MCC LESOTHO COMPACT 2008-2013

MCA HEALTH PROJECT LESOTHO

FINAL EVALUATION

MCC-15-PO-0074

EVALUATION DESIGN

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HEALTHMATCH consultancies

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Content

Abbreviations and acronyms

AIDS	Acquired Immune Deficiency Syndrome
AJR	Annual Joint Review, see Annex for explanation
ART	Anti-Retroviral Therapy
BTS	Blood Transfusion Services
CDC	Center for Disease Control
CHAL	Christian Health Association Lesotho
DHMTs	District Health Management Teams
ERR	Economic Rate of Return
FGD	Focus Group Discussion
FWA	Federal Wide Assurance
FY	Fiscal Year
GAVI	Global Alliance for Vaccines and Immunization
GoL	Government of Lesotho
HDI	Human Development Index
HCWM	Health Care Waste Management
HFS 2011	Health Facility Survey 2011
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HSS	Health Strengthening System
ICAP	International Center for AIDS Care and Treatment Programs of Columbia
ICT	Information and Communications Technology University
KII	Key Informant Interview
LMDA	Lesotho Millennium Development Agency
M&E	Monitoring and Evaluation
MCAL	Millennium Challenge Account Lesotho
MCC	Millennium Challenge Corporation
MCH	Mother and Child Health
MDG	Millennium Development Goals
MOH,	Ministry of Health, previously titled MoHSW, Ministry of Health and Social
MSM	Men having Sex with Men Welfare
NHTC	National Health Training College
NRL	National Reference Laboratory
OHRP	Office for Human Research Protections
OPD	Out Patient Department
PDA	Personal Digital Assistant
PEPFAR	President's Emergency Plan for AIDS Relief
PIU	Project Implementation Unit
PMTCT	Prevention of Mother to Child Transmission
PPE	Personal Protective Equipment
PRS	Poverty Reduction Strategy
SACU	Southern Africa Customs Union
Solidarmed	Swiss Organisation for Health in Africa
SW	Sex Worker
TB	Tuberculosis
ToC	Theory of Change
TOR	Terms of Reference
TWG	Technical Working Group
WHO	World Health Organization

I Introduction and background

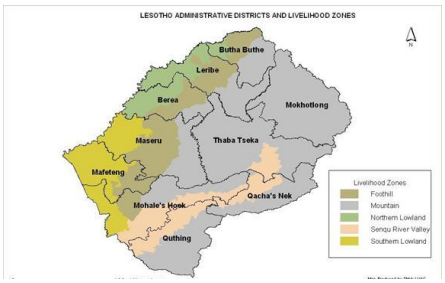
Country context

Lesotho is one of the least developed[1], poorest countries in the world with a high level of income inequality. It is a small, mostly mountainous, and largely rural country of about 2 million people, completely surrounded by South Africa. Preliminary estimates based on the 2010/11 Household Budget Survey[2] show a national headcount poverty rate of 57.1 percent, virtually unchanged from the FY2002/03 survey. At the same time, income inequality increased from a Gini coefficient of 0.51 to 0.53 between rounds of the survey. The bottom 40 percent of the population's per capita consumption contracted 0.4 percent annually over the past five years. By comparison, annual growth was 0.9 percent for the remaining 60 percent of the population, with 1.1 percent for the top 20 percent. Poverty is not only high but also deep—and the depth has increased over time. A poverty gap of about 30 percent indicates that substantial economic growth would be needed to lift a majority of the poor out of poverty. Human development outcomes are below the norms for a country of Lesotho's income level[3]. Lesotho's Human Development Index (HDI) value for 2014 puts the country in the low human development category— positioning it at 161 out of 188 countries and territories[4].

Map of Lesotho, administrative divisions

Geographically, Lesotho is divided into 4 zones, from west to east changing from wetlands to mountains with difficult access. The majority of the population lives in the western part, where the capital Maseru is also situated. Administratively Lesotho is divided in 10 districts, with population varying from 500,000 in the capital district to below 100,000 in eastern districts.

Map of Lesotho, geographic zones



Completeness of birth registration is below 50% and equivalent data on death registration are lacking, showing a weak data base in the country[5].

Health profile

Health indicators for Lesotho reflect its status as Low Income Country. Table 1 shows some of the health indicators as used by the Millennium Development Goals (MDGs) for the Goals directly related to health: Goals 4, 5 and 6, comparing Lesotho with Sub Saharan Countries. Lesotho was off track for these indicators.

Millennium Development Goals

Goal 4 Reduce child mortality
Goal 5 Improve maternal health
Goal 6 Combat HIV/AIDS, malaria and other diseases
www.un.org/millenniumgoals

A striking feature is the increase of mortality rate and decrease of life expectancy since the 90's, which is mainly attributed to the HIV/AIDS epidemic. In other Low Income Countries, tendencies are towards a lower adult mortality rate. Table 2, with indicators for Lesotho and other countries, also shows that the difference in life expectancy at age 60 between Lesotho and other countries in the Sub Saharan region is small and that the decrease of life expectancy is mostly before the age of 60, meaning in the young and productive population.

Table 1 MDG goals for Lesotho and Sub Saharan Africa

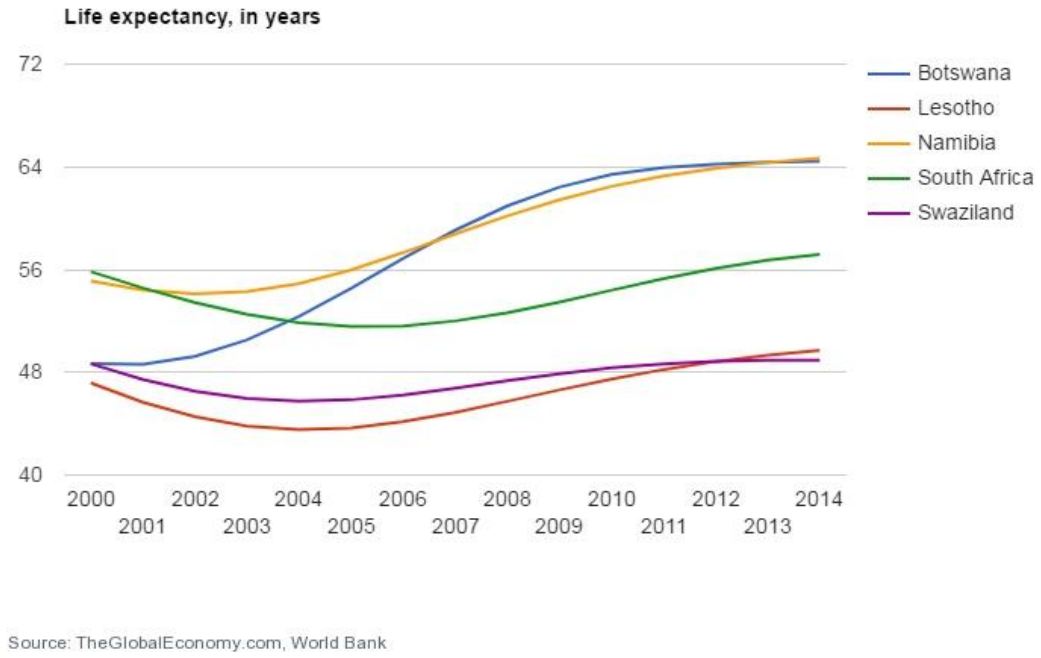
	Goal 4 Under five mortality rate Per 1000		Goal 4 Infant mortality rate Per 1000		Goal 5 Maternal Mortality rate Per 100.000		Goal 6 HIV new infections Per 100 people 15-49 years	
	Lesotho	**Sub Saharan Africa**	**Lesotho**	**Sub Saharan Africa**	**Lesotho**	**Sub Saharan Africa**	**Lesotho**	**Sub Saharan Africa**
1990	86	179	69	107		990		
1995	93		71		525		4.96 (1996)	
2000	114	156	80	95	649	830		0.68 (2001)
2010	123		77		587		2.32 (2012)	
2015	117	92 (2013)	91	61 (2013)	510	510 (2013)		0.29 (2013)
2015 MDG target	**37**		**27**		**93**			
All data from www.un.org.millenniumgoals								

Table 2 Indicators for Lesotho and other countries

	Adult mortality rate = probability of dying between 15 and 60 years per 1000 population		Life expectancy at birth		Life expectancy at age 60	
	Lesotho	Low Income Countries	Lesotho	Africa Region	Lesotho	Africa Region
1990	270	318	59,3			
2000	574	340	47,2	50.6	15.0	15.1
2007			44,9			
2012	528	251	48,8	58.2	15.6	16.2
2013	530	241	49,3	58.8	15.6	16.3
2015			53.7	60	15.8	16.5
Data from worldbank.org						

Nevertheless, by the end of the years 2000-2010, life expectancy started to rise, before the Compact could have any impact, as Figure 1 shows.

Figure 1



Source: TheGlobalEconomy.com, World Bank

Health system

In the context of this report, only several major characteristics of the health system, relevant for later discussions, will be described.

Health Expenditure

The figures 2a and 2b below show, respectively, the total health expenditure per capita, public and private[1], for Lesotho and other countries in the region, and the total expenditure on health as a percentage of GDP. While Lesotho spends a much higher portion of its GDP on health, overall expenditures per person are low due to Lesotho's relatively small GDP. Among the countries of the Southern Africa Customs Union (SACU) , Lesotho has historically had the lowest per capita total expenditure; in 2012 Lesotho spent just $130 , almost half of what Swaziland spent, the next largest spender ($267)[2].

[1]Estimates are in 2011 US dollar equivalents
[2]Dollar estimates are in constant 2005, PPP-adjusted international dollars.

Figure 2a: Total health expenditure per capita in SACU countries, 2005 constant $

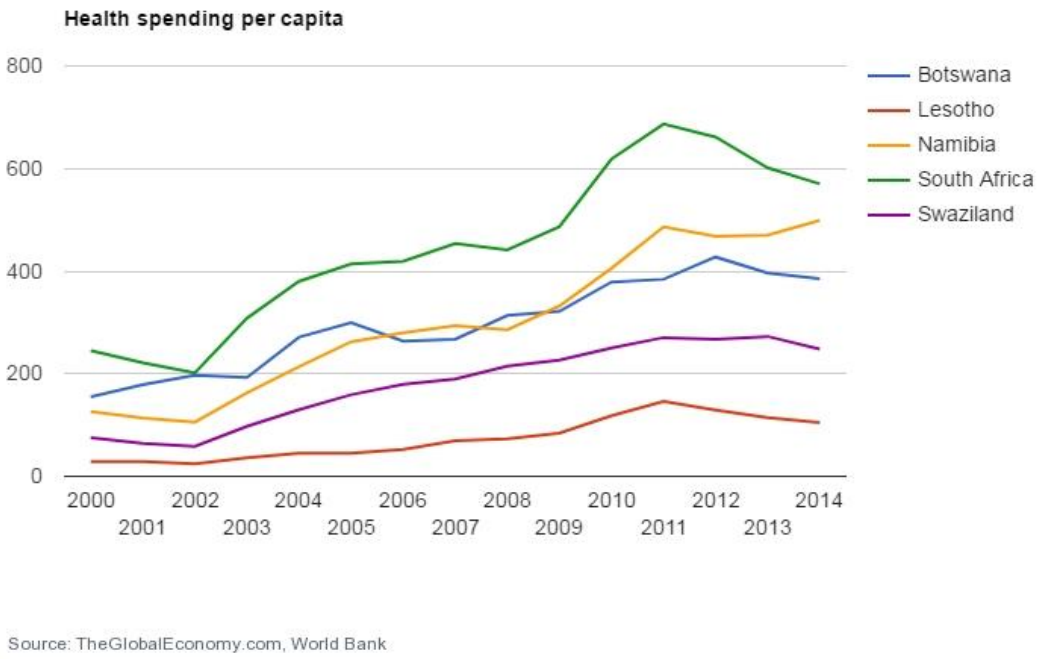
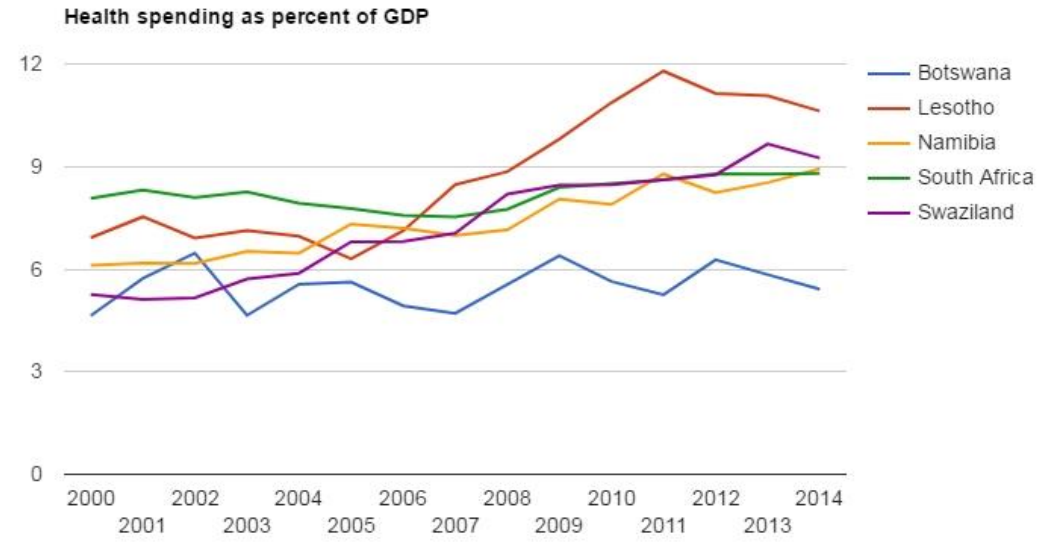


Figure 2b: Total health spending as percentage of GDP in SACU countries,

2005 constant $



Source: TheGlobalEconomy.com, World Bank

Health service delivery

At the time of planning of the Health Project, plans to re-organize health delivery services from 18 health regions to 10 districts, accompanied by decentralization from the MoH to District Health Management Teams (DHMTs), had been developed. The decentralization was considered as a necessary condition to provide for more effective steering, support and supervision of the health services delivery and therefore was a key component of the reforms.

At the bottom of the health delivery pyramid were Village Health Workers (VHWs) and health centers. According to a 2004 report of the MoH, the Christian Health Association of Lesotho (CHAL) did manage 75 of the 171 health centers in the country and the Red Cross Society of Lesotho managed two. The Lesotho Flying Doctors served nine remote health centers in mountain areas. All other health centers were managed directly by the MoH / DHMTs[6]. A 2010 report counts 188 health centers and 3 so called filter clinics, next to more than 100 private surgeries and nurse clinics[7].

In 2009, CHAL and the MOHSW assessed the Health Centers' performance. A summary of the results is presented in Table 3. It shows both the focus on systematic assessment and the insufficiencies in service delivery in the Health Centers[8].

16 district or regional hospitals with adjacent OPDs provided second level services, including diagnostic and treatment services for HIV/AIDS. In the years of planning the Compact, these latter services were decentralized from OPD's to health centers, in order to improve accessibility for the population. This would require strengthened capacity of the health centers, in structural and functional terms.

In the years 2010, a new national referral hospital, Queen Mamohato Memorial Hospital (QMM) in Maseru, was being built and commissioned through a PPP construction with a consortium of South African and Lesotho companies. The hospital started operations in 2011. The 100 year old Queen Elizabeth II hospital was decommissioned as a national hospital.

The Compact repeatedly mentions 'essential health services'. Currently, there is no updated list of essential health services, the last one dating back to 2005. A 2010 assessment categorized the availability of essential health services, using four service delivery categories: MCH (Mother and Child Health) and OPD, TB, HIV and drugs, see Table 3. This list will be referred to when discussing essential health services but it is not the authoritative list in the country.

