated into ART settings and pre-ART and ART was integrated into ANC services wherever possible.” Most respondents chose to focus on specific services that were currently undergoing integration under their management at the time of the interview. A few respondents discussed the integration of HIV, sexual health, and reproductive health services. Some respondents discussed the integration of HIV testing and TB testing, while others were working on integrating nutrition and maternal and child health services.

Often times, respondents spoke about integration as an approach or practice without describing a specific intervention which resulted in a health system change. As integration inputs and outputs were explored with respondents, a nomenclature emerged. If a respondent was discussing the EHP, he or she was commenting on what was accomplished at the national level. If a respondent was providing information about system strengthening or providing examples of integration demand creation, they were often telling stories about NGO activities. If respondents were discussing the approach “under one roof,” they were providing successes or challenges concerning a specific facility, a type of facility, or with a set of facilities in mind. When respondents told stories of “no missed opportunities” with patients, these stories were almost always about an HIV-positive client. There was very little detail provided by the interviews that linked integration models to specific interventions and interventions to facility level outputs. This also reflected on why respondents were hesitant in providing a single agreed upon definition of what “integration” means in the Malawi context, despite the detailed service delivery guidelines and essential service package, and their response was largely dependent upon whether they were working for the national MOH, district MOH, or an NGO implementing partner.

Stakeholder Discussion of Health System Inputs Needed for Successful Integration

Human resources: During the interviews, participants at all levels were asked to discuss changes made to the health system, and then to describe the health system as it is now. In other words, the types of integration inputs that were noteworthy and the integration outputs they observed during the course of their work.

A dominant theme for most respondents when discussing how well the health system functioned; how well integration could be implemented, or the benefits integration could bring to Malawi was the major human resource problem. The human resource/training/task shifting concerns resonated with participants at all levels of the health system, however, at the national level participants explained how “under one roof” was problematic in small sites with one worker. Others at the national level and with implementing agencies explained that although integration takes careful training, planning, and, at times, physical restructuring of facilities, it was worth the effort so that limited human resources could be used to maximum advantage. Another participant at the district level proposed that quality of care when implementing integration truly suffered because the medical staff was not sufficient in numbers. Lack of human resources was also cited as a cause of the difficulties in monitoring and evaluating health services.

Policy, governance, commodities, and finance: Another important theme was policy and governance. During interviews, a common topic was the implementation of integration being driven from the national level. Some respondents, at the subnational level and among NGOs, expressed frustration. They explained that although health service delivery sites were expected to integrate services, planning and reporting remained stove-piped. Other respondents at the national level and among implementers suggested that a key to success was in allowing, under national policy, integration to look different at different levels. These respondents argued that specific technical offices or experts were necessary at the national level to maintain high quality services; and that integration can be achieved at the patient level as long as the national-level offices are also integrated and plan together. The need to perhaps do more to plan together at the national level was conceded.

However, participants described other health system management changes that have successfully supported integration. For example, strategic use and restructuring of facilities, integrating transportation resources, and integrating budgets were noted ten times each (among 17 key informants). On strategic use of facilities one participant at the national level said, “Other facilities because of the structure set up they would have a separate HTC clinic and within the same compound they would have an ART clinic. Now someone has been found HIV positive, she will be escorted to the ART clinic that is partial integration. So, in complete integration what we are doing is you get counseled, come for ARTs in the very same clinic, so you continue with the services until you finish. Like in STI the patient is treated until she finishes the treatment and they

will be transferred to ART because it is where they will continue treatment and they can start right there. So, they may not move around. But in other clinics where we have problems of structures they will meet and be counseled by another person.”

One participant from the district health office related that district offices support integration by providing transportation, “I would say transport to reach areas where we are providing service integration. And also experts in the service integration are not enough. Sometimes it is shortage of people to work in these integrated service facilities.” Some participants also provided examples of the strategic use of basic medicines and supplies. More than one participant mentioned that integration has freed up condom supplies to be used for both family planning and HIV prevention interventions.

Integration outputs and outcomes: An example of an integration output is understanding the numbers of people who must receive additional training to deliver integrated services. Many respondents close to the service delivery level (so among subnational MOH staff and NGOs) knew of trainings with integration-specific objectives that took place recently. A few respondents discussed their role in organizing or tracking these trainings.

Respondents were asked to describe any changes in the M&E system related to tracking outputs and outcomes generated by integrating services. Almost all respondents recognized that the patient registers and logs were in need of revision in order to reflect the integration of services. One respondent from an implementing agency said, “What I am trying to say is that monitoring has not been integrated. When you go to a facility you see that there are several registers that are verticalized. There is a Family Planning register; there is a Maternity register and the like. Those ones do not capture the services in an integrated manner. In my opinion, I think there may be probably need to have one or two registers to capture services in an integrated manner than to have so many registers that are verticalized.” This serves as a good example of a gap in integration programming in Malawi.

Integration outcomes were also discussed in the key informant interviews. Integration outcomes are the changes made to health service delivery. Many participants were comfortable making a link between changes in the health system to changes in the health service delivery based on their

experiences, although many of those same participants stated the need for evaluations on the topic. For example, participants noted that health service delivery efficiency was improved by structural changes to facilities; changes in the management of commodities; changes in transportation management; and expanding community outreach. Destigmatization was mentioned by most participants as a positive result of integrated services that led to increased acceptability, and therefore improved access to services. HIV services or family planning services were mentioned often when discussing stigma. Better coverage was discussed most often in reference to community outreach that allowed people in rural areas to obtain better access to services and “under one roof” which allowed people to access different services on the same day or at least at the same facility. Examples of better uptake and use were discussed concerning ANC and HIV integration with the aim that every pregnant woman be tested for HIV and provided additional HIV services if necessary. Responses concerning quality often hinged on destigmatization of HIV or STI services because no one would know if you were coming to the clinic on the day HIV services were provided. Other quality themes touched upon the drawbacks of pushing integration too aggressively. An example of a supervision visit was given by an interviewee at the district level. During the visit, it became clear that clinic staff had marked down that women who attended an ANC clinic visit tested negative for HIV, when the women in question had not been tested for HIV at all. Clinic staff had perceived pressure to test all ANC clients and had filled out the forms with those goals in mind, without thinking of the negative consequences for patient care.