The health system and health service delivery has been and still is supported by a considerable number of partners, that help to assess, plan, fund and deliver the health system in general and health services in particular. Among them are the World Bank, the African Development Bank, the Global Fund (GFATM), the WHO, the Global Alliance for Vaccines and Immunization (GAVI), the United States Agency for International Development (USAID), the President's Emergency Plan for AIDS Relief (PEPFAR), Irish Aid and a series of NGOs.

Decentralization from the MoH to the DHMT's is still ongoing. This process needs simultaneous and coordinated decentralization in other ministries, like the Ministry of Local Government & Chieftainship and the Ministry of Home Affairs, and proves to take much more time than initially expected. Nevertheless, the DHMT's have picked up a series of responsibilities, like planning and reporting, that makes the district a key unit in the health sector. Several NGO's do carry out programs to develop the capacity of the DHMT's and thus to enable decentralization. This will come back at the discussion of data collection and analysis

Next page:

Table 3 Availability of essential health services in Health Centers, 2010[8]

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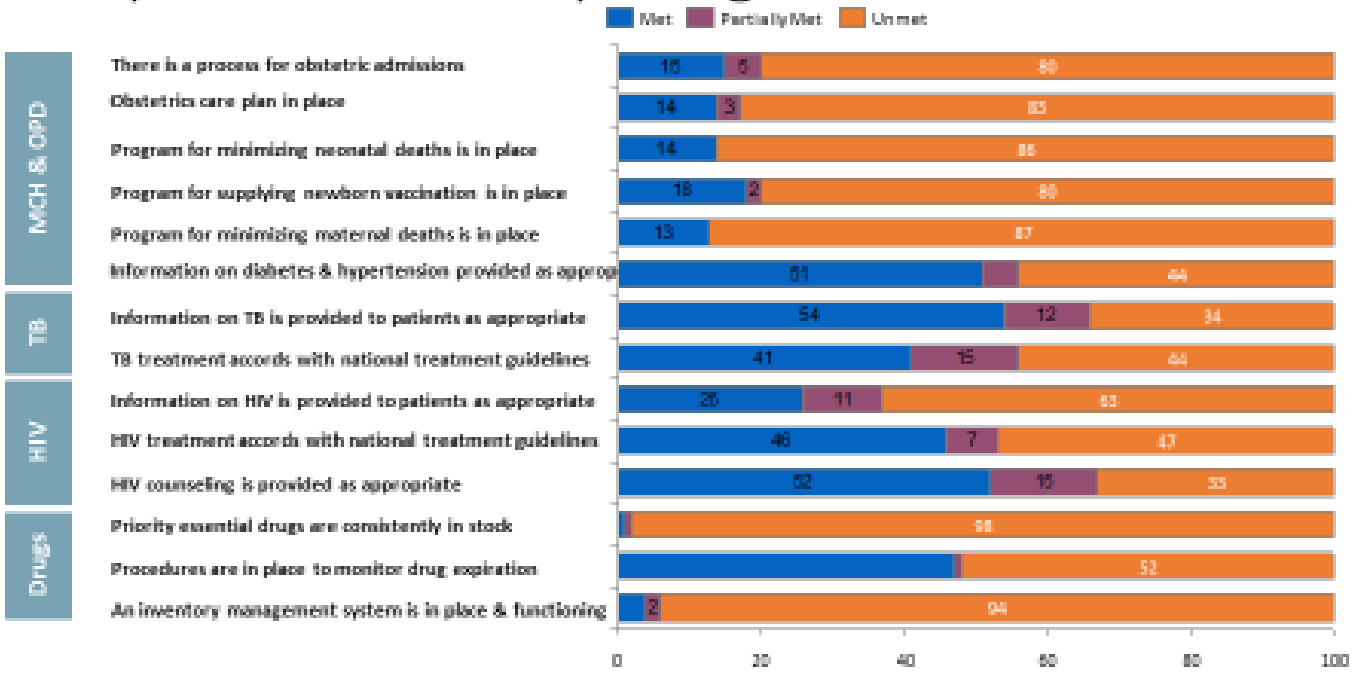
Availability of essential care services in health center level is consistently low across many categories



Note: Assessment based on previously defined essential services, performance would likely be lower for revised list

Source: BOCHAS Hospital and Health Centre Certification and Accreditation, MOHSW 2010

Objectives of this report

This report describes the proposed evaluation design of the Health Project that was implemented from 2008-2013 under the Millennium Challenge Corporation's five-year Compact with the Government of Lesotho. This Evaluation Design Report intends to inform and consult participants and stakeholders, both in MCC and Lesotho, about the evaluation methodology. This report follows the template for Evaluation Design Reports (EDR) that was provided by MCC as much as possible.

After approval of this evaluation design, implementation of the evaluation cam start immediately, as will be further detailed in Chapter 3.

The evaluation is an ex-post evaluation that builds on the Monitoring & Evaluation that was carried out during the Project implementation.

In preparation for the evaluation, the evaluator previously assessed the evaluability of the Health Project[9]. The evaluability assessment aimed to answer the following five questions:

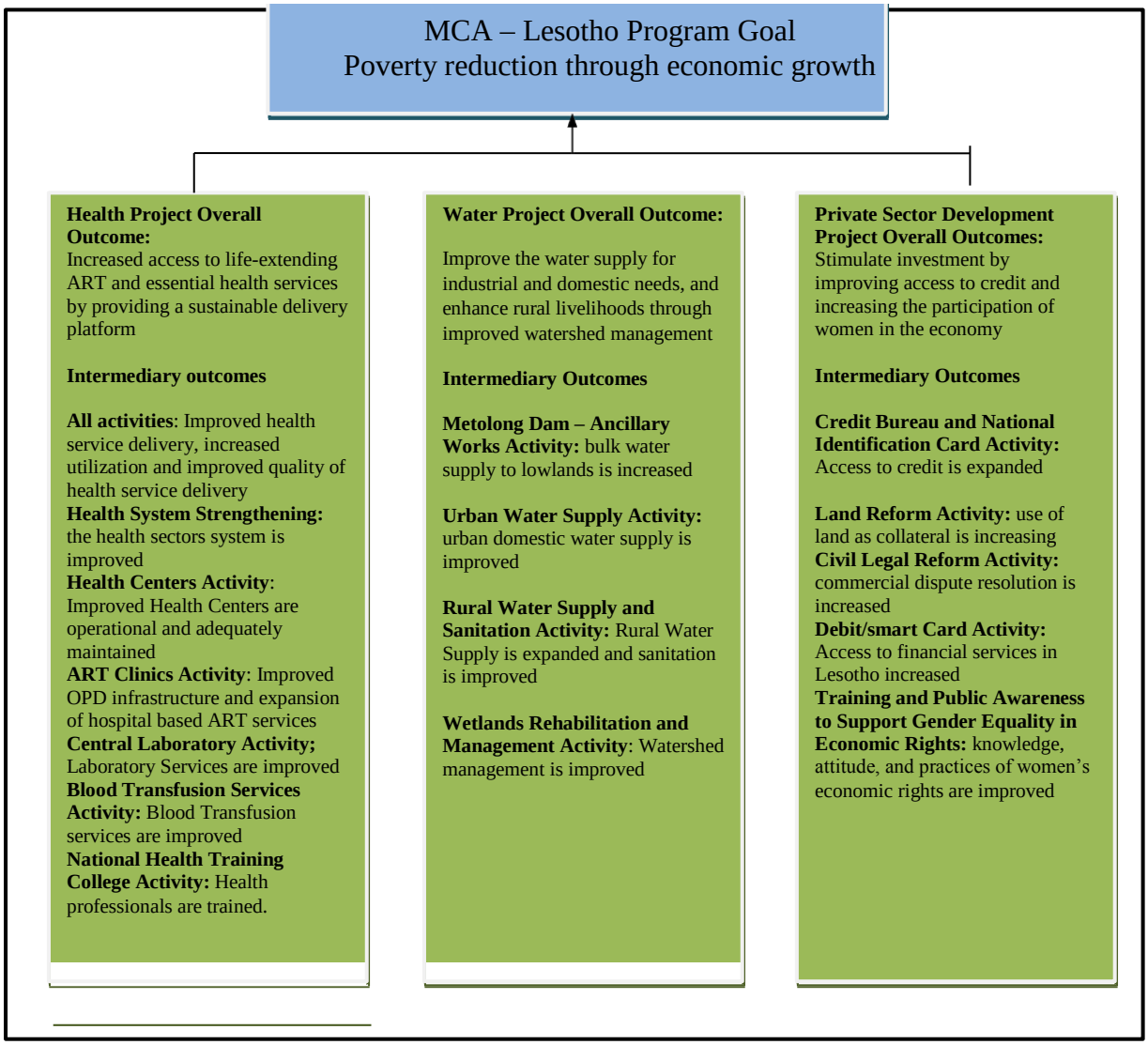
1. Is the problem clearly defined and is there sufficient evidence to support the problem diagnostic?
2. Are the project objectives and theory of change/logic clearly defined?
3. Are the risks and assumptions clearly defined with potential risk mitigation strategies?
4. Are project participants clearly defined and justified in terms of geographic scope and eligibility criteria?
5. Are the metrics for measuring results for both accountability and learning clearly defined?

The main conclusion from the assessment was that an evaluation of the Health Project is worthwhile and feasible in terms of its likely benefits, in spite of gaps in documentation on baselines and implementation. The Health Project has addressed many elements of the Lesotho health system in a complex environment and the evaluation may deliver multiple lessons learned.

2 Overview of the Compact

The Lesotho Compact, which was implemented from 2008-2013, consisted of three main Projects: (a) the Health Project; (b) the Water Project and (c) the Private Sector Development Project. The current evaluation exclusively addresses the Health Project.
Figure 1 shows the overall and intermediary outcomes the three projects intend to achieve, as phrased in the Compact.
Attention is drawn to two features of this Compact planning. First, investments in non-health sectors potentially have a large impact on health. This will be further discussed in Chapter 4. Second, the description of the intermediary outcomes of the Health Project is not entirely consistent, since some are outcomes and others are outputs. This illustrates the challenge to develop a consistent project logic and a coherent package of activities. In several chapters below the project logic will be further discussed.

Figure 3 Compact Goal and three projects, including Health Project, as described in the Compact.



The health project and implementation plan

The Compact also detailed the Activities of the Health Project as with some of them divided in sub-Activities:

1 Renovation and equipment of up to 150 Health Centers (HCs) throughout the country;
2 Renovation and equipment of 14 Out Patient Departments (OPDs) attached at hospitals (out of 16), to ensure HIV/AIDS care (ART clinics);
3 Reconstruction and equipment of a Central Laboratory[3], including staff training
4 Construction and equipment of a Central Blood Transfusion Facility and of two regional centers, including provision of vehicles for mobile units and staff training.
5 National Health Training College
6 Health systems strengthening with the following sub-activities
   - Strengthening of pre- and in-service training capacity
   - Support to the process of decentralization of service delivery; this includes (1) health information, (2) district health management, (3) Tuberculosis (TB) surveillance and infection control, (4) health services quality, (5) health facility maintenance, (6) communications and public outreach.
   - Support to the Research and Development Unit within the Ministry of Health (MoH);
7 Support to Medical Waste Management;

Each of the Activities is described more in detail in the tables 4a to 4g below.

Table 4a Renovation and equipment of up to 150 Health Centers throughout the country (out of approximately 154);	
Participants	After the start of the Compact, 138 Health Centers were selected for (re)construction or rehabilitation. A MCC audit of 2010 challenged the final choice of health centers to be included in the project[10]. Eventually, all 138 Health Centers have been rehabilitated, evenly distributed among the 10 districts, with exception for some very remote areas.
Geographic coverage	
Implementation to date	All 138 Health Centers have been (re)constructed and equipped. Some Health Centers just needed renovation, which means repair and some extension; others needed a completely new construction, due to the dilapidated status and/or location (on a slope). Equipment refers to furniture and medical equipment, like (delivery) beds, lamps, laboratory equipment and simple diagnostic tools. Much attention was paid to the physical environment of the Health Centers. Construction was divided over several lots and several construction companies were contracted but contract execution was met with many difficulties. Supervision of the contractors by the MCA created supervision team varied in intensity. One contractor had to be replaced by several smaller ones after it went out of business. By November 2013, 55 Health Centers had been physically completed, had passed Asbestos

[3] This Laboratory also is referred to as National Reference Laboratory, NRL. In this report, it is further referred to as NRL.

	clearance testing, and had been handed over to the MoH; whereas the remaining 83 facilities were at different stages of completion, either awaiting clearance by the Asbestos Inspection Authority (AIA) or still undergoing physical construction. This led to delays and to 83% completion of renovated/reconstructed and equipped Health Centers by November 2013, 2 months after the end of the Compact. Full completion and equipment on a budget of the GoL was achieved 9 months after the End of Compact. A report on the quality of the (re)constructions was issued in 2014 and highlighted a number of insufficiencies with regards to quality of the reconstructed buildings and their environment.

Table 4b Renovation and equipment of 14 (out of 16) Out Patient Departments (OPDs) attached at hospitals, to ensure HIV/AIDS care (ART clinics);	
Participants	14 OPDs in the 10 districts have been reconstructed and equipped.
Geographic coverage	All 10 districts of the country
Implementation to date	All 14 OPDs had been (re)constructed and equipped by the end of the Compact. There were less difficulties with OPD construction than with Health Center construction. The effect on HIV/AIDS care will be assessed during the evaluation. During the last years, worldwide and also in Lesotho, the approach to HIV/AIDS treatment has changed: from hospital based to primary care based. This means that hospital/OPD's are not exclusively the places to diagnose and treat HIV/AIDS. Next to functioning as a health center in HIV/AIDS care themselves, they now have a reference function for the health centers.

Table 4c Reconstruction and equipment of a National Reference Laboratory, including staff training	
Participants	Management and staff of the National Reference Laboratory (NRL). This is a reference laboratory for the country excluding TB, for which a special laboratory was built simultaneously, adjacent to the NRL. All hospital laboratories in the country can send samples for testing. The NRL can send samples to South African laboratories when it has no equipment or skills for specific tests.
Geographic coverage	
Implementation to date	A new laboratory was constructed in a location in the northern part of Maseru together with the Central Blood Transfusion Facility and close to the National Health Training College (NHTC). Construction and equipment were completed by the end of the Compact.

Table 4d Construction and equipment of a Central Blood Transfusion Facility and of two regional centers, including provision of vehicles for mobile units and staff training.	
Participants	Patients in all 20 hospitals in the country are potential "participants" since blood transfusions are given in all hospitals in the country, with more frequent use in Maseru hospitals. The regional centers would help to make the system of blood collection in the periphery more efficient and result in more units of blood collected.
Geographical coverage	
Implementation to date	Reconstruction and equipment were complete by the end of the Compact.

Table 4e National Health Training College	
Participants	Pupils and teaching staff of the college. The college is one of 6 institutions in the country that train nurses. The college provides courses for six different types of nurses, resulting in diploma's. The Compact originally targeted an increase from 350 to 1000 enrolled pupils; however, this indicator was later removed and an indicator targeting an increase in NHTC graduates from 176 per year to 250 was added. Additional tutors would be employed to manage the increased number of students.
Geographic coverage	The NHTC is located in Maseru. Students come from all over the country and can work in all health facilities in the country that are run by the MoH.
Implementation to date	Reconstruction and equipment were complete by the end of the Compact. Dormitories for 120 students and 6 apartments for staff were constructed + equipped and 50 computers + software were installed for students.

Table 4f Health systems strengthening with the following sub-activities

A Strengthening of pre- and in-service training capacity

B Support to the process of decentralization of service delivery; this includes (1) health information, (2) district health management, (3) Tuberculosis (TB) surveillance and infection control, (4) health services quality, (5) health facility maintenance, (6) communications and public outreach.

C Support to the Research and Development Unit within the Ministry of Health (MoH);

General: Below, the final deliverables of the HSS Activity are listed and described. Several of them were based on assessments and studies, carried out by the Health Project, that are not separately mentioned here for the sake of brevity. A complete list is included in the evaluability report.