The following is the participant’s story. “But there [are] other issues that are of concern like I will give an example of when I went for supervision to one of the sites I found documentation in the ANC register that they had seen 30 women at ANC clinic having first visit and they were all tested for HIV and were negative. So looking at the location that I was I became suspicious thinking that, so nobody out of 30 women that were tested had tested HIV positive so I went to check in the HTC register and put it against the ANC register. I was expecting to find the same clients that appeared in the ANC register on that day to be found in the HTC register but to my surprise I only found that there [were] only nine out of the 30. So when I asked they said ‘oh well, no, the HSA left he had to go somewhere so we just matched here so that next time she comes she will be tested.’ And I said, ‘no! no! no! so you are telling the provider that this woman is negative and the woman that she is negative and the next she comes she will not be offered HTC because its written here that she had an HIV test and is negative.’ This is terrible quality of care and very unacceptable

and nobody identified it. So it's the little things like those and I have seen it in a number of facilities. So it shows that some health workers, especially the lower level, don't understand that some of their actions directly affect the health of the people. I mean that connection is just not there. Especially the cadres like HSAs, for them it's just writing something on the paper they don't realize that if they record that the pregnant woman is negative and by the time she is found that she is HIV positive maybe in the labor ward it will be too late.”

Indicator Feedback Results: Monitoring Progress of Integration Programming

In general, all respondents communicated that monitoring the progress of integration was very important. Most respondents expressed the opinion that simple service statistics combined with knowledge about integration goals and objectives should serve managers well in monitoring integration progress. Throughout the interviews, M&E experts from all levels and all organizations reiterated the need for this approach in the monitoring of integration programming. Given that the total number of M&E professionals numbered less than 10, no effort has been made to present the feedback by level and organization represented, as saturation was not reached.

After discussing their current practices, participants were asked to provide feedback on three draft indicators under consideration by the USAID headquarter office. The main themes were indicator usefulness, data collection feasibility, and the clarity of the indicator definition. Respondents provided feedback for the indicators that matched their area of work. Respondents may have provided feedback on more than one indicator.

Results are organized by indicator and then by theme.

Indicator: *Number of HIV service delivery points that have integrated at least one non-HIV service*

A majority of participants concluded that the indicator was useful and that the indicator appropriately matched the program. Three interviewees reported that they currently report on and use this indicator. The variations on the indicator were HIV service plus a TB service, or HIV service plus a FP/Reproductive Health service. No one raised any immediate or obvious quality concerns about this indicator that would undermine its usefulness. The reference sheet was clear

to most participants. Some participants requested a clearer list of what was considered “other” services and a clearer list of service delivery sites as a part of the definition.

Participants considered data collection feasibility to be high. Data would be collected from the district level training records or could be found at the NGO or in national MOH planning materials. In other words, if the site reported integration staff training or provision of integrated services, it could be counted and reported.

Indicator: *Number of MNCH service delivery points that have integrated at least one other type of service*

All participants said the indicator had the potential to be useful and that the indicator somewhat matched the program in Malawi. Many respondents identified immediate quality concerns that could undermine the usefulness of the indicator; specifically, that the list of MNCH services was too long. Participants explained how bundling the services together basically rendered the indicator useless. Respondents often commented, “what services are left to be included in one other service?” The reference sheet appeared to be clear to most participants. Many participants took the time to point out that the indicator could be revised to be more strategic, and more specific to Malawi. For example, “Nutrition plus one other service” would help to monitor the food and nutrition integration attempts for child health. This suggestion reflects a general sense among participants that nutrition services are not adequately being provided on the ground, a sense that was supported by our provider interviews which named “nutrition services” as the service most commonly not available in their clinics.

Participants were not highly optimistic about data collection feasibility because of the programmatic issues with the indicator noted above. Respondents stated that it may be possible to acquire data from the district level training records or from the iNGO or national MOH planning materials. In other words, if the site reported integration staff training or provision of integrated services, it could be counted and reported.

Indicator: *Number of clients who received two or more services during a single facility visit*

Most participants concluded that the indicator was useful and that the indicator appropriately matched the program. Three interviewees (from NGO partners and at the district level) reported currently reporting on and using this indicator. The reference sheet appeared to be clear to most participants. Some participants asked for a clearer list of other services and service delivery sites.

Participants, including some who were trying to use this indicator, explained that data collection feasibility was very low. This indicator would require a unique identifier to avoid massive double counting, or client tracking studies of the sort conducted as part of this case study. Unique identifiers are rarely possible at sites in Malawi. A few participants suggested that the indicator could be rewritten to be collected by exit interview on a periodic basis.

Indicators as a set: Most integration M&E experts interviewed suggested that the strategic nature of integration programming was not taken into account with these proposed indicators. Several participants explained how program managers carefully chose sets of services to be integrated depending upon need and feasibility using current program data. Umbrella indicators, such as HIV sites that integrated one other service and MNCH sites that integrated one other service, will not be helpful to the integration program or to national planning. A few participants at the national level (who often report to multiple donors) suggested that they would also prove to be useless to the donor, providing the following point, “what if the program is an HIV and FP integration program? Won’t you be reporting 10 sites for the first indicator plus 10 sites for the second indicator? Won’t this list call for you to double count your sites?”

Client and Provider Interviews and Client Flow Analysis Results

Client Interviews and Client Flow

Clients interviewed and included in the client flow analysis included 383 ANC clients and 379 parents (all women) attending an under age 5 clinic with a child. Demographic characteristics of the clients included in the study are summarized in table 4. In general, the client populations of these two clinics were very similar, though under age 5 clients were slightly less likely to still be married and were slightly older, and slightly more parous, on average.

Virtually all clients received the base service being offered at their respective clinics, including routine antenatal care and child wellness checks (including vaccination and growth monitoring). However, client tracking data also showed that significant percentages of clients in the study also received at least one additional essential health package service. Of the ANC and under age 5 clients in the study, 64.6% and 42.1%, respectively, received two or more essential health services on the day of the study. For ANC clients, the most frequently accessed additional services included HIV services (HIV Testing and Counseling or ARVs), malaria services, under age 5 services, or other curative services (such as treatment for URTIs, treatment of wounds or abscesses, or respiratory infections). Smaller subsets of these women (fewer than 5%) also reported receiving other services, including postnatal care or family planning. The most common additional services reported by under age 5 clients included malaria services, nutrition services, or treatment for other curative services. Very few of these clients also received HIV services, family planning, or antenatal or postnatal care services on the day of the study (figure 1).