A Strengthening of pre- and in-service training capacity by development of a Continuing Education Implementation Plan 2010-2011 and 2011-2012	
Participants	Directly: Ministry of Health is the direct participant and all health professionals employed in health services, who should benefit from continuing training are indirect participants.
Geographic coverage	Available to staff in all health facilities in the country that are run by the MoH.
Implementation to date	All activities have been implemented: the plan has been developed during the Compact. Implementation of the plan will be subject of the evaluation.
B Support to the process of decentralization of service delivery; this includes (1) health information, (2) district health management, (3) Tuberculosis (TB) surveillance and infection control, (4) health services quality, (5) health facility maintenance, (6) communications and public outreach.	
Participants of	DHMT and management of OPDs and Health Centers; health professionals.
Geographic coverage	All Health Centers and OPDs covered by the Health Project
Implementation to date	The decentralization process was supported by the development of a series of guidelines, strategies or plans. (1) Various training documents and manuals in the field of IT and data management were developed in support to MoH. A HMIS Strategic Plan and a EMRS plan were made. (2) Training modules on 'Communication Systems and Procedures' and on 'Transport Management' for DHMTs were developed. (3) No specific activities or deliverables for TB were found. (4) The project developed the following clinical protocols or guidelines: 'Management of Hypertension & Diabetes guidelines in Primary Health Care settings in Lesotho' for physicians and nurses; 'Primary Health Care guidelines for children' for nurses; 'Standard Operating Procedures for Outpatient flow in OPDs in District Hospitals and Health Centers' for clinicians, managers/supervisors and designers. (5) The following strategies and guidelines were developed: 'Inventory and Asset Management Strategic Plan', MoH, Sept 2011, 'Development of Preventive Maintenance Strategy and Inventory & Asset Management System; Asset Management Policy; EPOS', no date. 'Guideline for the Preventative Maintenance Management Strategy, MoH', no date. 'Guidelines and Procedures on compiling Asset Registers including condition assessment criteria'. MoH, Febr 2012 'Specification of the inventory and asset management software system', no author, no date. 'Development of Preventive Maintenance Strategy and Inventory & Asset Management Systems, Risk Management Plan'. Aug 2011

	(6) 'Training-of-trainers curriculum; building the training skills of district health management team focal persons – DHMT-FPs'; 'Community Participation Trainer training manual community facilitators'.
C Support to the Research and Development Unit within the Ministry of Health (MoH);	
Participants	Research and Development Unit of the MoH; potentially all health professionals and students of health related professions
Geographic coverage	All country
Implementation to date	A 'Health Research Assessment' Report was issued in 2010. The MOH Research Ethics Committee was revived and appropriate training and mentoring was undertaken for the Committee on the following; Research & Ethics Clearance system, Research Management & Technical Support, Research Approval Procedures, Guidelines for Submission of Research Protocol, etc. Furthermore, MOH district and central level officers were trained on Operational Research and Research Management (source: PIU exit report).

Table 4g Support to Medical Waste Management;	
Participants	Department of Estate Management of the MoH; management and health professionals of health facilities in the country. HCWM pilot in 15 Health Centers and 2 hospitals in Berea, Maseru and Leribe districts, including separation of health risk waste and general waste.
Geographic coverage	
Implementation to date	Development of a series of policy documents • Health Care Waste Management Policy, August 2010 • Health Care Waste Management Implementation Plan, Nov 2010 • Health Care Waste Management procedures and tools; July 2013 • Health Care Waste Management standards, 12 Sept 2011, • Health Care Waste Management monitoring plan, 4 June 2012, • Capacity building implementation and exit strategy, June 2012 Final, • Licensing and accreditation for Health Care Waste Management, August 2012 • Design of a Multi-Media Communication Strategy for Improved Health Care Waste Management 2012-2013; Febr 2013 • Health Care Waste Management, TRAINING MANUAL, Nov 2012 • Five different posters and signage designs for health staff. • Five different fact sheets and a flipchart for health staff • One flyer for patients/visitors of health centers

Theory of Change

The reconstructed problem definition of the Health Project combines the low health status of the population, as shown by various indicators, and the low capacity of health services to offer care and prevention services[6].

The description of the Health Project in the Lesotho Compact included a series of objectives, activities and outcomes, with a range of indicators at various levels. Some of the Activities and sub-Activities in the Compact were phrased in very general terms and only later during implementation their outputs and expected outcomes were defined. An example of this is the statement in the Compact that '…. there is evidence that the process of decentralization – particularly if not well-managed – can disrupt health services delivery. This is a critical point for health status and health services in Lesotho. This Project activity will provide additional support, in collaboration with the World Bank, to ensure that decentralization is rapidly and sustainably effected in the health sector. Areas of particular attention include health information systems, district health management, TB surveillance and infection control, health services quality, health facility maintenance, communications and public outreach.'

Indeed, the Theory of Change (ToC) of the Health Project was elaborated during the implementation period, with the full logic of the Health Project only completed towards the end of the Compact period. Figure 2 shows the complete logic with the expected connections between the short-intermediate-long term outcomes that result from the various activities, outputs and their complementarity. A number of assumptions was formulated, they are listed in Annex 4.

Specific targets and indicators at output and outcome level have been formulated in the Compact itself and, in parallel to the ToC, they have been progressively developed in the subsequent versions of the M&E Plan. They are listed in the chapter on Evaluation Design.

Figure 4 Lesotho Health Project Logic, next page

Inputs

Funding, staff, and other resources

Activities

Health Centers: renovate up to 138 HCs, equip and furnish, build staff housing

OPDs: renovate OPDs, equip and furnish, train staff on OPD management, incorporate ART services, manage TB co-infection; EMRS

Central Laboratory: design and construct new lab; equip and furnish; training on new equip, expanded service, quality assurance

Blood Transfusion Service: Design, construct, and equip central blood collection and processing facility, provide mobile units, equipment for regional centers, training on new equip, expanded service, quality assurance

National Health Training College: build and equip dorms and staff housing

Health Systems Strengthening: human resources (training and staff retention efforts); decentralization; R&D w/in MoH; HMIS; inventory and asset management (at DHMTs); quality assurance policy and strategic plan; community participation trainers

Med. Waste Management: study practices; update WM plan; develop standards; policies; procedures, provide TA; public awareness, training

Outputs

HCs renovated, equipped, furnished, provided with safe water, reliable electricity, and reopened to public

- OPDs renovated, equipped, furnished, and reopened to public
- OPD staff trained
-EMRS in place

- Central lab constructed/equip **C1**
- Staff trained

- (Central) BTS constructed and support units available; all equipped + equip to regional locations
- Staff trained

- NHTC dorms and staff housing constructed; dorms equipped
- Improve NHTC program (e.g., curriculum, train tutors)
- Increased NHTC staff (with temporary tutors)*
- Computers and software for labs

A7

Develop in-service training

Staff retention policy and career path document in place

HMIS installed with training

Establish IRB, Ethics Board

Train DHMT, buy vehicles,

Public awareness campaign

- Updated WM plan, policies, procedures developed; staff trained; closed systems constructed at remote sites; open system piloted; public awareness; vehicles for HCWM transportation

Immediate Outcomes

Health professionals' perceptions of HCs improved

Patients' perceptions of health facilities improved

- Better integration of ART **A10**
- EMRS used in treatment

Improved work conditions for health professionals

Lower incidence of new TB cases among patients and staff

Expanded quantity of current tests; increase capacity to conduct new tests; quicker, more reliable results

More blood collected, tested

Increased amount of safe blood available for treatment

Increased enrollment of nursing/healthcare stude **A6**

Increased # and quality of ealth professionals raduation rate **A11**

HMIS used in service provision

Research proposals received and **A9**

Improved accountability and local health service provision, --

Safer waste management practices employed (separated, collected, disposed, etc.)

Short-term Outcomes

utilizati

Interm **A2** **A8**

Increased quantity of staff

C2

Increased quality of staff

A1

Tests effectively used in treatment **A3**

A5

Increased amount of safe blood appropriately used in treatment

A4

Decreased risk of infecting staff, patients, and community members due to improper disposal

Expanded services offered

Increased patient satisfaction

Improved quality of care, e.g.,

-reduced wait times

-improved bedside manner

-reduced misdiagnosis

-appropriate course of treatment pursued

A5

Longer-term Outcomes

Improved health outcomes (decreased morbidity and mortality), e.g.,

-reductions in infant, child, maternal mortality

-improved TB treatment success rate

-improved HIV treatment rates

-improved HIV survival rate

Which lead to:

-reduced time spent sick

-fewer days of missed work/school

And ultimately:

-increased productivity

Goal

Reduction in poverty

*The temporary tutors worked with other schools too

Understanding and assessing the Theory of Change

The Health Project can be described as a project that intends to improve the health system's capacity and performance, leading to better outcomes via a complex chain or rather web of relationships and cause/effect mechanisms. The final outcomes are better service delivery that reaches more people leading to a decrease in morbidity and mortality, especially of mothers and children, and a parallel increase in effects of TB and HIV programs. These outcomes result also in more productive lives and finally in a reduction of poverty.

There are various ways to describe health systems. The WHO health systems framework, see Figure 5, is a commonly used framework that describes the system as composed of six building blocks that need to function all in combination to deliver the various goals and outcomes. The building block 'service delivery' comprises the care process at different levels of the health care pyramid, with the basis formed by what is called 'primary care,' see Figure 6. Infrastructure like Health Centers, OPDs and hospitals form the physical part of this block. The outcome 'responsiveness' is considered as an outcome in itself and not just as an intermediary for improved health. Various aspects of the patient experience define the system's responsiveness[11]. The original WHO framework has been modified to include 'health information systems' as an essential component, not included in the figure here. The building block 'medical products and technologies' often is subdivided in supply of medicines, regulatory systems for supply, distribution channels and programs for rational prescribing[12].

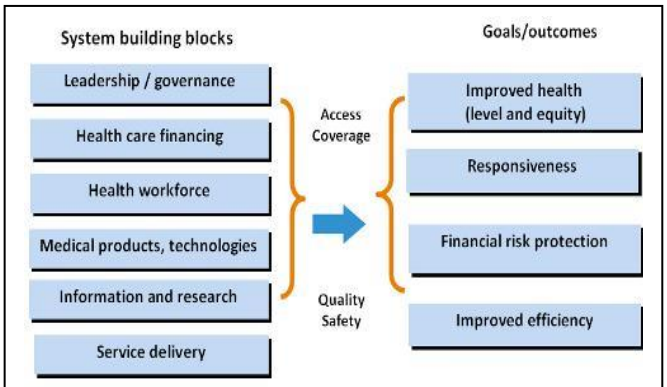


Figure 5 WHO Health Systems Framework

During the years of the development of the Compact, it was obvious that there were problems with all the building blocks. The Health Project has addressed several of them. It focused on the service delivery at primary care and first referral levels, by investing in Health Centers and OPDs, mostly in its infrastructure but also in staffing and working procedures, including waste management. It also addressed the governance function. The Compact worked with the assumption that the MOH and other donors would focus on improvements

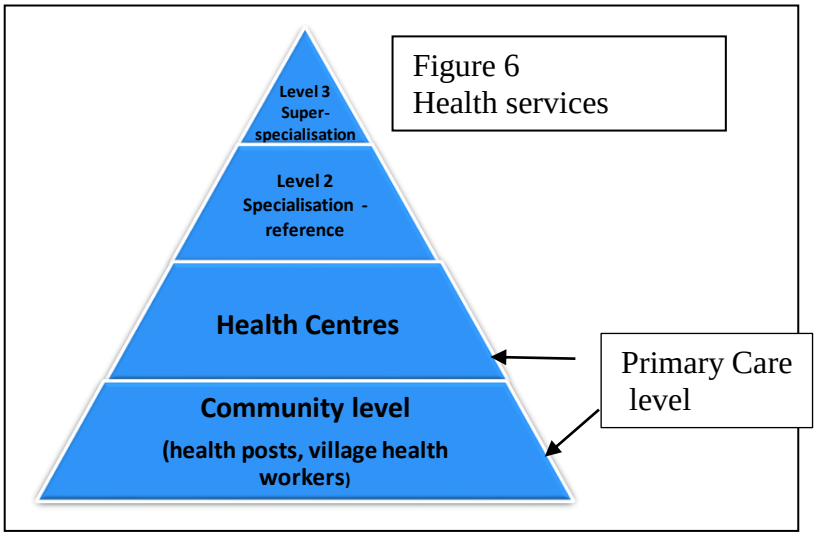


Figure 6
Health services

of other building blocks[4]. Table 4 provides the Evaluator's assessment of the extent to which the Lesotho Health Project addressed the building blocks of the Lesotho health system. The Activities of the Health Project are shown in relation to the components of the Health System that they addressed. Health care financing and medical products and technologies were not addressed and the building block health workforce was modestly addressed by Activity 5 and sub-activities of Activity 6.

Table 5 Extent to which the Lesotho Health Project addressed the building blocks of the Lesotho health system	**Activity 1 Health Center renovation / equipment**	**Activity 2 OPD renovation / equipment**	**Activity 3 NRL**	**Activity 4 Blood Transfusion Facility**	**Activity 5 National Health Training College**	**Activity 6 Health System Strengthening**	**Activity 7 Health Care Waste Management**	**Project Implementation**
% of budget allocated	60	10	2	2	4	8	3	11
Leadership governance	-	-	-	-	-	+	+	
Health care financing	-	-	-	-	-	-	-	
Health workforce	-	-	-	-	+++	+	-	
Medical products, technologies	-	-	-	-	-	-	-	
Information and research	-	+	-	-	-	+	-	
Service delivery	+++	+++	+++	+++	-	+	+++	
NB Activity 3 and 4 are considered here as support to service delivery and not as part of 'medical products, technologies'.								

Returning to the ToC of the Health Project, the following observations need to be made.

While the whole Health Project can be understood as a health system strengthening project, Activity 6, with various sub-Activities, see Table 4f, was called 'health system strengthening'. Allegedly, this merely served to create a category of implementation tasks and did not set this Activity apart from the overall strategy.

Activity 1, construction and rehabilitation, with more than 60% of the financial investments of the Health Project, has been directed at the Health Centers while a part of the 15% of the budget of Activities 5, 6 and 7, also was intended to directly benefit Health Centers' functioning. OPD investment, at 10% of the total, also reinforces the Health Center functioning by providing it with referral options. Therefore, to a large extent, the health system orientation of the Health Project translated in a primary care support or development project.

[4] ERR of 2014

The ToC describes some assumptions and risks but does not describe the contextual factors that may have an effect on implementation of activities and their potential to bring about desired outcomes. Indeed, each step of the ToC, from inputs through activities to the various levels of outcomes, is contingent upon a number of assumptions or conditions, without which the step cannot be made. For example, for Activity 1, the step from 'health professionals perception of Health Centers improved' to 'increased quantity of staff' will be taken only if there is budget to pay for additional staff. For Activity 2, the step from 'increased utilization' to 'improved health outcomes' will only be made when quality of care has reached a minimum level.

Further, while the steps follow a logic reasoning, for a number of outputs there is no quantification of expected effects. For example, to what extent will health professionals' improved perception of Health Centers lead to increased quantity of staff? For most of the immediate, short term and intermediate outcomes following from the activities, no quantitative result or target has been indicated, for some of these outcomes a target was projected based on a direct link between output and outcomes. Therefore, no reasoning was found that explains the targets set for the long term outcomes and these targets seem to be based on assumptions without much fact-base. For example, the target for deliveries in health centers was set at 80 % of all deliveries in the population covered by the health centers. The rationale for this percentage is lacking.

Third, well-staffed and well-functioning Health Centers and OPDs, offering safe and quality care, are an indispensable element of a performant health system, leading to increased utilization. However, there may be other obstacles that hamper access to health services: distance, culture, costs. In many low income countries, including Lesotho, the network of Health Centers cannot be sufficiently dense to eliminate distance as a barrier. Therefore, many countries, including Lesotho, have taken measures to reduce these barriers: development of a system of community health workers, in Lesotho called Village Health Workers (VHW's), that helps to bridge distance and culture.