Table 4. Client Demographics

	Under Age 5 Clients	ANC Clients
Number interviewed	383	379
Client age	17-45, median 23	18-45, median 22
Percent married	92%	97%
Number of living children	1-10, median 2	1-10, median 1
Percent traveling 1 hour or more to reach facility	73%	80%
Percent who report that finding time to travel to facility is difficult or very difficult	50%	30%

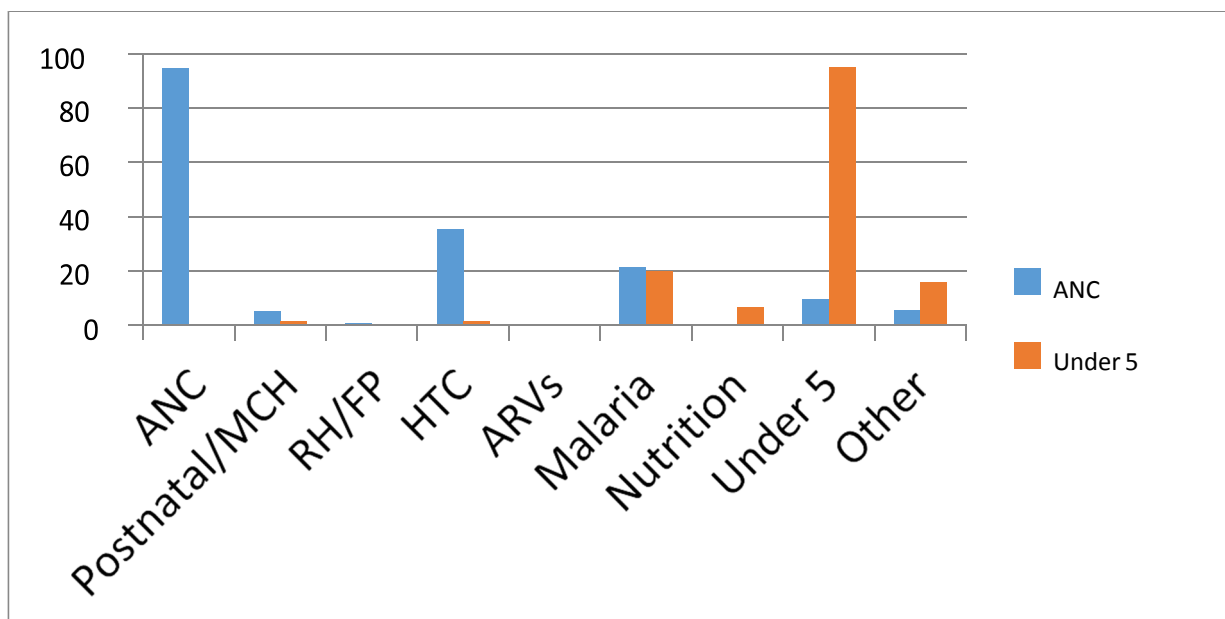


Figure 1. Percent of clients receiving service by service type and point of contact.

Client interviews revealed a high level of satisfaction with services received, with approximately 90% of clients satisfied or highly satisfied with the services they received on the day of data collection; a similar proportion reported having received the service that they had sought in coming to the health facility. However, 12% of ANC clients interviewed and 8% of under age 5 clients interviewed left the facility without receiving a second service that they had been hoping to obtain (table 5). The reasons most frequently named for this failure to receive a service were the absence of a particular provider who could offer that service, or a stock out. No clients interviewed reported receiving a referral for services on the day of data collection. Finally, while 45% of under age 5 clients and 60% of ANC clients thought that their wait times on the day of data collection had been too long for the number of services they received, a full 85% of both groups reported a preference for a longer wait time to receive more services in a single visit, rather than a shorter wait time for a single service.

Table 5. Services Received by ANC and Under Age 5 Clients on Day of Interview by Percentage

Service Outcome	ANC	Under Age 5
Received referral	none	none
Satisfied with services received	91.3%	90.8%
Receiving more than one service	42.1%	64.6%
Leaving without a hoped-for service	12.1%	7.9%

One limitation of this study was that it was conducted in Central Region only. Therefore, the desk review (found in appendix 2 of this report) was conducted to look at client EHP-related health outcomes according to DHS and MICS surveys in the past to get a sense of how different the clients we see in Central Region may be from the clients we might have surveyed in Northern or Southern Region. This review indicates that there are some differences in health outcomes between regions of Malawi, with Southern Region having the highest HIV prevalence. However, Central Region tended to have the clientele with the least knowledge about HIV and other health outcomes such as malaria and TB, despite having the worst malaria and TB outcomes in the country. Also, in large part, other than HIV, differences in the health outcomes were fairly small and more correlated with rural vs. urban status, education, and marital status, than with region.

Provider Interviews and Focus Group Discussions with Health Surveillance Assistants

Survey interviews and provider time budget data were conducted with providers in under age 5 and ANC clinics on the same day that client interviews and client flow analysis data were collected. In total, 75 providers at the 10 facilities were interviewed. These providers ranged in age from 23-49, with a median age of 34 years. The range of experience found in providers was hugely variable, ranging from providers who had been on the job for two weeks to those with 20 plus years of experience. One-third of those providers surveyed were supervisors. About half of those interviewed were health surveillance assistants (working part time in facilities and part time in communities). The other half were predominantly nurses. The remaining providers included one medical doctor, two pharmacists/pharmacy techs, and five HIV counselors.

When asked to describe integrated service delivery at their facilities, about half considered their facility to be a “one-stop shop” for all the essential health package services. The remainder relied on referrals to link clients to all the services in the essential health package. The single service in the essential health package that was most commonly reported as “unavailable” in both under age 5 clinics and in ANC clinics was nutrition services.

There was near universal agreement among the providers interviewed that integrated service delivery is more satisfactory for both clients and providers than single service delivery. There was also near universal agreement that supportive supervision for integrated service delivery was

provided on a regular basis; 100% of providers reported that this type of supervision was “very valuable” in helping them to successfully integrate services (table 6). However, there was also 100% agreement that integrated service delivery had “significantly” increased the workload for providers for M&E and recordkeeping, since now providers are reporting on so many different types of service delivery, each with their own forms, registers, and recordkeeping. Providers generally spent between 10 minutes and 90 minutes at the start of each day organizing for the day’s clinic by reading paperwork, cleaning, and organizing supplies. Additional time needed to fill in service records was wrapped into each client contact. While the paperwork burden was considered large, providers did see a use for the data collected, reporting that the data were used for planning at the facility level, in particular for anticipating commodities and staffing needs. Much bigger problems, to providers, were a lack of space, supplies and equipment, and the lack of availability of referral services (table 7).