VHW's have a particular status as they are not formally health professionals but they also are not average community members, since they have particular skills, links and interests in/with the health system. In theory, there are some more than 7000 VHW's in the country, whereby one VHW covers a maximum of 20 households[13]. The VHW system in Lesotho is under-resourced and insufficiently effective, as was demonstrated in 2014 by a study commissioned by the MoH.[14] That is why the 7000 VHW's may not all be functioning in practice. Some of them routinely work in a Health Center, which is a deviation from their original role. Because of their specific role, the VHW's who are really community based do have unique insight in the population's perspectives on the health system and its health seeking behavior.

Another measure to increase utilization and access is in the building block of 'health care financing', for example through the reduction or elimination of user fees. Indeed, the GoL has abolished user fees for Health Center services since 2010, although they still exist at the level of OPDs. A referral of a woman to an OPD/hospital for delivery will cost her 30 Maluti and a caesarean section 150 Maluti. In 2009, 12 percent of women and 7 percent of men diagnosed

with TB did not seek treatment because of cost of services[15]. So, the financial barrier has only been partially removed.

All in all, the Health Project did not claim to help health services to ensure Universal Health Coverage[5] and it did not touch on the building block of 'health care financing'. A main question is if the longer-term outcomes of the Health Project can be expected to be achieved without further investment in the removal of barriers.

Fourth, the ToC does not indicate how or to what extent the Activities and their results have been integrated in the health system and in how far they were a temporary add-on to the system. The largest part of the investments went into infrastructure, which can be considered as a long term and sustainable investment, but that does not necessarily hold for a smaller but significant component of the Health Project, the Health System Strengthening Activity.

In sum, the steps of the ToC seem to follow a logical chain of cause-effect but there is little description of how the accumulated changes would result. The ToC has gradually been developed during the Compact which may explain why the description of the conditions and assumptions required to achieve the desired outcomes also was developed later and not upfront. The evaluation will assess in how far the steps of the ToC indeed have been made and the expected outcomes have been achieved both at population level and at the level of the health system itself.

ERR, the expected economic benefits

Prior to the start of the Health Project, in 2007, and after the implementation, in 2014, an Economic Rate of Return (ERR) analysis has been made, in order to assess the expected economic benefits. Essentially, the ERR attempts to translate the health effects, like decrease of mortality, into economic benefits by calculating future increased productivity, offset against costs that are made now.

The ERR as revised in 2014 constructs a decrement life table for several age and sex groups for Lesotho in which AIDS and maternal mortality are broken out from other causes of death. The rationale is that these will be major areas of improvement as a result of the Project. The life table is used, in combination with demographic information to estimate the impact on future life years lived (2010-2049) by age and sex given improvements in ART coverage, prevention of mother-to-child transmission (PMTCT), and MCH. The analysis works with the hypothesis that ART coverage will increase from 52% to 80%, reducing adult HIV/AIDS mortality by 13%. Increasing PMTCT coverage to 80%, meanwhile, is expected to reduce infant AIDS mortality by 50%, while MCH interventions are expected to reduce maternal mortality by 50% and non-AIDS infant mortality by 40%. These estimates are compared with

[5] Universal health coverage (UHC) means that all people receive the health services they need without suffering financial hardship when paying for them. http://www.who.int/mediacentre/factsheets/fs395/en/

the initial capital costs, as well as incremental recurrent and Operational & Management costs, to calculate the ERR.

Benefit streams and expected costs.

As shown in Table 6, the primary benefit streams in the economic analysis included reductions in AIDS mortality, adult and infant, and maternal mortality, the rationale being that these are the major targeted areas of improvement as a result of the MCA project. Infant non-AIDS mortality also was expected to improve, due to improved access to general Primary Health Care.

These benefits include most of the long term outcomes of the Health Project as shown in the previous chapter. Some long term outcomes, as described in the project logic have not been included in the benefits calculations, like improved TB treatment success rate. In the period of the Health Project, Lesotho had the second highest TB prevalence in the world, estimated at 544 per 100,000 population. About 75 percent of the new TB cases are people aged 15 – 44 years, which comprises the working population[16]. Improved treatment outcomes may certainly add to the ERR.

Assumptions

In order to assess 'reductions' the ERR uses a series of baseline values and makes assumptions and projections on results to be achieved. One major baseline value is the proportion of persons with HIV/AIDS that was on ARV treatment at the start of the Compact. The expected outcome was that proportion at the end of the Compact. This baseline value was revisited during the Compact using updated data. This resulted in an increase from an initial baseline of 20% ARV coverage to 52% ARV coverage, while the end-of-Compact proportion remained 80%. This has led to a much lower increase of ART coverage, and a lower reduction of HIV/AIDS mortality than initially calculated: from 33% to 13%. This affects the outcome of the expected ERR considerably, resulting in a decrease from an initial 12.3% over 20 years to 5.2% over 20 years[6].

Table 6 shows the summary of the key parameters for the analysis of the ERR and the final ERR values at the start and end of the Health Project. The values of the benefits are estimations based on MCC expert opinion.

Table 6 Key parameters for ERR analysis

Parameter Type	**Description of key parameters**	MCC Estimate start of Health Project	MCC Estimate end of Health Project
Summary	Actual costs as a percentage of estimated costs	100%	100%
Summary	Actual benefits as a percentage of estimated benefits	100%	100%
Specific	Reductions in adult HIV/AIDS mortality due to increased ART	33%	13%
Specific	Reductions in infant HIV/AIDS mortality due to increased PMTC coverage	50%	50%

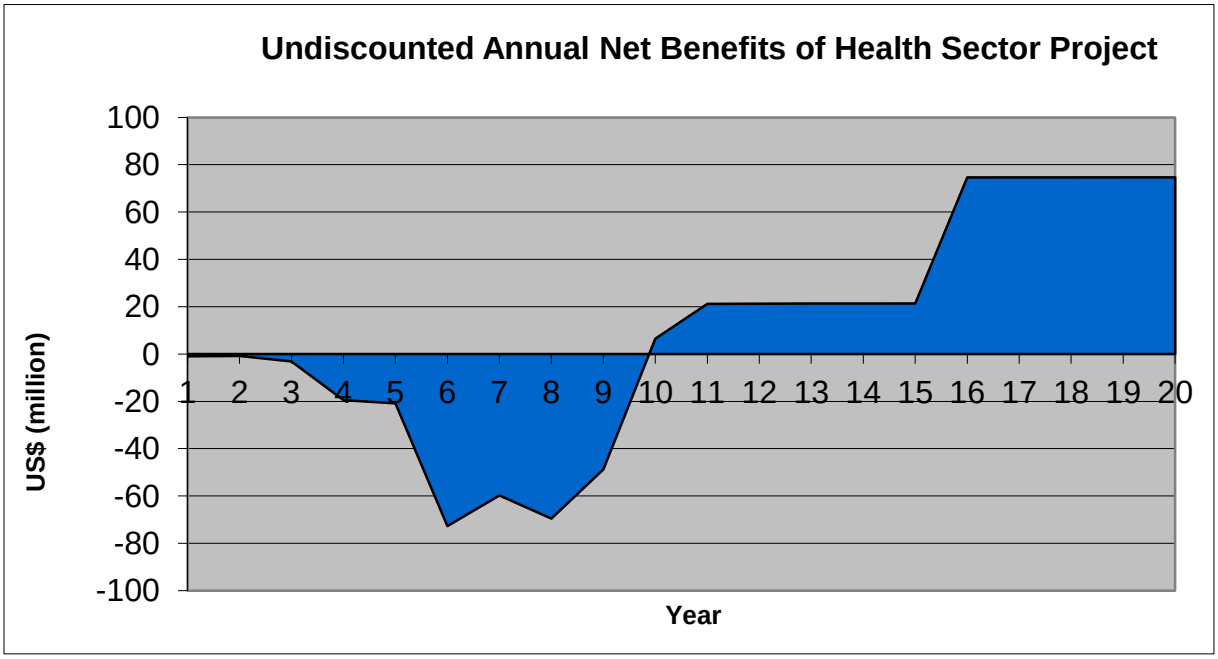
[6] ERR calculations made by MCC in 2007 and 2014

Specific	Reductions in infant non-AIDS mortality due to increased MCH coverage	40%	40%
Specific	Reductions in maternal mortality due to increased MCH coverage	50%	50%
Specific	Primary Health Care Expenditures With Project (USD/capita)	30	30
Specific	Total Capital Costs (USD million)[7]	102.9	102.9
ERR		12.3%	5.2%

Figure 7 shows the computation of the various parameters for a 20 year period, from the start of the Health Project. It shows that the financial benefits thanks to health benefits were expected to start to accrue 10 years after the start of the Health Project, in 2017. For that to happen, the effects and benefits of the individual Activities would start much earlier. In the ERR it is assumed that benefits in terms of life years gained start to accrue in the period 2010-2014, without annual calculations.

During the evaluation, these various elements, like evidence of baseline values, accrual of benefits, benefits that were not included and lower reductions of mortality, will be reviewed and potential effects on ERR outcomes will be discussed. This serves to identify lessons learned: does one think differently now about assumptions and benefits? No re-calculation of the ERR will be made however.

Figure 7



[7] Although they were not included in this summary table, incremental recurrent costs represent another significant share of costs in the economic model

3 Literature Review

In the section on country context above, Lesotho is described as a Low Income Country that sits low on the HDI. This raises a question about how much health improvement can be expected from an investment in the Lesotho health system as done by the Health Project, with a strong emphasis on the primary care level. Also, the question is what factors do enhance or inhibit the results of the investment.

Primary Care

Since the Declaration of Alma Ata in 1978, primary care has been the central strategy for expanding health services in many low- and middle-income countries. In 2010 however, Kruk, Porignon et al. observed that the relative effectiveness of primary care versus other health service delivery approaches has not been systematically evaluated in low- and middle-income countries[17]. They reviewed experience in 14 countries, of which four in west Africa and four pertaining to the category least developed countries, of which three in Sub Saharan Africa. They conclude that 'the best evidence for the effectiveness of primary care in achieving health system goals comes from some of the recent Latin American experiments in expanding rural primary care services to broad segments of the population. However, although evidence directly attributing health and other benefits to primary care in other low-income regions is not as strong, from the experiences reviewed here, it appears that primary care initiatives are contributing to increased access to services as well as equity in access and outcomes.'

In 2015, WHO published a study on health reforms in 10 low and middle income country cases of which four in Africa, including South Africa, two in Asia and four in Latin America. Two Sub Saharan countries belonged to the Least Developed countries.[18,19] The study identified some common success factors to improving health system efficiency. The first one was prioritization of primary health care. Other lessons were: alignment of financing and delivery; better accountability through outcome- and output-based contracts with providers; the right input mix; a decentralized system and independent regulatory agencies. Not surprising is the need for managerial capacity and information systems and alignment of donor support with country priorities. On the negative side is the lesson that fragmentation of organization and service delivery is a common source of inefficiency.

In conclusion there is some evidence on the positive effects of strengthening primary care such as done in Lesotho, in a context that is relevant for comparison with Lesotho. No publications show negative effects of primary care strengthening. The evidence is not very strong, partially because systematic research has started rather late. Another reason may be that, for many years, another approach was dominant in the health sector: directly addressing

needs of beneficiaries (sections of the population) with only secondarily or not at all investing in the system: a programmatic approach. For donor organizations this may be the preferred option, because it is expected to yield better and quicker results than a system approach.

Programmatic approach

There is evidence indeed that a programmatic approach, for example an HIV/AIDS or TB program or a Mother and Child Health program may lead to results even in Low Income Countries and under adverse conditions. In a review Medlin and Chowdhury[20] show that a wide range of proven, cost-effective interventions exist that can and have been brought to scale in developing countries, even in extremely low-income settings with limited health infrastructure and in challenging macro-policy environments. In West Africa, aerial spraying of the blackflies' breeding sites, part of the strategy promoted by the Onchocerciasis Control Program throughout the 1980s, "continued unabated through wars between member countries and coups that grounded all other aircraft[21]". In Sudan, despite the difficulties created by the more than 20-year civil war, and in other areas of Sub Saharan Africa, the campaign to eradicate the guinea worm has made progress. The finding is significant in that it challenges a central tenet of the aid- effectiveness literature: that only countries with a 'good' policy environment can benefit from external financial assistance. The 17 cases Medline and Chowdhury reviewed for their study displayed a striking degree of variation in the political and economic contexts in which interventions were applied and brought to scale, and no clear pattern of association was apparent between this variation and successful outcomes in relation to health. Apart from providing some evidence of effectiveness of health interventions in adverse settings, the above also suggests that one cannot identify easily factors of success. Indeed, complexity of health systems and variations in context defy the selection of standard approaches to health system improvement.

Recently, Ahmed, Rawal et al[22] analyzed policy and program inputs identified during multi-stakeholder dialogues in 10 countries, of which two in Sub Saharan Africa: Ethiopia and Rwanda, both belonging to the least developed countries. The subject was the strategies employed to achieve improvement of women's and children's health. They found several common characteristics that made progress in women's and children's health possible.

- First, central to progress in all countries was the development of clear policies, strategies and technical standards, led and coordinated by the government. Countries improved coordination, set priorities, developed long-term strategies and held firm to these commitments, demonstrating strong governance at the highest level, as well as a culture of accountability towards improved use of resources. Improvements in governance were also enabled by a climate of relative political stability, which allowed policies to be maintained consistently over time and progressively improved.
- Second, countries defined indicators, and collected, used and reviewed data for setting priorities and planning. Data were used to establish high-impact interventions that

became the foundation of all programs, policies and guidelines, and this served to maximize their impact.

- Third, countries made steady improvements in the availability of financial and human resources across all sectors. Innovative methods were also used to improve the financial protection of women and children to improve service utilization and prevent catastrophic out-of-pocket health expenditures.
- Further, there was increasing commitment to improving access to and availability of health services to a greater share of the population. Investments in infrastructure, with community involvement, served to improve the availability of primary, secondary or tertiary health-care facilities. Countries also improved the availability of human resources with investments in the training and recruitment of midwives, by task shifting and through building networks of community health workers to provide preventive care, including basic health screening, and, in some cases, case-management of childhood diseases in the community.

The slow reduction of maternal mortality rates in the years of the MDGs has generated studies on causes of maternal mortality and measures to achieve faster and steeper reductions. In 2015 the 'Global Strategy For Women's, Children's and Adolescents' health, 2016-2030' was launched, making use of lessons learned in the previous years. Not surprisingly, a series of actions is proposed that shows strong overlap with the Ahmed and Rawal's conclusions: what matters is, amongst others, country leadership, community engagement, multisector action (see below) and research and innovation. This strengthens previous evidence of the need to address multiple components of the health system and intersectoral action.

The Health Project has addressed the health system but with the explicit purpose of improving specific HIV/AIDS, TB and Mother and Child health indicators for which dedicated programs existed – and still exist. The approach was to contribute to all four characteristics cited above.

The conclusion is that there is evidence that the Health Project approach can lead to effective programs, provided that the four characteristics mentioned above are sufficiently addressed.

Non-health sector interventions.

It is common knowledge that non-health sectors impact on health substantially, in all societies through a variety of pathways and complex interactions. The most famous example is that, in wealthier countries, TB incidence and prevalence started to decline long before adequate medicines were developed in the first decades of the twentieth century, due to better housing conditions and hygiene. In 2010, Vandycke and Diez[23], argued that the adoption of the MDG's had revived the research on how improvements in health outcomes could be achieved by factors outside the health sector. Their review of several studies supported the argument that achievements of the MDGs were dependent on investments in infrastructure as well (i.e. those that would favor the access to water, roads, electricity and provide sanitation). In contrast, "poor infrastructure" (such as inadequate supply of water, sanitation, hygiene; indoor air pollution from household solid fuels; urban (outdoor) air pollution; and exposure to lead) can have serious economic costs in terms of disease-specific mortality and morbidity.