Table 6. Provider Support and Incentives for Integration by Percentage

Providers Reporting	Response	
Receiving supportive supervision in integration	86.1%	
Receiving supportive supervision at least quarterly (of those receiving supportive supervision)	90.9%	
Finding supportive supervision for integration to be helpful	100%	
Receiving incentives for providing integrated services	16. 2%	
Types of incentives reported (by those who report incentives)	88%	materials and equipment for health facility
	44%	work allowances
	22%	personal goods such as t-shirts and cooking oil

Table 7. Provider Reporting of Obstacles to Integrated Service Delivery

Possible Obstacle to Integrated Service Provision	Percent of Providers Reporting Obstacle as “Big Problem”
Length of queue	27.4%
Number of services patients need in one visit	11.0%
Extra training needed/required for staff	61.6%
Extra reporting required for integration	16.4%
Referral services needed for integration not available	50.7%
Lack of equipment/supplies needed	68.5%
Lack of physical space	56.2%

In addition to the facility-based interviews and time budget information, health surveillance assistants were also interviewed in focus group discussions to describe the range of essential health package services that they provided when based in their assigned communities. Some of the services that health surveillance assistants provided in communities included:

- family planning
- follow-up on HIV-positive families, pregnant women, malnourished women and children, and following referrals
- health and hygiene talks
- child vaccination
- tetanus vaccines to women
- chlorinating water
- cholera epidemics
- tracking vital events
- distributing food supplements
- linkage to other community resources outside the health sector (e.g., providing a referral to agricultural extension to a family struggling with malnutrition)

Health surveillance assistants reported several barriers to their work, including the size of catchments (up to 2000+ persons) and the difficulty in finding suitable housing. Largely, barriers consisted of material assistance to their work including foul weather gear, bicycles, and stationery. Stationery was the most consistently mentioned problem, mentioned repeatedly in all three focus group discussions.

HSAs reported a high degree of job satisfaction, reporting that they believed their role was very valuable and worthwhile despite the long hours and low pay. They also reported a belief that the M&E data that they collected was of importance. This last point, they reported, was given credence because those at the district would notice and thus come to collect data that were late. Further, they believed that the data helped them to demonstrate the importance of their roles within the communities, and were useful to them in planning their own service delivery (for example, by planning more water and sanitation talks during an observed uptick in cases of diarrhea).

Health surveillance assistants also reported that for their work to be successful they must establish and maintain their credibility in their assigned communities. Part of this included being up to date on new and emerging health emergencies. By being called on during cholera epidemics, they believed they should be looked to as authorities and sought for help during other health emergencies such as Ebola (currently active in West Africa at the time of data collection). They also mentioned that if they referred community members to services at the facility, then they would be blamed if the client did not receive good treatment when they presented for services. For this reason, HSAs reported that they would often accompany their referrals to the clinic in order to advocate for their clients. HSAs also mentioned that uniforms, certifications, and other official “badges” are helpful in establishing credibility in the community.

One important point to note is that all the providers interviewed in this study were drawn from sample facilities that were all health centers. Our desk review revealed that health centers are the best equipped and service ready facilities in all regions of Malawi. There is therefore reason to question if this study may have discovered additional challenges to integration if we had drawn a sample of facilities that had included a wider range of health facility types. This pattern was confirmed in the most recent SPA survey that was released in 2015 after the conclusion of the desk review for this report.¹¹

Discussion

¹¹ DHS Program 2015. Malawi 2013-2014 HIV and MCH SPA. Available at <http://dhsprogram.com/what-we-do/survey/survey-display-424.cfm>.

Malawi has made great strides in the conceptualization and delivery of integrated health services. This progress has been, in large part, attributable to a strong, coordinated, national vision for integration as reported by key informants. The country followed a process of convening stakeholders, choosing maternal and child health outcomes as their number one public health priority, choosing an approach to improve those outcomes (effective and efficient leverage of public health infrastructure through integrated service delivery at all levels of the health system), and defining an essential health package of services to be available to women and children presenting for care, either onsite or by referral. By creating service guidelines based on the integrated service delivery model and mandating the provision of this essential health package in all public facilities, the policy and governance input paved the way for changes in other health system inputs, perhaps most notably in human resources (training of staff), infrastructure (space to provide privacy during HTC, for example), and technology (including commodities and supplies) which then allowed for successful implementation of the newly mandated integrated service delivery model. However, although the national level has done a great job conceptualizing and delivering integrated services at the service delivery level, at the national and subnational levels, where planning, budgeting, and even M&E take place, informants report things are not integrated, which hinders full integration at the service delivery level.

At the implementation level, Malawi has also made strides in implementing integrated delivery of the EHP at the national level. This point is illustrated by the large percentage of clients in randomly sampled under age 5 and ANC clinics throughout the country's Central Region, who did, in fact, access more than one service in a single visit (on the day of data collection). However, the team's research also indicates that there are areas of implementation that remain challenging and could use additional operations research studies to clarify. For example, nutrition services seem to be a service that was frequently noted as "unavailable" in the facilities that the team visited. Additionally, very few women in under age 5 clinics were accessing family planning services. Finally, almost no referrals were obtained by the clients interviewed, despite a sizeable minority reporting leaving the clinic with at least one unmet health need. Additional research to understand what might be driving these failures to deliver the essential health package, and to assure "no missed opportunities," could be of value in helping the Malawi public health facilities to improve the implementation of these services.

At the level of outputs and outcomes, the integrated delivery of the Essential Health Package had less clear results. Certainly, the overwhelming majority of clients and providers were more satisfied with integrated service delivery as opposed to single service delivery, as reported by the providers and clients in our study. However, the delivery of the package has not come without costs. From the provider perspective, M&E has become more complicated and takes up more time since providers have to use separate forms and reporting systems for the different services that make up the Essential Health Package. Further, not all respondents agreed on what the expected outputs and outcomes of integrated service delivery were and how they should be tracked. Respondents were clear that the goal of integrated service delivery was ultimately to show a positive impact on maternal and child health outcomes that are monitored through surveys such as the DHS, MICS, and so on. However, several possible outputs and outcomes of integrated service delivery were mentioned by key informants reporting on M&E processes, including more effective and efficient use of existing health infrastructure, de-stigmatization of services (such as HIV services) that are part of the essential health package, increased coverage of health package services, and improved access to services at all levels of the health system. However, there was no universal agreement on which of these were national expectations or priorities for integrated service delivery, or how such outcomes were tracked (with, perhaps, agreement that health statistics could indicate improvements in service coverage). It was also unclear whether there was a responsible unit or group at the national level that was systematically examining M&E data for national-level outputs and outcomes of integration efforts. Several key informants specifically mentioned the need for a national-level coordinating body or stakeholder TWG to agree on a set of goals and targets for the outputs of all integrated service delivery efforts. Given the huge success of a coordinated national effort to define the essential health package, the impact that implementation of the Essential Health Package would be expected to have on maternal and child health; and the creation of guidelines for integrated service delivery efforts in assuring that integrated service delivery becomes a reality on the ground, it does seem reasonable to expect that a similar effort or process which seeks to define expected outputs and outcomes for integration; clarify the expected mechanisms by which the Essential Health Package would lead to the expected health outcomes; and to attach a few, well-chosen indicators to those outputs and outcomes that could be universally reported by all facilities implementing the EHP would help to clarify progress that integrated service delivery is making. It is also possible that such a group or process could also undertake a review of the

M&E tools that are being used to collect service data on the Essential Health Package data that could be reviewed to see where possible changes could be made to streamline and harmonize data collection and reduce the reporting burden for providers.