Ahmed, Rawal[17] et al. concluded that improvements in sectors outside health contributed to around half the reductions in maternal and child mortality across low- and middle-income countries during the MDGs. In 10 countries, these multisector improvements were driven by a variety of policy and program approaches that invested in girls' education, water and sanitation, infrastructure development, food security, and poverty reduction policies such as promoting job growth in rural populations and in industries employing women from low-income settings. Such investments also contributed to reducing socioeconomic, geographical and gender disparities. These findings reiterate the integrated and holistic approach to health and sustainable development promoted by the Sustainable Development Goals. They also support the Compact approach to invest simultaneously in various sectors in society.

The Compact's approach of insistence on HIV/AIDS Risk Mitigation Plans to be adopted by the construction contractors of the various Compact Projects is an example of the multi-sector approach.

In sum

Literature reviews, including from authoritative sources like WHO, provide some evidence in support of the Health Project's approach to invest in primary care, with emphasis on the infrastructure, in governance (including decentralization), in human resources (the support to the NHTC) and in health information (EMS, HMIS). The evaluation will address the question in how far these investments have led to impact, in absence of control over (investments in) other components of the health system.

However, it is also the multi-sector approach of the Compact, as shown in Figure 1, that benefits population health through several pathways, in addition to poverty reduction in general. Among them are better sanitation and lower morbidity through increased water supply, through the Water Project and improved financial accessibility of health services through Private Sector development. The health effects of these investments generally are long term and not quantifiable upfront, the quantitative effect cannot even be estimated due to the complex interaction between all the factors. Therefore, it would not have been possible to define targets for health improvement of the three MCA projects in combination.

4 Evaluation Design

Policy relevance of the evaluation

The MCC M&E Policy states that every Project must undergo an independent evaluation. The Lesotho Compact included a Health Sector Project that requires an ex-post evaluation for accountability and learning reasons[24]. The final evaluation question is what lessons can MCC

or the Government of Lesotho apply in future programs related to program design, implementation, and sustaining results.

Evaluation questions

The Terms of Reference (ToR) of the evaluation list a series of specific questions, see the list below. The numbering has been added by the evaluator. Most questions are related to the Health Program as such or to specific sub-Activities. Several questions inquire about the current status of a component of the health system, in reference to the ToC. The questions in color ask for qualitative information, all other questions ask for either quantitative information or a mix of quantitative and qualitative information.

Evaluation questions from ToR

1 Was the program evaluable?

2 Was the program implemented according to plan? What was the original plan? Did the plan or objectives change over time? How so? What were the implications?

3 Patient outcomes

3.1.1 To what extent have patients' perceptions of HCs and OPDs changed ? Have perceptions changed since the Compact began?

3.1.2 Have waiting times been reduced? If so, has EMRS contributed to a reduction in wait times?

3.1.3 Do health professionals understand patients' concerns and spend adequate time addressing them?

3.2 Has utilization of HCs and OPDs changed?

3.2.2 What services are used most. Has utilization changed around HIV/AIDS, TB, and MCH services specifically?

3.2.3 Who seeks treatment at HCs and OPDs? Has this changed since the Compact began?

3.3 Specific sample of HIV-positive patients:

3.3.1 Have ART integration efforts contributed to a reduction in social stigma around HIV/AIDS treatment?

3.3.2 Are HIV/AIDS-positive patients more likely to seek care now than they were before the Compact began?

3.3.3 Are HIV/AIDS- positive patients more likely to adhere to treatment now than they were before the Compact began?

3.4 Have overall health outcomes such as infant, child, and maternal mortality; TB treatment success rates; HIV/AIDS treatment, and survival rates changed since the start of the Compact?

4 Community outcomes

4.1 What proportion of community members use the HCs and OPDs?

4.2 Who chooses not to seek treatment at HCs and OPDs? Why (i.e., what are the barriers to seeking health care)?

5 Health Professional Outcomes

5.1 How satisfied are health professionals with their work environment now compared to before the Compact began?

5.2 Are HCs (especially more remote HCs) staffed at appropriate levels?

5.3 What factors influence staffing levels, motivation, and productivity of health staff?

5.4 Are staff likely to remain in the profession or at their current location?

5.5 Has staffing, motivation, and productivity changed since the start of the Compact? To what extent are changes related to the Project?

5.6 To what extent do these issues still need to be addressed in order to reach and maintain

appropriate staffing levels and achieve a high quality healthcare system?
5.7 Are health professionals aware of the training opportunities available to them?
5.8 Do they participate in the trainings?
5.9 How do they perceive the relevance and effectiveness of these trainings?
5.10 What is the importance (priority) of available trainings for nurses.
5.11 Has the training calendar been used / is it still in use?
5.10 Are there particular trainings that are more important than others? How so?

6 Student outcomes

6.1 Did the NHTC investment contribute to increased enrollment and graduation from NHTC?

7 System outcomes

7.1 Are essential services offered at all HCs? If not, why not?
7.1.1 Are the three guidelines for Primary Care available in the Health Centers?
7.2 To what extent have NHTC and other HSS interventions contributed to the quantity and quality of staff at HCs?
7.3 To what extent do the BTS and NRL interventions contribute to an improved health care system?
7.3.1 Has the availability and use of blood and laboratory services used in the treatment of patients changed since the Compact started?
7.3.2.Has the processing time for these services been reduced?
7.3.3 Are more tests (or a larger proportion of tests) being processed at the NRL then sent to private laboratories or out of the country for processing?
7.3 EMRS
7.3.1 Has it been rolled out to all hospitals?
7.3.2 Does it work?
7.3.3 To what extent is EMRS used in the treatment of patients?
7.3.4 Regarding the pharmacy module in particular, does it work and is it used in practice?
7.3.5 Does EMRS contribute to an improved health care system generally and integration of HIV/AIDS services specifically? If so, how? If not, why not?
7.3.6 Is the IT system being utilized and maintained?
7.4 What is the status of the HMIS developed under the Compact? Does it facilitate the provision of data to the MoH?
7.4.1 How does the MoH use data collected at various levels of the health care system?
7.4.2 Are the data sent to the MOH considered timely and reliable? If not, why not?
7.4.3 Do mechanisms exist to identify and resolve potential data quality problems within the system? If not, why not?
7.4.4 Are there sufficient personnel located in the districts to use and maintain the HMIS?
7.5 Decentralization
7.5.1 How did the Compact contribute to the GOL's plans for decentralizing health services and changing the role of the DHMTs?
7.5.2 Do these changes contribute to an improved health system? If so, how so? If not, why not?
7.5.3 What is the role of the Research Unit at the MoH in contributing to an improved health system? Is it functioning according to plan? Is research generated through this mechanism? Do research findings inform health policy?
7.6 Health Care Waste Management outcomes
7.6.1 Has the rollout of HCWM been completed?
7.6.2 Is the overall system functioning according to plan?
7.6.3 Do health facilities have the materials and equipment required for HCWM?
7.6.3 To what extent do health professionals use HCWM materials and equipment according to proper procedure?

7.6.4 Is waste being picked up and transported to facilities with incinerators on a regular basis? What happens when waste is brought to facilities with incinerators? What happens with any waste that is not transferred to other facilities?
7.6.5 Are closed systems functioning well?
7.6.7 Is maintenance and oversight taking place?
8. What lessons can MCC or the Government of Lesotho apply in future programs related to program design, implementation, and sustaining results? What could have been done better? How so?

- The first question addresses the evaluability of the Health Project and was discussed in the evaluability report. In the sections below, some references are made to the evaluability report but the findings will not be repeated here.
- The second question *'Was the program implemented according to plan? What was the original plan? Did the plan or objectives change over time? How so? What were the implications?'* asks for a qualitative approach, a description of the Health Project in general.
- All other questions but the last one follow the eight Activities and their sub-Activities and inquire about outputs and intended outcomes of the Project as described in the Compact and ToC. Some questions seek information about elements of the health system and do not necessarily inquire about changes as a result of the Health Project. An example is question 7.3.3: '*Are more tests (or a larger proportion of tests) being processed at the NRL than sent to private laboratories or out of the country for processing?'*
  Nearly all evaluation questions ask for quantification (percentages, rates, numbers). Some questions also ask for a qualitative assessment, mainly when it comes to process changes. An example is the question 7.5.1: *'How does the MoH use data collected at various levels of the health care system?*'
- The last question '*List of lessons learned with regards to program design, implementation and sustainability of results'* asks for a qualitative approach.

In addition to answering these questions, the evaluation will review various elements of the ERR, like evidence of baseline values, benefits that were not included, lower reductions of mortality than initially expected and some of the assumptions that had been used.

Expected results of the Compact are shown in Tables 7. Table 7a shows the indicators and targets as described in the Compact and Table 7b shows the targets and indicators according to the last M&E Plan, February 2015. The evaluation questions cover most of the outcomes, objectives and outputs and where they do not, the evaluation will address them nevertheless.

Table 7a Health Project Indicators and Targets according to Compact

Health Project Indicators and Definitions ***Objective: Increase access to life-extending ART and essential health services by providing a sustainable delivery platform***	
Outcome-level result	**Indicator**
Quality of health service delivery is improved	Essential health services available (percent)
	TB treatment success rate (percent)
	Facilities staffed with standard number and type of qualified staff (percent)
Usage of health services is increased	Total patient visits (number)
	Immunization rate (percent)
	Health centers deliveries
	Total number of people receiving ARV treatment (number)
Health centers are equipped and maintained at standards	Utility availability (percent)
Health professionals are trained and retained	Total annual enrolment at NHTC (number)
Laboratory services are improved	Referred tests performed per quarter (number)
Blood transfusion services are improved	Blood units collected per quarter (number)

Objective-level result	**Baseline**	**Year 5**
Mortality rate (per 1000)	Under 5 = 113 F:15-49 = 9.9 M:15-49 = 12.3	Same as baseline[18]
People with HIV still alive 12 months after initiation of treatment (percent)	82%	90%
Prevalence of TB (per 100,000)	592	400
Outcome-level result	**Baseline**	**Year 5**
Essential health services available (percent)	TBD[19]	80%
TB treatment success rate (percent)	64%	85%
Facilities staffed with standard number and type of qualified staff (percent)	5%	60%
Total patient visits (number)	800,000	1,000,000
Immunization rate (percent)	78%	90%
Number of people receiving ARV treatment (number)	17,966	35,000
Health centers deliveries	TBD	TBD
Utility availability (percent)	TBD[20]	90%
Total annual enrolment at NHTC (number)	350	938
Referred tests performed per quarter (number)	885	1,800
Blood units collected per quarter (number)	700	1,500

Table 7b Health Project Indicators and Targets according to M&E Plan of February 2015

Health Project Indicators and Targets		
Goal level result	**Base line**	**End-of-Compact target**
Maternal Mortality Ratio (per 100,000 live births)	1155 (2009)	1155
Adult Mortality Rate (per 1,000 years of exposure)	13,6	11
Mortality Rate, Under 5 (per 1,000)	117	115
Infant Mortality Rate (per 1,000)	91	91
Outcome level result		
Percentage of nursing positions that are filled	57% (2011)	N/A
Deliveries conducted in health centers	36% (2008)	80%
Health centers conducting deliveries	25 % (2008)	50 %
Vaccination coverage rate	62 % (2009)	80 %
Percentage of people living with HIV/AIDS receiving ARV treatment	34% (2008)	70%
HIV prevalence	23 % (2009)	N/A
TB Treatment success rate	74 % (2008)	85 %
TB notification per 100,000 of the population	640 (2008)	400
Output level result		
Blood units collected by Blood Transfusion Services (BTS)	3381 (2008)	5000
Tests done at the NRL	554,823 (2008)	400,000
NRL test referrals	8873	400
Students who graduate from NHTC	176 (2008)	250
Number of patient visits to health centers	TBD	N/A
Number of patient visits to OPD's	TBD	N/A
Percentage physical completion of Health Center facilities	0% (2008)	100%
Health centers equipped	0% (2008)	100 %
Percentage physical completion of Out-Patient Departments (OPDs)	0% (2008)	100%
Districts using computerized HMIS reporting	0 (2008)	10
Hospital OPDs with EMRS	0 (2008)	16
Health facility personnel trained in Infection, Prevention and Control	0 (2008)	130
In-service training days conducted	0 (2008)	3,000
Community facilitators trained	0 (2008)	96

Evaluation design overview

Table 11 provides for a synoptic view of the evaluation approach for all the questions. In the paragraphs below, the design is explained step by step.

For each evaluation question, expected key outcomes have been identified, see Table 11, column 1. Some key outcomes are indicators as phrased in the Compact or M&E Plan or directly follow from the question. For other outcomes, the evaluator proposes the indicators. As mentioned above, not all questions address Health Project outcomes, but some inquire about the current status of a particular feature of the health system.

The availability of baseline data and the feasibility of answering each evaluation question has been discussed in the evaluability report. In Table 11, these findings are also summarized in column 2. While feasibility is good for most questions, there is a caveat for some questions; this is further explained in Table 12.

The evaluation approach in general

The many Activities and specific evaluation questions ask for a collection of various data sets, both primary and secondary data, from various sources. In addition, the ex-post character of the evaluation, the absence of a control group(s) and the resources available help determine the available options for the evaluation methodology.

A mix of quantitative and qualitative data collection methods and of primary and secondary data will be used, through parallel data collection, during one round (with two phases) at different levels of the health system. Phase III is the analysis and reporting phase. For quantitative and qualitative data analysis an online tool is used, dedoose, www.dedoose.com. See further the analysis plans for the quantitative and qualitative data.
The units of information on the health system for both methods are the following:

Central level

1. MoH, Ministry of Local Government, Ministry of Planning, central institutions (including NHTC), various agencies and NGO's.

Peripheral level

2. District level. The ten administrative districts do have a policy + management layer, the District Health Management Team (DHMT).
3. The staff of OPDs and Health Centers in the districts: managers, nurses, physicians
4. VHWs attached to Health Centers.
5. Patients/users of OPDs and Health Centers.

The ERR review will be made separately as a desk exercise. Further, to assess the ToC, for each Activity and sub-Activity, the evaluation will seek to describe and assess the implementation process and contextual factors that are of influence on the effects or results. These are extensions of the descriptions of the Health Project implementation in Table 4 and serve to explain the (non) achievement of results and to produce lessons learned. The

descriptions/assessments are not mentioned in the tables below to avoid repetitive descriptions but constitute an important component of the later reporting.

The following two sections describe the quantitative and qualitative approaches to the evaluation. By way of introduction, Table 8 summarizes the data collection.

Table 8	**Central (national) level: MoH and a variety of national and international organizations**		**Peripheral level: 6 DHMTs 8-10 OPDs 20-28 Health Centers**	
Data collection	Secondary data	Primary data	Secondary data	Primary data
Quantitative data	Statistics from health services (MoH) and reports that contain numerical data on health; Includes Demographic Health Surveys and Annual Joint Reports		Transcription of data from registers in OPDs and Health Centers	Surveys among health staff and among patients/users in OPD's and Health Centers
Qualitative data	Reports that contain system and process data; Includes MCA Health Project documentation	KIIs with MoH staff, institutions, agencies and NGOs, including MCA and MCC.		KIIs with DHMT, clerks and pharmacists in OPDs; clinicians in hospitals (only for BTS and EMRS) FGDs with VHWs in Health Centers (not OPD's) Observation in OPDs and Health Centers

Quantitative approach

This section addresses those questions that require quantitative data, which is the majority. With some exceptions, these evaluation questions are oriented towards the change that took place as a result of the Health Project. However, some questions just address the current status and do not inquire about the change.

Methodology

A pre-post methodology will be used to answer the questions about change.

For none of the questions a control group will be used because there is none available. For example, at the system level: the health system in the whole country was exposed to the Health Project, centrally and in all 10 districts. There is no district for comparison. Furthermore, at the level of service delivery: Health Centers and OPDs in the country that have not been part of the Health Project were not included for a specific reason, like no need for rehabilitation or extreme remoteness. Therefore, these facilities cannot serve as a control group either.

The absence of a control group challenges the attribution of changes to the Health Project pre-post. This challenge is compounded by other interventions in the health system during and after the Compact. For example, since 2010, services in Health Centers are free of charge, which may have contributed to an increase of users – that cannot only be attributed to the Health Project. Also, protocols for diagnosis and treatment of HIV/AIDS have changed, leading to larger numbers of HIV+ persons eligible for treatment. Contribution and attribution will be discussed in the evaluation report on the basis of the data analysis.

Baseline data. To answer the questions about change, one needs baseline data. In the Evaluability Report, the availability of baseline information has been verified and additional baseline material has been identified for this evaluation design.

What can be considered as baseline information? Baseline information will be considered information (reports and documents) from between 2005 and 2010, because until and including 2010 very few Health Project Activities were carried out. In some cases reports from 2011 are also considered as baseline information, like the Health Facility Survey report of 2011 (HFS 2011), the field work of which was carried out in July-August 2011, when (re)construction of health centers was in an early stage. This report will play an important role in the current evaluation, see Annex 4 for more information. As the evaluability report has concluded, for most questions that require baseline information, this information is available although for some questions baseline information, in the form of reports or statistics, is lacking, vague or imprecise. In addition, the Annual Joint Reports (AJR's), see Annex 1, constitute an important source of (baseline) information but they provide data at district level and include facilities not covered by the Compact. This affects the feasibility of assessing change accurately.

Post Compact data. What can be considered as post-Compact information? Since most of the Activities were concretely carried out in 2012 and 2013, for this evaluation the year 2014 is considered as the first post-Compact year – even if some construction activities were carried out in that year. Statistical and other data since 2014 are therefore considered as post-Compact information.

For the development of this evaluation design, an assessment was made of existing post Compact **secondary data** and information through reports, registers and statistics from 2014 and later. In practice, this means data from 2014 and 2015 and in rare cases from 2016. The sources of these are at central level: various departments of the MoH, Blood Transfusion

Services (BTS), NRL, NHTC and various NGO's. A part of the data is publicly available through reports that are circulating. A part of data does exist but is not publicly or directly available, like some registers, statistics and reports. It will be necessary to obtain these data in agreement with the authoring agency.

Many of these reports provide partial data or data that are incomplete or imprecise, in terms of helping to answer the evaluation questions, because the data need to be congruent with the baseline data. Also, data quality in some cases is questionable. Therefore, it is necessary to combine various of these sources and triangulate them. A list of secondary sources and their relevance to the evaluation follows later in this report.

For many questions **primary data** need to be collected, either as a stand-alone data source or to complement the secondary information. A combination of quantitative and qualitative primary data will be collected as discussed further below. For quantitative data, a survey is planned at the level of health facilities: Health Facility Survey 2017. This survey uses two groups of respondents: health professionals and patients/users.

Time frame of exposure

The time frame of the exposure to the Activities or outputs of the Health Project is different for the various Activities. The first Activities of the Health Project were completed in 2010 (reconstruction of the Domiciliary Health Center in Maseru) and the last Activities in 2014 (reconstruction of Health Centers), three years before this evaluation. Although some outcomes might be expected right away, like the increase of the numbers of students at the NHTC, others might take more time to materialize like the effect on quality of care of in-service training of staff, as a result of the policies and guidelines developed by the Health Project. It is expected that all outcomes of interest occur at present. This is in line with the ERR assumption that the net annual benefits start to accrue from year 10 after the start of the Compact, this is from 2018 onwards, which implies that the crude benefits start to accrue several years earlier. Literature nor the ToC dictate the timing of measuring and the ERR assumption must be considered as fair. Hence, data collection in one round in 2017 can be considered as appropriate timing. Further, one caveat, as mentioned above, is that recollection of earlier experiences will likely be difficult or impossible to capture due to elapsed time.

Study sample

This section addresses both secondary and primary data.

Sampling units and data collection topics

Central level

'Central level' is considered as one unit of information since many institutions and agencies do have a piece of the information regarding the health system and health outcomes that

together provide for a complete set of information.[8] As mentioned above, this includes reports from the MoH, Ministry of Local Government, Ministry of Planning, central institutions, various agencies and NGO's.

Peripheral level

OPDs and Health Centers

A survey will be done to collect data from health care workers (managers and health professionals). The questions concern the physical and psychological working environment and tools, career issues and how they perceive the patient experience. The use of the EMRS and HCWM are major topics. Care workers will also be asked about their views of characteristics and quality of the services delivered in their current health service.

The survey will also address patients/users of OPD's and Health Centers to collect data on their perception of the health services and the care provided, in terms of obstacles to care, physical environment, staff attitude, quality of care and general atmosphere in the country with regards to stigmatization of certain population characteristics like HIV.

Target respondents, sampling size and strategy

In view of the different data sets to be collected, there is not a single data set for which a power calculation can be used to define the size of the sample. Also, for some data sets, no expected results can be defined, which would help to calculate the sample size. The choice of sample sizes will be explained for the various levels below.

Central level

No sampling is carried out for data collection at central level, because all relevant partner-organizations will be included in the data collection. The organizations, mentioned in the footnote on the previous page, or rather their specific representatives (see below) are all asked for data in the form of reports.

Peripheral level

At peripheral level, in order to limit the amount of data and effort while preserving sufficient numbers to allow for observation of trends and variations, the following sampling steps are taken:

- Districts

[8] The various MoH staff provide previously collected data that are not (yet) publicly available. Equally, BTS, NRL and NHTC will be asked at director's level to provide information and data. Also, the major institutions and agencies in Lesotho like CHAL, Red Cross, USAID, PEPFAR, the Center for Disease Control (CDC), Partners in Health, the Swiss Organization for Health in Africa (Solidarmed) and the International Center for AIDS Care and Treatment Programs of Columbia University (ICAP) will be requested to provide for data. These organizations mostly provide direct support to the organization of health services delivery in one or more districts or for one or more programs like HIV and TB services and therefore have documentation on health services delivery. WHO can provide overviews.

- OPDs and Health Centers
- Staff in OPD's and Health Centers
- users of OPD's and Health Centers

Sample sizes and strategy are determined to achieve a broad representation of perspectives on the basis of population numbers, variations in geographical conditions and available resources for this evaluation (level of effort).

Districts.

In order to limit the amount of work and time, not all the districts will be covered by the survey but six out of the 10 districts will selected. This is the number presumed to cover sufficient population and health facilities to be representative. The sampling is stratified: first, in view of its population size, Maseru district in the lowlands is included. Then, the other five districts will be randomly selected from the remaining nine. In order to cover sufficient geographic diversity, at least one of the mountain districts needs to be included. This is motivated by the known climate, access and isolation issues in those districts. If this does not happen through this random sampling, one of the lowlands/foothills districts will be dropped (randomly selected) and replaced by one of the four mountain districts, again randomly selected.

Lowlands and foothills districts	Mountain districts
Berea Butha-Buthe Leribe Mafeteng Maseru	Mokhotlong Qacha's Nek Quthing Thaba-Tseka
Mohale's Hoek district (covers all three geographical zones)	

OPDs and Health Centers.

Within each of the six districts a survey, a transcription of some registers will be done in OPDs and Health Centers. Prior to the visit to the OPDs and Health Centers, telephone contact will be made to announce the visit and select the date, to ensure availability of staff and patients/users.

As mentioned above, for the sake of comparability, for collection of the data at health facilities' level the survey questions of the HFS 2011 are used.

Data collection in the OPDs.

All OPDs reconstructed in the six districts will be included. Since there are one or two OPDs in each district, the total number of OPDs is expected to be eight to ten, depending on the districts that are sampled.

Total number of OPD's to be included in the evaluation: 6 districts x 1 or 2 OPD's per district = 8 to 10

Survey. In each OPD, there are two target groups:

The manager and two doctors are asked to answer the survey questions. Prior to and during the visits of the evaluation team, in agreement with the manager of the OPD/hospital, the survey-respondents are selected on the basis of availability and convenience. Length of tenure is an additional selection criteria, if choice exists. Visits to the OPDs during previous steps of this evaluation showed that this is possible and working.

Patients/users are asked for their experiences and views, in total six:

- two (2) adult women (aged 18 years or over)
- two (2) adult men (aged 18 years or over)
- two (2) care givers who are bringing dependents to the Health Facility, i.e. children younger than 18 years, old aged (over 65 years of age) or disabled people.

Consecutive patients exiting the health facility are asked to participate in the survey by one of the staff with the explicit mention that it is voluntary. This will continue until the sample size has been reached for each of the 3 categories to be sampled. If there are no patients from one or more of the 3 categories, there is no substitution from other categories. However, the timing of the survey will be determined so as to ensure sufficient availability of patients/users. Concretely this means that the survey is carried out between mid-morning and the end of the morning, when consultations are ongoing.

Transcription of data from registers: in each OPD, data from registers on numbers of various types of consultations, of vaccinations and of laboratory tests are collected. This does not include clinical or patient data.

Data collection in the Health Centers.

In order to limit the number of Health Centers to visit while also ensuring sufficient representation, a sample of three Health Centers will be randomly selected in each district. In Maseru district an additional two Health Centers will be randomly selected because of the population size of Maseru, that accommodates around 25% of the total population of the country. Further, a minimum of six isolated Health Centers spread over the five districts needs to be included, in order to ensure their sufficient representation in the study. If the above random sampling results in less than six, additional isolated Health Centers will be selected randomly, with a maximum of one per district. If the two Health Centers supported by the Red Cross are not included in the above sampling, they will be added through random sampling, also when they are in a non-selected district. This brings the total number of Health Centers to participate at between 20 and 28:

Number of health centers to be included in the evaluation:	
6 districts x 3 Health Centers	18
Additional 2 Health Centers in Maseru	2
Additional isolated Health Centers, minimum 0, maximum 6	0- 6

Additional Health Centers Red Cross, minimum 0, maximum 2	0 -2
Total:	20- 28

Survey. In each Health Center there are two target groups:

Staff members. Two nurses are selected from the total number and invited to take part in the survey: the head nurse is one of them. The other is the newest nurse serving in that specific Health Centre that is available. When the head nurse is not available, another nurse is selected on the basis of availability and longest serving years.

Patients/users. Exit interviews to inquire about the patient experience will be held with six patients/users, similar as in the OPD's:

- two (2) adult women (aged 18 years or over)
- two (2) adult men (aged 18 years or over)
- two (2) care givers who are bringing dependents to the Health Facility, i.e. children younger than 18 years, old aged (over 65 years of age) or disabled people

Consecutive patients exiting the health facility are interviewed, until the sample size has been reached for each of the 3 categories to be sampled. If there are no patients from one or more of the 3 categories, there is no substitution from other categories. However, the timing of the survey will be determined so as to ensure sufficient availability of patients/users. Concretely this means that the survey is carried out between mid-morning and the end of the morning, when consultations are ongoing.

Transcription of data from registers: in each Health Center data from registers of consultations, vaccinations and of laboratory tests are collected, in answer to the questions on use of the health facilities. No clinical or patient data are collected.

Data collection

Instruments

Central level

At Central level, all data to be collected are secondary data.

Secondary data, all digital: for each evaluation question, the reports that contain relevant data are identified, with some reports covering various data-subjects and others only one subject, like TB or laboratory tests. Triangulation of the reports is done to conclude on the most correct data. For example, several reports may show data on the number of TB patients in a particular district: MoH and NGO reports. The numbers often do not match because there are either imprecisions in the reporting or different corrections have been applied by the MoH/NGO for known errors. Also, the reports may be based on different numbers of health facilities due to incomplete reporting, without explicit mention. The health reporting system uses different formats, frequencies and reporting channels for TB, HIV, general consultations

and other functions of the health system. The research on available reports has been partially completed as part of this EDR development and some specific reports are further collected as part of the evaluation per sé. This is a step by step process that occurs exclusively in Maseru and therefore has been and will be spread out over a period of weeks. Progress depends on availability of staff in the MoH and NGO's who can suggest and authorize the use of specific reports.

Peripheral level

For the survey in OPD's and Health Centers among health professionals and patients/users two different digital questionnaires / protocols are used, in English for the health professionals and in Sesotho for patients/users. For the questionnaires, the template includes location and date plus respondents' data like age and gender and a series of questions with 5 or 6 options as answer. The health professionals are further identified by profession but not by name and the patients/users are identified by village and not by name either. The surveyors (see below) ask the questions and record the answers.

Rounds and timing

There is one round of data collection, at central and peripheral level, divided in two phases. The first phase is the collection at central level. This includes collecting reports and extracting data from these reports and from statistics in a period of three to four weeks. During this period also the protocols for data collection in the periphery are finalized. This work is done by the main evaluator and is partially home based, partially it takes place during a visit to Lesotho. Table 8 summarizes the persons/units/organizations to be addressed.

In addition to data collection and protocol development, during phase I also contracting of staff, preparation of organization and logistics of phase II will take place, see paragraph on Staffing and Chapter 5 below. Finally, during this phase also the protocols will be tested in a non-sampled OPD and Health Center in Maseru

During the second phase that immediately follows, the peripheral data collection is done. These are the surveys in the OPDs and Health Centers.

Respondents

By purpose, phase I is stretched out over several weeks, in order to be able to contact all contacts-sources that can give access to the relevant reports and data. Respondents that are missing at the first attempt are re-contacted several times until they are available.

For phase II, the timing and approach to the survey in the OPDs and Health Centers is prepared with DHMT and with management of the individual OPDs and Health Centers. This ensures that the survey takes place at a moment that there are sufficient users/patients and health professionals available. For information to health staff and patients/users, a written note in English (staff) and Sesotho (patients/users) will be made, for explanation of purpose of

the survey, how the results will be used and the anonymity of the survey. The selected respondents will be asked to sign a consent form as well.

Surveyors

As will be explained in more detail in the chapter Administrative, the surveys in the OPDs and Health Centers are carried out by three teams of two Basotho surveyors each. The surveys are carried out in English (Health Professionals) and Sesotho (patients/users) and all surveyors are proficient in both languages and have relevant professional qualifications.

Data processing

The survey interview-data are recorded during the interviews on a PDA by one of the survey team-members. An off-line version of survey-monkey is used in view of irregular connectivity. Later, the PDA data are uploaded to survey-monkey online.
For supply of the PDAs a company /agency will be selected in Maseru during Phase 1. For the selection of the company/agency advice will be sought from Maseru based agencies like the Bureau of Statistics (BOS) and ICAP, that are used to carrying out surveys.

The survey in the NHTC will be carried out with the use of paper forms on which the students fill in the questionnaires. Later these data are uploaded in survey-monkey by the data manager.

Data quality

Data quality of secondary sources is a major concern and therefore the process of data collection and triangulation is extensive as it is.

To ensure quality of survey data, the surveyors are trained, followed by a pilot survey in one OPD and one Health Center in Maseru, under observation of the Principal Investigator and the assistant. The pilot helps the surveyors to become familiar with the template on the PDAs and it may lead to rephrasing of questions.

Summary

Data collection for quantitative data is summarized in Table 9.

Table 9

Location / level	Reports and statistics	Questionnaires	Inspection registers
Central level			
	MoH, institutes (BTS, NRL, NHTC) and NGO's		
Peripheral level			
20 to 28 Health Centers		3 categories of users/patients; each 2 respondents; 2 staff	3 registers in each Health Center

8-10 OPDs		3 categories of users/patients; each 2 respondents; 4 staff	3 registers in each OPD
Totals			
Number of users/patients / in survey		Health Centers 120 - 168 OPDs 48-60 Total 168-228	
Number of staff, including managers		Health Centers 40-56 OPDs 32-40 Total 72 - 96	
Total number of registers			84-114

Analysis Plan

Various types of analysis will be applied to the information on the individual questions, including:

- Description in the form of tables and graphs, that show the evolution of the parameters under investigation, for example satisfaction of patients/users with health professionals or the number of TB patients under treatment in the country, pre-post.
- Where (triangulated) baseline data sets are sufficiently available, for some pre-post data, a t-test will be done to examine the significance. This is the case for several questions that address changes in the health facilities: results of the planned Health Facility Survey in 2017 will be compared with those in 2011, allowing for the use of paired samples, for example on patients' perceptions of Health Centers and the use of Health Centers.
- Description of numbers and proportions at a single point in time, for example numbers and proportions of health professionals that use HCWM material properly.