It is important to note that this study utilized a case study methodology that was meant to investigate, explore, and highlight the experience of designing, implementing, monitoring, and evaluating integrated service delivery at the national level in Malawi. As such, the study is not exhaustive and has limitations. For example, the study was not nationally representative, being limited to a random sample of facilities in Central Region, though national-level key informants do speak of the EHP as it is being implemented nation-wide. Further, the facility-based data collection was limited to ANC and under age 5 clinics as two entry points for clients receiving Essential Health Package services. However, the Essential Health Package can be and is often implemented in other clinic settings including HIV Care and Treatment, Maternity and Postpartum wards, and in outpatient clinics.

Conclusion

It is hoped that this study provides insight into the effort that goes into the successful design and implementation of integrated service delivery interventions at a national scale in low-resource settings. It is also hoped that the information contained in this report is of use in generating additional research and efforts to continue to improve the successful effort that Malawi has led in implementing such a comprehensive integration effort. Finally, it is hoped that the lessons that Malawi has learned by doing, and continuing to improve, their integrated service delivery efforts are helpful to other countries seeking to implement a similar model as a means of improving public health outcomes that are priorities in their own epidemiological contexts.

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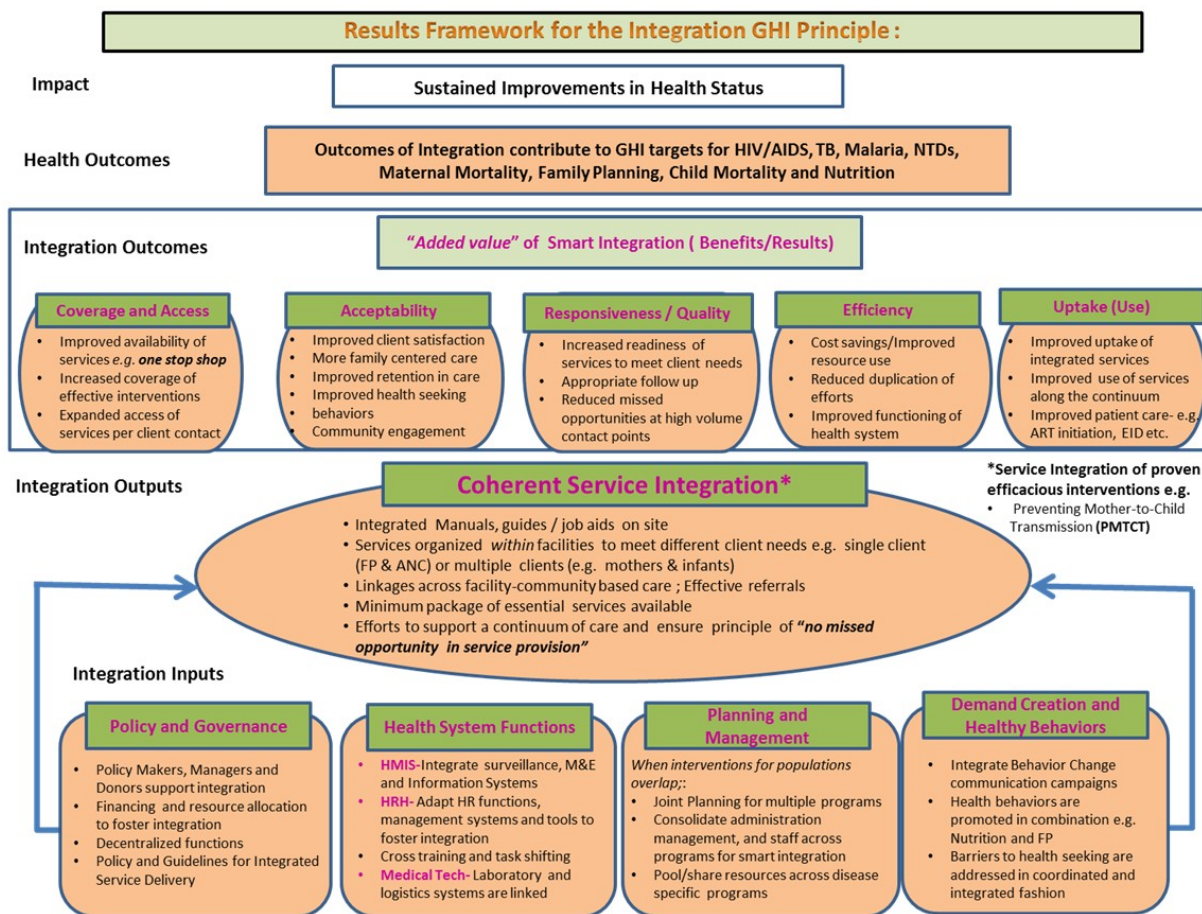
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Appendix 1. Integration Results Framework



Appendix 2. Desk Review of Integrated Health Services in Malawi

Background

Integration of health care services in maternal, neonatal, and child health promotes access to comprehensive care and improves the efficiency of delivery of health services and health outcomes for women and children. In Maharashtra, India, for example, the integration of HIV screening programs within primary health care facilities that provided antenatal care to women was found to have an incremental cost effective ratio of less than USD 1 per woman tested. Among eight primary health clinics in Tanzania where HIV testing was integrated into routine infant vaccination clinics, mothers reported that the integration saved time and helped them to learn the status of their children, and if necessary link them to care. Providers also reported that service integration helped to reach mothers who would usually not come for only HIV testing.

Integration is complex and its effectiveness depends on other characteristics of a country's health system. This review documents the current state of specific health services that relate to maternal, neonatal, and child health services as outlined in the Essential Health Package services for Malawi. Reports from the most recent Demographic and Health Survey (2010), Malaria Indicator Survey (2012), preliminary report of the Service Provision Assessment survey (2013/2014), and peer reviewed literature were the main sources of information. The primary aim of this review was to examine regional differences as well as document demographic differences in the EHP services, to reflect the extent to which findings from case studies in Central Malawi can be generalized to Southern and Northern Malawi.

The Malawi Essential Health Package

The components of the essential health package being rolled out in Malawi to reduce under-five and maternal mortality are shown on the following page.