Qualitative approach

Methodology.

The evaluation questions that require a qualitative approach were listed in colour at the beginning of this chapter.

The data collection uses the following methods:

- Key Informer Interviews (KIIs)
- Focus Group Discussions (FGDs)
- Observations

Question 2 essentially asks for a general description of programming and implementation of the Health Project and requires exclusively qualitative data. Basis for the descriptions are primary and secondary data at central level: KIIs with staff of MoH and several other agencies and NGO's, including previous MCA staff, and current MCC staff familiar with the Lesotho Compact, when need arises. Secondary data are the Compact documents received for this evaluation.

Questions 3 and 4, address patients' perceptions and use of health services. The quantitative data collected through document study and through the survey among users/patients are complemented by FGDs with VHW's. This serves to identify (absence of) trends in barriers to health care, in stigma and in efforts to reduce stigma, as the VHW's think the community does perceive these. This will be explored for the population in general and for HIV+, TB and STI patients and for deliveries in particular.

Question 5, on Health Professional Outcomes, seeks to complement the quantitative data with KIIs among MoH and NGO staff, that help to understand the policies and processes on staffing and their training; efforts to address motivational factors among the health professionals.

Question 7 on system outcomes addresses a variety of issues. The quantitative data from statistics, surveys and registers are complemented by several qualitative methods:

- On the population's perspective on the delivery of essential services: FGDs among VHW's and KIIs with DHMT's; purpose of the FGDs and KIIs is to provide local and district level context to the quantitative data.
- NHTC: KIIs with MoH, CHAL, Red Cross and NGO staff and with DHMT members on the contribution of the NHTC to staffing of health facilities and issues; purpose of the KIIs is to provide insight in the (changing) relationship between number and quality of graduates of the NHTC and the contracting practices of the health services.
- BTS and NRL: KIIs with management of BTS and NRL, with DHMT members on NRL and on BTS, KIIs with clinicians from the hospitals that are attached to the OPD's complement the BTS data; purpose of the KIIs is to understand the needs and use of blood from the clinicians' perspective.
- EMRS: KIIs with staff of MOH, CHAL, Red Cross and with clerks and pharmacists in the OPD's and with hospital clinicians on the use of EMRS; observations in OPD's on the functioning of EMRS
- HMIS: KIIs with MoH staff and with DHMT members on the functioning and efforts required of HMIS;
- Decentralisation: KIIs with staff of MoH, the Ministry of Local Development and several NGO's and with DHMT members on process and results of decentralisation;

- HCWM: KIIs with MoH staff and with DHMT members and observations in the OPD's and Health Centers.

Question 8 is the final and quintessential question of the evaluation and builds on the previous questions and the answers to them. As mentioned in chapter 3, amongst others this question will seek to determine in how far the Health Project investments have led to impact, in absence of control over (investments in) other components of the health system. This question also seeks recommendations for the optimization of the program design and the sustainability of the results. KIIs are held with staff of MoH and several other agencies and NGO's, including previous MCA staff, and current MCC staff familiar with the Lesotho Compact, when need arises. During the KIIs, the findings of the data collection and analysis of the first seven questions will be submitted for comments. A final FGD (meeting) with major stakeholders in the country discusses the final conclusions and recommendations, as part of the dissemination.

Time frame of exposure

This section repeats the time frame of exposure for the quantitative data collection.

The time frame of the exposure to the Activities or outputs of the Health Project is different for the various Activities. The first Activities of the Health Project were completed in 2010 (reconstruction of the Domiciliary Health Center in Maseru) and the last Activities in 2014 (reconstruction of Health Centers), three years before this evaluation. Although some outcomes might be expected right away, like the increase of the numbers of students at the NHTC, others might take more time to materialize like the effect on quality of care of in-service training of staff, as a result of the policies and guidelines developed by the Health Project. It is expected that all outcomes of interest occur at present. This is in line with the ERR assumption that the net annual benefits start to accrue from year 10 after the start of the Compact, this is from 2018 onwards, which implies that the crude benefits start to accrue several years earlier. Literature nor the ToC dictate the timing of measuring and the ERR assumption must be considered as fair. Hence, data collection in one round in 2017 can be considered as appropriate timing. Exception to be made for data for which a population based census is required, this will be discussed below in the report. Further, one caveat, as mentioned above, is that recollection of earlier experiences will likely be difficult or impossible to capture due to elapsed time.

Study samples

This section is partially identical to the corresponding section for the quantitative data; there are some sources of information that are not used for the quantitative data and vice versa: some sources for the quantitative data are not used for qualitative data.

Central level

The health system in the whole country has been addressed by the Health Project, thus the whole health system is subject of the evaluation. No sampling is carried out for the KIIs at central level, because all relevant partner-organizations are included in the data collection. In the MoH, directors of relevant departments are asked to be the KII and they may appoint one or more of their department staff members when these have more detailed technical knowledge or have access to specific data, like the overviews of the monthly reports from the districts, delivered through the HMIS. For agencies and NGO's, the directors are asked as KII and these also may appoint one or more of their staff members for the actual interview, based on knowledgeability and availability.

Peripheral level

At peripheral level, in order to limit the amount of data and effort while preserving sufficient numbers to allow for observation of trends and variations, the sampling steps are:

- Districts
- OPDs and Health Centers

Sample sizes and strategy are determined to achieve a broad representation of perspectives on the basis of population numbers, variations in geographical conditions and available resources for this evaluation (level of effort).

Districts.

In order to limit the amount of work and time, not all the districts will be covered by the survey but six out of the 10 districts will selected. This is the number presumed to cover sufficient population and health facilities to be representative. The sampling is stratified: first, in view of its population size, Maseru district in the lowlands is included. Then, the other five districts will be randomly selected from the remaining nine. In order to cover sufficient geographic diversity, at least one of the mountain districts needs to be included. This is motivated by the known climate, access and isolation issues in those districts. If this does not happen through this random sampling, one of the lowlands/foothills districts will be dropped (randomly selected) and replaced by one of the four mountain districts, again randomly selected.

Lowlands and foothills districts	Mountain districts
Berea Butha-Buthe Leribe Mafeteng Maseru	Mokhotlong Qacha's Nek Quthing Thaba-Tseka
Mohale's Hoek district (covers all three zones)	

KIIs

In each of six districts, the DHMT is asked for information. DHMTs typically may have 6 or 7 members with varying roles and intensity of involvement, of which the chair-administrator is the most knowledgeable. The DHMT is invited to appoint three members to be interviewed as Key Informer; therefore, a frame is not needed in advance. The sampling of Key Informers is the administrator plus two other members, based on convenience: those who are most easily available. Two members of each DHMT, including the administrator, in total is considered as the minimum.

OPDs

In the OPD's sampled for the evaluation, KIIs and observations will be carried out in the following manner.

KIIs

For the EMRS question, in each OPD, one of the doctors who are expected to use the EMRS and the clerk who manages the EMRS will be interviewed; also the pharmacist who delivers medicines on the basis of prescriptions, electronic or not, will be interviewed. In addition, two hospital based doctors will be asked about the EMRS use and about availability of blood for transfusions. The hospital director is asked to propose two clinicians who have the most relevant experience and are available. In case the information from the first clinician is clear and precise, there is no need to interview the second one.

Observations

Observations are done on the functionality of the EMRS, the presence of 3 different types of containers of waste, the presence of a functioning placenta fridge, of an incinerator that is being used and of a waste pit (that shouldn't be there).

Health Centers:

FGDs and observations are carried out.

FGDs.

In all the six districts the surveys in the 20-28 Health Centers that were described in the quantitative section are complemented by FGDs with VHW's.

In some cases, there are more than 40 VHW's for one Health Center, in other cases just a few, the numbers vary widely and also the strength of their connection with the Health Center. The evaluation does not seek to involve them all in the FGD's, but a manageable number that also reflects diverse experiences which is arbitrarily set at 15 maximum per Health Center. The Head of the VHW Program in the district is asked for advice and concrete planning is discussed with the nurse-liaison for the VHWs in each Health Center. Initially this is done per telephone prior to the visit (see detailed plan below). The VHW invitation plan is then developed per Health Center. The plan is based on the following selection criteria: VHWs who are known to be active and can be expected to respond positively to an invitation; a balance of VHWs that live close by and far away from the Health Center; a gender mix that corresponds to the gender mix of all the VHWs for that Health Center. When the total number

of VHWs that responds to the invitation to attend surpasses 12, they will be split in two groups.

Observations are done on the functionality of the EMRS, the presence of 3 different types of containers of waste, the presence of a functioning placenta fridge and of a waste pit (that shouldn't be there).

Data Collection Plan

Data collection instruments

Central level

KIIs

Due to the variety of data to be collected, all KIIs are done on basis of semi-structured interviews, there is no standard protocol. The interview structure is based on the specific questions for which the interview is held. Table 10 shows the questions for which the Key Informers are selected. Only for question 8, all KIs are asked the same: their views on lessons learned and recommendations to MCC and the MoH.

Reports

Reports on processes of the Health Project and on developments in the health system are collected and information and data are extracted following the list of questions, using key words or terms, like 'decentralization process'.

Peripheral level

KIIs

At the level of the DHMT, OPDs and Health Centers, the KIIs are all semi-structured as well. Protocols address the specific questions for each type of respondent.

Timing

The **first Phase** is the collection at central level. This includes one single round of KIIs and the collection of published and unpublished reports in a period of three to four weeks. During **Phase II**, mostly primary and some secondary data will be collected in the districts. For the KIIs, surveys, observations and FGDs, questionnaires and checklists will be used. Table 11 summarizes the data collection at peripheral level.

Respondents

This section is partially identical to the corresponding section for quantitative data.

By purpose, phase I is stretched out over several weeks, in order to be able to contact all contacts-sources that can give access to the relevant reports and data. Respondents that are missing at the first attempt are re-contacted several times until they are available.

For phase II, the work in the OPDs and Health Centers, KIIs, FGDs and observations, is prepared with DHMT and with management of the individual OPDs and Health Centers. This ensures that the work takes place at a moment that there are sufficient health professionals available. For information to health staff, a written note in English and Sesotho will be made, for explanation of purpose of the survey, how the results will be used and the anonymity of the survey.

Surveyors

At central level, all KIIs and collection of reports for data is done by the Principal Investigator.

As will be explained in more detail in the chapter Administrative, the interviews and observations in DHMTs, OPDs and Health Centers and the FGDs are carried out by three teams of two Basotho surveyors each. The work is carried out in Sesotho. All surveyors are proficient in Sesotho and English and have relevant professional qualifications.

Data processing

The data (answers) from the semi-structured KI interviews at central level are recorded in English on paper and then transferred to the laptop by the Principal Investigator. No voice recording is done, to avoid previously observed reluctance of respondents to provide information.

At peripheral level the surveyors use voice-recorders for KIIs with semi-structured interviews. The surveyors use checklists in Excel or WORD with codes for pre-determined answers and space for codes for additional answers. For each category of respondent/KI a separate template is made, since there are specific questions for each category. For observations in the OPDs and Health Centers, a template in Excel is used to record the data on the surveyors' PDA. The Excel and WORD documents are later copied on the laptop of the Principal Investigator and uploaded on dedoose.

During FGDs, the surveyor teams record the semi structured conversations on voice recorders and translate in English and transcribe later in WORD documents. These are copied on the laptop of the Principal Investigator and uploaded in dedoose. One example: during the FGDs, with the VHWs, amongst others the question is discussed if there is a change in satisfaction levels of the population in that area over the last 5 to 7 years and if yes, why. The answer to the change question is coded (yes/no/somewhat/not sure; concordant or discordant views among the VHWs) and the answers to the why question is coded as well, by including potential answers (for example: if change: because of better roads and accessibility; more staff; more friendly or more competent staff, etc.) and leaving room to add additional answers. Also, there are codes to indicate the number or proportion of participants who express or support a particular point of view.

KIIs and questionnaires for professionals will be recorded in English and questionnaires/interviews with users/patients will be conducted and recorded in Sesotho.

Data quality

Data quality is a major concern and therefore the process of secondary data collection and triangulation is extensive as it is.

To ensure quality of survey data, the surveyors are trained, followed by a pilot survey in one OPD and one Health Center in Maseru, under observation of the Principal Investigator and the assistant. The pilot helps the surveyors to become familiar with the template on the PDAs and it may lead to rephrasing of questions.

The surveyor teams will be supervised by the Principal Surveyor and assistant and they will have permanently phone access to them to ask for support and orientation.

Summary table

Tables 10a and 10b show the sources of information at central level: KIIs and reports and other documents.

Table 10a Summary of sources of data at central level (Phase I)

	KIIs	Questions for which data and views will asked:
MoH	Director of Planning	7.4 EMRS 7.5 HMIS 7.6 decentralization 8
	Director of Human Resources	5.2 + 5.3 + 5.7 staffing 8
	Director of Estate Management	7.7 HCWM 8
	Head of Research Unit	7.6 role research unit 8
	Head of Public Health nursing	5.2 + 5.3 + 5.7 staffing 8
	Head of IT department	7.4 EMRS 7.5 HMIS 8
	Chief Health Inspector	8
Ministry of Local Government	Director of Planning	7.6 decentralization 8
CHAL	General Director	5 staffing issues 7.2 quantity/quality of care and staffing 7.4 EMRS 7.6 decentralization 7.7 HCWM 8

Red Cross Society	Director	5 staffing issues 7.2 quantity/quality of care and staffing 7.4 EMRS 7.6 decentralization 7.7 HCWM 8
National Health Training Center	Director General Senior tutors	5 staffing issues 6 training and career issues 7.2 quantity/quality of care and staffing 8
Blood Transfusion Services	Director	6 training issues 7.3 improvement BTS and health care system 8
Central Laboratory	Director	7.3 improvement NRL and health care system 8
Partners in Health	Executive Director	5 staffing issues 7.2 quantity/quality of care and staffing 7.6 decentralization 7.7 HCWM 8
USAID, CDC, PEPFAR	Country directors, representatives	3 ART and HIV patients 7.5 HMIS 8
ICAP	Director	7.5 HMIS 8
Solidarmed	Country Director	5 staffing issues 7.2 quantity/quality of care and staffing 7.7 HCWM 8
WHO	Country Representative	7.5 HMIS 7.6 decentralization 8
All of the above will be asked for lessons learnt, question 8, in their respective domains and in general, with regards to support to the health system.		

Secondary data

Table 10b below shows the secondary sources of information.

The secondary data sources can be divided in three types:

1. One type of report is the result of regular reporting in the health system. These are MoH data.
2. The second type of report is the result of a study or survey that is done once or regularly. Various authors or organizations are responsible for these data.
3. The third type of report is a review of the current situation, for the purpose of providing background to a policy or program. Here again, the data come from a variety of authors or organizations. These data are mostly based on statistics or other

previously available data. They copy mostly data from MoH (category 1, above) and sometimes have triangulated data from various sources.

All these reports are all available in electronic form.

The quality of data varies and cannot be assessed specifically for each report. In general, data from category 2 are relatively accurate, data from 1 and 3 may be incomplete or imprecise. As a result of issues of data quality, extensive triangulation of data from various sources is required.