Essential Health Package Condition	Interventions
HIV/AIDS/Sexually Transmitted Infections	<ul style="list-style-type: none"> • Multilevel behavioral change communication across all sectors • Health promotion • Screening (HIV testing and counseling) • Provision of home-based care • Procurement and provision of male and female condoms • Provision of ART • Provision of PMTCT services • Current procedural terminology • Blood and needle safety

Essential Health Package Condition	Interventions
	<ul style="list-style-type: none"> • Screening and treatment and promotion • Treatment of opportunistic infections • Peer and education programs for high-risk groups • Condom promotion and distribution
Acute Respiratory Infections	<ul style="list-style-type: none"> • Health promotion on recognition of danger signs for ARIs • Early treatment of ARIs using standard protocols • Treatment of pneumonia
Malaria	<ul style="list-style-type: none"> • Health promotion • Early treatment of malaria at household, community, and health centre level • Promotion and use of LLITNs • Promotion and use of IRS • Vector control-larviciding and control of breeding sites • IPT pregnancy
Diarrhoeal Diseases	<ul style="list-style-type: none"> • Health promotion • Early care seeking – use of ORT • Provision of Zinc • Construction of low cost excreta disposal • Provision of home solutions • Promotion of exclusive breastfeeding • Surveillance of water and food quality

Adverse Maternal and Neonatal Outcomes	<ul style="list-style-type: none"> • Health promotion • Promotion and provision of family planning methods • Promotion of institutional deliveries • Provision of services for complications of delivery (Basic EmoNC and EmoNC) • Repair of obstetric fistula
Non-Communicable Diseases and Trauma	<ul style="list-style-type: none"> • Health promotion on awareness about health risks such as smoking and drinking of alcohol, safe driving, and gender-based violence • Screening for risk factors and conditions (cardiovascular; diabetes) • Promote physical activity • Promote healthy diets • Community and facility-based rehabilitation; first aid
Tuberculosis	<ul style="list-style-type: none"> • Community DOTS • Health promotion • Treatment of TB, including MDR

Essential Health Package Condition	Interventions
Malnutrition	<ul style="list-style-type: none"> • Promotion of exclusive breastfeeding • Growth monitoring • Deworming • Micronutrient supplementation • Treatment of sever acute malnutrition
Cancers	<ul style="list-style-type: none"> • Health promotion • Early screening (cervical and breast cancer; Kaposi's sarcoma) • Treatment with cryotherapy and surgery (scaling up)
Vaccine Preventable Diseases	<ul style="list-style-type: none"> • Health promotion • Pentavalent • Polio • Tuberculosis • Measles • Tetanus

Mental Illness, Including Epilepsy	<ul style="list-style-type: none"> • Health promotion interventions to create awareness about mental health • Mental health promotion in schools and workplaces • Treatment of epilepsy • Treatment of acute neuropsychiatric conditions – inpatient • Rehabilitation
Neglected Tropical Diseases	<ul style="list-style-type: none"> • Case finding and treatment of trypanosomiasis • LF mass drug administration • Mass drug administration for onchocerciasis • STH mass drug administration in children • Mass drug administration
Eye, Ear, and Skin Infections	<ul style="list-style-type: none"> • Health promotion on prevention of eye, ear, and skin infections • Treatment of conjunctivitis, acute otitis media, scabies, and trachoma

HIV/AIDS and Sexually Transmitted Infections

Knowledge of HIV/AIDS

Behavioral change communication (BCC) is an integral part of HIV/AIDS prevention and care. If BCC is carried out effectively it can increase knowledge about HIV/AIDS, stimulate dialogue in the community about risk factors for HIV/AIDS, reduce stigma and discrimination for people living with HIV/AIDS, and promote improvement in services for prevention, care, and support. The specific goals of BCC are to:

1. increase condom use;
2. increase appropriate STI-seeking behavior;
3. delay sexual debut; and
4. reduce the number of sexual partners.

Knowledge is an essential foundation for BCC to leverage on. Among reproductive age women in Malawi in 2010, 99% had heard about AIDS. There were very minor differences in the proportion of women that had heard about AIDS between the regions (Central – 99%, Northern – 99%, Southern – 100%) and on other demographic characteristics—age, marital status, residence, education, and wealth quintile. However, knowledge of all HIV prevention methods—

condoms, limiting sexual intercourse to one uninfected person, and abstinence—was lowest in the Central Region. Women at the extremes of the reproductive age groups (15-19 and 45-49 years), those who had never had sex, rural women, those with no education, and women of the lowest wealth quintile were least likely to know about specific prevention methods (table 2). While less than half of the women in any of the regions had a comprehensive knowledge of AIDS, the Northern Region had the lowest proportion of women with a comprehensive knowledge (30%), while the Southern had the highest (48%). Increasing education, socio-economic status, urban women, and women who had ever had sex were more likely to have a comprehensive knowledge of AIDS (table 3). Knowledge of prevention of maternal-to-child transmission of HIV AIDS was lowest in the Northern Region and highest in the Southern Region (table 4). Also, women in the Central Region were the least accepting of people living with HIV AIDS (table 5).

HIV Prevalence

The overall prevalence of HIV among women in Malawi was 12.1% in 2010. This ranged between four percent among 15-19 year olds, to 24% among 35-39 year old women. Women aged 40-49 years had an average HIV prevalence of 18%. The prevalence of HIV was highest in the Southern Region (17.6%), while it was 8.2% in the Northern Region and 9% in the Central Region. Higher educated women, those who were employed, and women in higher wealth quintiles had a higher prevalence of HIV infection. Approximately one in two widowed women were HIV positive; women not in any type of union had the highest prevalence among the different types of unions; those who had slept away from home more than five times in the past year, and women who had not had a birth or utilized antenatal care in the preceding three years had the highest HIV prevalence. HIV prevalence also increased as the total number of lifetime partners increased.

HIV Testing

Among women aged 15 to 49 years who were eligible to be tested for HIV, 92% had the dried blood sample test in the Central Region and 90% in the other two regions. In addition, a higher proportion of rural women (91.0%) tested for HIV compared to 87.7% among urban women in Malawi. There are no clear-cut trends in testing uptake by age, level of education, and socio-economic status.

As regards the coverage of HIV testing, women aged 15 to 19 years, those who were never married, women with no education, and those in the lowest wealth quintile were less likely to know where to obtain HIV tests compared to other women. The regional variation in women who knew where to test was 1.8%, and the Central Region had the highest proportion of women who had never tested (30.9%).

Eighty-two percent of pregnant women received HIV counseling during antenatal care in the Central Region, compared to 89% in other regions. Rural, lower-educated women in the lowest wealth quintile least frequently received HIV counselling. This was the same trend among pregnant women who were counseled, offered, and received testing and results for HIV.

The Malawi SPA 2013/2014 found that facilities in the Southern Region were least likely to have a HIV testing system (75%), compared to 79% in the Central Region and 82% in the Northern Region. Privately managed facilities and health posts were also least likely to have a HIV testing system.

Antiretroviral Treatment/Use

Among women in Malawi who reported being HIV positive, 62% were currently taking antiretroviral drugs. For the PMTCT, 94% of women either took Nevirapine during pregnancy or were taking ARVs daily.

A greater number of health facilities in Northern Malawi offered ART services (73%) compared to the other regions (Central – 65%; Southern – 67%).

Sexually Transmitted Infections

Across the three regions in Malawi, the average number of women who reported having an STI in the past 12 months ranged between 1.8 in the Northern Region to 2.2 in the Southern Region. This trend was also similar among women reporting having an abnormal vaginal discharge and a genital ulcer or sore. Among women who reported having an STI in the past year, 42% sought no advice or treatment and 39% did inform a health professional.

Integrated Provision of PMTCT at Antenatal Care Facilities

The SPA survey in 2013/2014 found that 92% of facilities offering ANC provided PMTCT services. Ninety percent of the facilities in the Central Region had PMTCT integrated into ANC care; the number was 92% in the Northern Region and 93% in the Southern Region. Health posts and dispensaries, as well as facilities managed by NGOs, private individuals, and companies, were less likely to provide integrated care.

Malaria

Malaria is endemic in most sub-Saharan countries, including Malawi. Prevention strategies include the use of long lasting insecticide-treated nets (LLITNs), indoor residual spraying (IRS), vector control, and intermittent preventive therapy (IPT) especially for pregnant women and other susceptible individuals.

Mosquito Net Ownership

The 2010 Demographic and Health Surveys found that almost 7 in 10 households in Malawi had at least one mosquito net. Mosquito net ownership was higher in urban areas and among households of higher wealth quintiles. Ownership was least prevalent in the Central Region (65%), compared to 69% and 70% in the Southern and Northern regions, respectively. This trend was the same for ownership of insecticide-treated nets and long-lasting insecticide-treated nets. The regional trends differed in the Malaria Indicator Survey carried out in 2012, where household ownership of any mosquito net was 60%, and homes in the Southern Region (58%) had the least net ownership while those in the Northern Region had the highest (66%).

Mosquito Net Use by Under-5 Children and Pregnant Women

In 2010, among children aged under age 5 years, females, infants, urban dwellers in the Southern Region, and children in households of the highest wealth quintile were more likely to sleep under a mosquito net during the night preceding the survey. In all regions, less than half of the children slept under a mosquito net the previous night before the survey. In 2012, the MIS survey found only a two percent variation between regions in the proportion of households where children under age 5 slept under a mosquito net the night before the survey. Also, ITN use had increased in both

Northern and Central regions between 2010 and 2012, but it had decreased by four percent in the Southern Region.

In 2010, the use of any mosquito net by pregnant women was least prevalent in the Central Region (40%), compared to the Southern (44%) and Northern regions (48). These differed from findings in the MIS survey in both 2010 and 2012, where use was lowest in the Northern Region. There were also contrasting findings between both surveys on the effect of place of residence, level of education, and wealth quintiles on the proportion of pregnant women who used any mosquito net or an ITN the night before the survey. Between 2010 and 2012, mosquito net use increased in the Central and Southern regions of Malawi, to 54% and 60%, respectively. Use in the Northern Region, however, decreased by more than two percent.

Indoor Residual Spraying

In 2010, more households in the Central Region (4%) had the interior walls of their houses sprayed in the preceding 12 months compared to other regions (0.7% in both the Northern and Southern regions). In contrast, the MIS survey in 2012 found that the lowest proportion of households that had IRS in the past 12 months were located in the Central Region (4%), while the Northern and Southern regions were both above 10%. Rural households and those in higher wealth quintiles (except for the highest quintile) had a greater frequency of having had IRS done in the past year.

Intermittent Preventive Therapy Use by Pregnant Women

IPT use was highest among women in the Northern Region of Malawi (91%), followed by the Central and Southern regions (approximately 89% and 88%, respectively). Rural women, those with no education, and those in the lowest quintile had the lowest use of any antimalarial drug and any number of doses of Fansidar/SP. The MIS survey in 2012 had similar findings.

Treatment for Fever

The 2010 DHS survey found that among children under age 5, a greater proportion had a fever in the two weeks preceding the survey in the Central Region (38%), compared to the Southern (32%) and Northern (29%) regions. This regional difference was similar for children who had a finger or heel prick malaria test done and those who took any antimalarial, irrespective of the timing. There were no clear cut trends by child's age, mother's educational status, or wealth quintile. In 2012, while the Central Region still had the highest proportion of under age 5 children with a fever in the preceding two weeks, it had the lowest proportion of children who took antimalarials the same day or got tested for malaria.

Availability of Malaria Medicines, Diagnosis, and Treatment in Health Facilities

The availability of first line ACT-based malaria drugs was highest in the Northern Region (96%) and lowest in the Southern Region (89%). Ninety-three percent of facilities in the Central Region had ACT antimalarials on the day of the survey. Health posts, privately owned, and corporate facilities were least likely to have ACT antimalarials.

In all regions, at least 96% of facilities had malaria diagnosis and or treatment services. Only 40% of health posts offered these services.

Health Promotion/Exposure to Messages about Malaria

Approximately one-quarter of reproductive aged women had seen or heard messages about malaria in the six months preceding the MIS survey in 2012. This proportion was highest in the Northern Region (34.5%) and lowest in the Central Region (22.8%). Urban women, those with higher education, and women in higher wealth quintiles were more likely to have seen messages about malaria in the preceding six months.

Child Vaccination

The DHS in 2010 found that 72% of infants had completed all the basic immunizations as recommended by the World Health Organization by their first birthday. Among children aged 12-23 months, 81% had completed all recommended vaccinations. Children in Central Malawi were the least likely to have all basic vaccinations (78%), compared to 83% and 84% in the Southern

and Northern regions, respectively. Place of residence, child's sex, and birth order did not show a consistent pattern in the proportion of children who completed all basic vaccines and specific vaccines. However, women with secondary education and those in the fourth highest wealth quintile were most likely to have had their children complete all basic vaccinations.

Maternal and Neonatal Care

Family Planning

Ninety-eight percent of women in Malawi knew a method (modern or traditional) of contraception in 2010. There was virtually no variation between regions in the knowledge of contraceptive methods. Older, urban, and more educated women in the highest wealth quintile were more likely to have a perfect (100%) knowledge of any contraceptive method. This trend was also similar for modern methods. In addition, irrespective of the type, most contraceptives were procured from the public sector. Also, 58% of reproductive aged women reported that they had been exposed in the past months to a message about family planning on the radio. This ranged from 56% in the Southern and Central regions to 69% in the Northern Region; with women in the Central Region being the least likely to be exposed to family planning messages through television and newspapers. Nine percent of women who were non-users of family planning methods in the Northern Region reported being contacted by a family planning field worker. This compares to 12% in the Central Region and 14% in the Southern Region.

Delivery Services

Seventy-three percent of deliveries in Malawi occurred in health facilities. This ranged from 71% in the Central Region to 79% in the Northern Region. Urban women, those less than 20 years of age, those having a first birth, higher socioeconomic class women, and those with more than secondary education were more likely to have had a health facility birth. Seventy-two percent of births were attended by skilled personnel, with the lowest proportion (69%) in Central Malawi. Also, five percent of births were through Caesarian sections. This varied from four percent in Southern Malawi to five percent in Northern Malawi.

Diarrhoeal Diseases

The overall prevalence of diarrhoea in Malawi in 2010 was 18%, ranging from 15% in the Northern Region to 20% in the Central Region. Children aged 48-59 months, females, those with an improved drinking water source and improved unshared toilet facilities, and children of women with more than a secondary school education had the lowest prevalence of diarrhea. Fifty-seven percent of children with diarrhoea in the Central Region were taken to a health care provider for advice on treatment, compared to 66% in the Southern Region and 71% in the Northern Region. The use of ORT ranged from 73% in the Southern Region to 78% in the Northern Region. No child was provided with Zinc supplements in the Northern Region, while 0.2% of children with diarrhoea in the Southern and Central regions were given Zinc supplements. Home remedies for diarrhoea were least frequent in the Central Region (24%) and most frequent in the Northern Region (29%).

Acute Respiratory Tract Infections

Acute respiratory Infection (ARI) is one of the leading causes of childhood morbidity and mortality worldwide, and the early recognition of symptoms and treatment is a proven strategy that is effective. In 2010 in Malawi, the overall prevalence of ARI was approximately seven percent, and Southern Malawi had the lowest prevalence (five percent). Central and Northern Malawi each had a prevalence of about eight percent. Infants aged 6-11 months had the highest age group prevalence (10%).

Tuberculosis

Almost every woman of reproductive age had heard of Tuberculosis (TB) in Malawi (98%), although those in the Central Region were the least likely to have heard about TB (97%). Among those who had heard of TB, a higher proportion of women in the Southern Region believed it could be cured (87%) and that it could be spread through the air and by coughing (83%). In the other regions of Malawi, less than 74% of reproductive aged women believed TB could be cured. Northern Malawi had the lowest proportion of women who knew that TB could be spread through aerosols.

Child Nutrition

Breastfeeding

Breastfeeding has advantages for both infants and their mothers. In addition to being a nutritious source of food, early breastfeeding initiation reduces blood loss following delivery and is a relatively effective method of contraception if practiced exclusively. Ninety-nine percent of children born in Malawi in the two years before the DHS survey were ever breastfed, and 95% of this breastfeeding was initiated within an hour of birth. There was very minimal variation by region or other demographic variable in initiation of breastfeeding. However, the median duration of exclusive breastfeeding was lowest in the Central Region of Malawi, at 3.5%, while it was 3.9% in the other two regions.

Micronutrient Supplementation

In 2010, the proportion of children who consumed Iron-rich foods varied from 48% in the Northern Region, to 43% in the Central Region. Children who were being breastfed, those born to women aged 40–49 years, children of women with no education, and those in the lowest wealth quintile were least likely to consume Iron-rich foods. At least 10% fewer children in the Central Region (63%) were given deworming tablets in the preceding six months compared to other regions. Similarly, children in the Central Region were least likely to have been given Vitamin A supplementation in the past six months.

Conclusions

There were regional variations in the various essential health package services in Malawi. Some of these variations changed over two years of assessment and may reflect changes to policy and intervention efforts following the initial survey. Across most health services, urban, more educated, and higher socioeconomic class women had better indices of health.

Appendix 3. Tools and Questionnaires

Provider Cover Sheet

Client Exit Interview: Under 5 Clinic

Client Exit Interview: ANC

Draft Proposed Indicator: Number of HIV service delivery points that have integrated at least one non-HIV service

Draft Proposed Indicator: Number of MNCH service delivery points that have integrated at least one other type of service

Draft Proposed Indicator: Number of clients who received two or more services during a single service delivery point visit

Appendix 4. Data Collection Tools and Interview Topics

Five collection tools were developed as part of the study to generate answers to questions about the integration process. Interview themes were drawn from the integration framework (appendix 1).

1. *National, Zonal, and District Level Interview Guide*: The use of this tool facilitated collecting information from the main actors implicated in the integration of services at the national level in Lilongwe, and the Regional and Zonal levels in Central Region. The data collected provides insights about: support for integration; procedures in place to adapt existing policies; monitoring and evaluation plans and operational procedures; the allocation of financial resources; the capacities of resource people; the use of logistics and laboratory procedures; mechanisms of planning and supervision; health promotion; and behavior change messages. In addition, an emphasis was made on documenting the monitoring and evaluation system, including the management and reporting and practices; integration indicators; changes taken to document integrated services; issues arising from these services; and existing sources of data.
2. *Health Surveillance Assistant Guide*: This focus group discussion guide sought to engage Health Surveillance Assistants in explaining the services they provided in their assigned facilities and in their assigned communities, with a special focus on how they provided integrated service delivery in the community, how they facilitated the linkage between the communities and health facilities, and what data they collected regarding the services they provided and how those data were useful (or not).
3. *Provider Questionnaire*: This tool focused on available services offered and the referral mechanism, the process of integration in connection with the monitoring and evaluation systems, data use, etc. A time motion tool also was used to understand the tasks that providers undertook on the day of the interview and the time spent on each of these tasks.
4. *Indicators Pilot Tool*: This tool was administered to those in charge of monitoring and evaluation (from iNGOs, Ministry, and at the health facilities). The tool elicits data on the information on integration that is currently collected and solicits feedback on three

proposed indicators to judge the relevance of those indicators to integrated service delivery programs in Malawi.

5. *Questionnaire for Women of Reproductive Age at Community Sites*: Women aged 18 to 49 years participating in health activities at community sites answered questions related to the services they received, the quality of those services, their perspectives on access and availability to services, their perspectives on integrated services, and unmet needs. This questionnaire also included a time motion tool to understand how clients moved through the facility, their interactions with facility staff, services received, and time spent waiting on the day of interview.

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