Table 10b Secondary data sources

Name of report	First and following questions:	Type of report and data sources	Relevance
MCA LSO; Final Report, Volume 3 Health Sector, Jan 2014	3.1.1 3.1.2 2	End-of –program Review. Data collection through document review and interviews in 12 Health Centers and 5 hospitals, and the 3 central facilities. Sampling of HSS events in selected districts of the three Regions (interviews carried out during Hospital visits); Health Care Waste Management in 3 districts.	Implementation processes of Health Project. Overall review of Health Project describing implementation and key results, conclusions and lessons for the health sector.
2015 national survey on availability and accessibility on modern contraceptives and essential life-saving maternal and reproductive health medicines	3.1.1	Facility based survey in 2015	Provides data on waiting times, satisfaction, service availability and on use of contraceptive services.
AJR's 2014/15	3, 5, 7	Annual Joint Review, see extended description in Annex 1.	Variety of health facility based data in all 10 districts
Ministry of Health. July 2014. Lesotho PHC Revitalization- Services Availability and Readiness Assessment- Integrated Supervision Report –MoHSW Assessment Team.	3.2	Survey that covered a total of 178 health facilities in Lesotho, based on interviews at health facility and central level.	Data on health facilities and their functioning, for triangulation

Name of report	First and following questions:	Type of report and data sources	Relevance
Routine statistics of 2014/15	3, 5, 7	There are various reporting systems operating in the health system. General health services, HIV/AIDS and TB programs, laboratory services and other services have different frequencies and formats of reporting. These reports in principle provide data on all aspects of the health services: inputs, processes, outputs and outcomes.	Data on health service delivery and health service use, some outcome data like mortality in health facilities
DHS 2004, 2009, 2014 reports	3.2, 3.3, 3.4 4	5-yearly population based survey using internationally agreed standards and methodology on health and demographic factors.	Data on morbidity / mortality and use of health services
2016 PEPFAR report to Congress	3.2.2	Multi-country report on activities and results of HIV/AIDS programs	Data on results of HIV/AIDS programs in Lesotho, include treatment adherence; serves to complete other sources
Afr Health Sci. 2013 Dec; 13(4): 1117–1125. Attitude of Lesotho health care workers towards HIV/AIDS and impact of HIV/AIDS on the population structure JA Belle, SB Ferriera and A Jordaan	3.1.1	Study	Background to staff attitude
Global AIDS response Progress report; 2015, Lesotho, MoH	3.3.2 3.4	Report with extracts of national statistics on HIV and TB	For triangulation of data
The People living with HIV stigma Index, Lesotho 2014; by Lesotho Network of People Living with HIV and AIDS	3.3.1	Population based survey in 10 districts on stigma	Data on HIV stigmatization and actions to counter stigmatization
Maternal mortality in Lesotho 1990-2015; WHO, UNICEF, UNFPA, World Bank Group, and United Nations Population Division	3.4	Desk study based on secondary data	Provides data on maternal mortality

Name of report	First and following questions:	Type of report and data sources	Relevance
Lesotho developing subnational estimates of HIV prevalence and the number of people living with HIV UNAIDS 2014	3.4	Study on HIV data and data quality	For triangulation of HIV data
Report on MSF workshop, November 2015	3.4	Provides analysis of midwifery services in one district in the country with proposal for improvement.	Provides background data for understanding of evolution of maternal mortality
Stop TB partnership communication on sustainable financing for TB drugs	3.4	Website communication	Obstacles and opportunities for TB treatment
Concept note of LMDA	4.2	Report by LMDA in preparation of Compact II. Contains a 'root cause analysis' of the high burden of disease in Lesotho. Amongst others, chapters on '(inefficient) health spending' and on 'limited access to primary health care in rural areas'.	Provides explanations for observed progress and lack of progress in various domains of the health system. Based on statistical data and on stakeholder consultations.
Article MSF about financial barriers: 'Costing of free maternal care'.	4.2	Study based on records and interviews in St Joseph's hospital.	Data and data analysis of relationship between hospital and Health Centers, focused on financial barriers to maternal care
2015 LMDA survey on Health Facilities Maintenance	5.1 2	Facility based survey related to infrastructure maintenance	Assessment of maintenance practices and related staff satisfaction in 156 Health Centers, 17 Hospitals and 10 districts in Lesotho to inform performance indicators
Lesotho Health Worker Optimization Analysis, final results and potential application; Clinton Health Access initiative, 2014	5.2	Study plus recommendations	Background to assessment of (shortage of) staff numbers
Evaluation of MSF OCB Roma & Semongkong project, Lesotho "Reducing maternal and infant morbidity and mortality in a hyper-epidemic HIV/TB setting"	7.1	Evaluation report at end of 5 year project, October 2015	Contextual information on health services functioning with emphasis on Mother and Child Health

Name of report	First and following questions:	Type of report and data sources	Relevance
Strengthening Laboratory Management Towards Accreditation: The Lesotho experience	7.3.1	Report on implementation of accreditation program	Background to (non) achievement of Health Project objectives with regards to laboratories.
Accurate stock reporting: Ensuring the availability of laboratory commodities for HIV testing in Lesotho, 2015'	7.3.1	Report on program to improve reporting on laboratory stocks. Blog from SIAPS Lesotho Country Project Director. SIAPS = Systems for Improved Access to Pharmaceuticals and Services.	Background to (non) achievement of Health Project objectives with regards to laboratories.
Documents specifically used for qualitative data			
"End of Compact" review.	2	Review of Health Project Activities	
Findings of Independent Engineer Investigation, Nov /Dec 2014	2	Photographic Documentation of Improved Physical Plant Provided by the MCC Health Project	Background information to results of the infrastructure improvement.

Table 11 Summary of data collection scheme in districts (Phase II)

Location / level	**FGDs**	**KII**
Six districts		2-3 members of DHMT / district, including the administrator
20 to 28 Health Centers	1 FGD VHW's	
8-10 OPDs		1 manager 1 clerk 1 pharmacist 1 clinician
8-10 hospitals		1 -2 clinicians
Totals		
Total number of FGDs	20-28	
Total number of professionals, (district) managers, clerks		44-64 KIIs
Total number of protocols	1	6

Analysis Plan

Various types of analysis will be applied to the information on the individual questions, including:

- Description of project implementation. This is mentioned in the introduction of this chapter. Related to the questions, all (sub)Activities of the Health Project are described in more detail, including changes of planning and reasons for change.
- Description of health system changes, as a result of the Health Project. This includes references to the ToC.
- Review of lessons learned according to reports and stakeholders at central and peripheral level; Identification of lessons learned is an iterative process of collecting data and evidence, experiences and views among many stakeholders during the entire process of data collection and analysis, in which also DHMTs take part, culminating in a final stakeholders meeting that agrees on the final list of lessons learned.

On the next pages**, Table 12** provides a summary of evaluation questions, data collection and analysis for both quantitative and qualitative data. It synthesizes the entire evaluation approach, as follows:

Column 1:
Key outcomes / metrics
Cells colored yellow indicate qualitative outcomes and data to be collected and analyzed.
Cells colored blue indicate quantitative outcomes and data to be collected and analyzed.

Column 2:
Feasibility of answering the questions.
Does baseline data exist?
For many but not all questions, the feasibility of answering the evaluation questions is contingent upon availability of baseline data.
Feasibility is indicated as follows:
+++ = feasible;
++ = feasible but with gaps;
\+ = hardly feasible
NA = availability of baseline data is not applicable; mostly because no comparison with baseline is required.

Columns 3
Post Compact data from central and peripheral levels are listed here: the data sources and the data types

Column 4
Data analysis; short description of how the data will be analyzed and presented in the evaluation report:

Quantitative analysis

QN A
Description of numerical outputs / results of the Health Project.

QN B

Description of outcomes in the form of tables and graphs, that show the evolution of the parameters under investigation, for example satisfaction of patients/users with health professionals or the number of TB patients under treatment in the country, pre-post. Description of (non) trends without statistical testing due to incomparable data.

QN C
Where (triangulated) baseline data sets are sufficiently available, for some pre-post data, a t-test will be done to examine the significance. This is the case for several questions that address changes in the health facilities: results of the planned Health Facility Survey in 2017 will be compared with those in 2011, allowing for the use of paired samples, for example on patients' perceptions of Health Centers and the use of Health Centers.

QN D
Description of numbers and proportions at a single point in time, for example numbers and proportions of health professionals that use HCWM material properly.

Qualitative analysis

QL A
Description of project implementation. This is mentioned in the introduction of this chapter. Related to the questions, all (sub)Activities of the Health Project are described in more detail, including changes of planning and reasons for change.

QL B
Description of health system changes, during and since the Health Project, with discussion of contribution and attribution. This includes references to the ToC.

QL C
Review of lessons learned according to reports and stakeholders at central and peripheral level

Identification of lessons learned is an iterative process of collecting data and evidence, experiences and views among many stakeholders during the entire process of data collection and analysis, in which also DHMTs take part, culminating in a final stakeholders meeting that agrees on the final list of lessons learned.

Evaluation question from ToR: 1 Is the program evaluable?	**Table 12**
This question was addressed in the evaluability report	

Evaluation question from ToR 2 Was the program implemented according to plan? What was the original plan? Did the plan or objectives change over time? How so? What were the implications?						
1 Key outcomes/metrics	2 Feasibility of answering the questions. Does baseline data exist?	3 Post Compact				4 Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Description of original plan, changes of objectives and major changes in the implementation of the (sub)Activities. Implications of changes in objectives or implementation. Recommendations to rectify shortcomings. For each (sub)Activity, context will be provided in the sense of investments of other organizations and major policy shifts, since the start of the Compact to date.	++ Lesotho Country Proposal to the Millennium Challenge Corporation (MCC) A Program for Improvement of Water Supply, Rehabilitation of Health Infrastructure and Promotion of Private Business Development, Maseru, July 2006 Investment Memorandum, Health Section Compact	PIU reports and other MCA-L implementation docs End of Program Review Findings of Independent Engineer Investigation, Nov /Dec 2014	Reports			QL A
		Staff of MoH, other institutions and NGO's. MCC staff involved in Health Project	KII			

Evaluation question from ToR 3.1.1 To what extent have patients' perceptions of Health Centers and OPDs changed? Have perceptions changed since the Compact began?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Outcomes are taken from HFS 2011, that served as baseline for the Health Project	+++	AJR 2015 and 2016	report	patients / users in OPDs and Health Centers	HFS 2017	QN C

According to patients: Average consultation cost at HCs; clients not charged, Nurse attitude Satisfied / Not satisfied Doctor attitude Satisfied / Not satisfied Treatment satisfaction Satisfied / Not satisfied Waiting room area satisfaction Satisfied / Not satisfied Consultation room satisfaction Satisfied / Not satisfied Toilet used Yes / No Toilet Satisfied / Not satisfied Medicine or Prescription given? Medicine; Prescription; Both; Neither	HFS 2011 AJR 2009 and 2010	2015 national survey on availability and accessibility on modern contraceptives Afr Health Sci. 2013 Dec; 13(4): 1117–1125. Attitude of Lesotho health care workers towards HIV/AIDS and impact of HIV/AIDS on the population structure JA Belle, SB Ferriera and A Jordaan	reports	VHW'	FGD	QL B Identification of reasons for (dis)satisfaction, as these are not described in the HFS 2011.

Evaluation question from ToR 3.1.2 Have waiting times been reduced?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Outcomes are taken from HFS 2011, that served as baseline for the Health Project Consultation waiting time at HCs	+++ HFS 2011	END OF PROGRAM REVIEW FINAL REPORT, January 2014	Report (general statements, no quantitative data on waiting times)	patients/users in OPDs and Health Centers	HFS 2017	QN C QL B: Description of (absence of) trends of patients'

Average per Client Dispensary waiting time at HCs Average per Client	AJR 2010 Continuous Multi-Purpose Household Survey: Third Quarter Report, September 2010	AJR 2016	Report			perceptions, as expressed by VHW's
If so, has EMRS contributed to a reduction in wait times?	See questions 7.4					
3.1.3 Do health professionals understand patients' concerns and spend adequate time addressing them?	See question 3.1.1					
Evaluation question from ToR 3.2 Has utilization of Health Centers and OPDs changed? 3.2.1 What services are used most? Has utilization changed around HIV/AIDS, TB, and MCH services specifically?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	

Outcomes are taken from HFS 2011, that served as baseline for the Health Project Average number of general consultations, children <5yr, visits last month, per HF Total / Male / Female Average number of general consultations, adults (excl. pregnant women), visits last month per HF, Average number of general consultations, pregnant women, visits last month, per HF Average number of general consultations, family planning clients, visits last month, per HF Child immunizations, average number, last month, per HF Average number of adults tested for HIV, last month per HF Average number of HIV+ adults on HAART, currently, per HF New TB cases detected (incidence) per year TB patients receiving treatment	+++ HFS 2011 AJR 2010 and 2011	AJR 2015 and 2016 MOH July 2014. PHC - Services Availability and Readiness Assessment PEPFAR: Lesotho Country Operational Plan (COP) Strategic Direction Summary May 20, 2016	reports	OPDs / Health Centers	HFS 2017: Data from registers of last month	QN C AJRs and post Compact data sources serve to triangulate.

Evaluator's proposal Costs of transport to/from health facility: % of health facilities where 50 % or more of users/patients have to pay; average costs for those who pay	0			patients/users in OPDs and Health Centers	HFS 2017	QN D
Evaluation question from ToR 3.2.2 Who seeks treatment at Health Centers and OPDs? Has this changed since the Compact began?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Total numbers of users in health centers and OPDs in the country, before / after; % of users in the health centers and OPD's, before /after	+++ HFS 2011 DHS 2004–2009 AJR 2009 and 2010	DHS 2014 AJR 2015 and 2016	Reports	OPD's and Health Centers	HFS 2017: data from registers	QN C on basis of HFS 2011 and 2017 Triangulation with other reports
Level and change in use of health services by specific population groups: rural/urban; education level, Men having Sex with Men (MSM) Sex Workers (SW)	++ Continuous Multi-Purpose Household Survey: Third Quarter Report September 2010 DHS 2004 and 2009	PEPFAR: Lesotho Country Operational Plan (COP) Strategic Direction Summary 2016 (DHS 2014)		VHWs Local NGOs of MSM and SW	FGD KII	QN B QL B
Evaluation question from ToR 3.3 Specific sample of HIV-positive patients: 3.3.1 Have ART integration efforts contributed to a reduction in social stigma around HIV/AIDS treatment?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Perceived actions at health facility level to reduce social stigma, Perceptions at the level of DHMT, staff and VHW's Perceived (same as above) and reported change in social stigma	+ DHS 2004 and 2009	MCA End of Program Review DHS 2014 The People living with HIV stigma Index, Lesotho 2014;	Report	patients/users in OPDs and Health Centers	HFS 2017	QL B
				Health professionals in OPDs / Health Centers	HFS 2017	QL B
			report	DHMT	KII	
				VHW's	FGD	

		'Attitude of Lesotho health care workers towards HIV/AIDS etc'	report	Local NGOs	KIIs or FGDs	

Evaluation question from ToR 3.3 Specific sample of HIV-positive patients: 3.3.2 Are HIV/AIDS-positive patients more likely to seek care now than they were before the Compact began? 3.3.3 Are HIV/AIDS- positive patients more likely to adhere to treatment now than they were before the Compact began?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Numbers and proportions of HIV positive patients who seek care: incidence and % of adherence	+++ AJRs 2009 and 2010 DHS 2004, 2009 HFS 2011	AJRs 2015 and 2016 DHS 2014 Global AIDS response Progress report 2015, Lesotho,	report report report	HFS 2017 OPD and Health Center VHW	Register FGDs	QN C QL B

Evaluation question from ToR 3.4 Have overall health outcomes such as infant, child, and maternal mortality; TB treatment success rates; HIV/AIDS treatment, and survival rates changed since the start of the Compact?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Outcomes follow from Compact and M&E Plan; all other outcomes as described in the Compact and M&E Plan will be described as well, see the indicator tables above. 3.4.1 Maternal mortality: average number of deaths per 100.000 pregnancies 3.4.2 Child mortality; average number of deaths at age 1 to 5, per 100 3.4.3 Infant mortality; average number	3.4.1, 3.4.2, 3.4.3 All +	DHS 2014				All QN B
	3.4.4 +++ 3.4.5 +++ DHS 2004-2009 HFS 2011 AJR 2009 and 2010	DHS 2014 AJRs 2015 and 2016 subnational estimates of HIV prevalence and the number of people living with HIV - UNAIDS 2014 MSF workshop, November 2015 Stop TB partnership communication on sustainable financing for TB drugs	Reports	Registers in OPDs and Health Centers	HFS 2017	3.4.4 and 3.4.5 QN C based on HFS data and triangulation with all other sources

of deaths at the age of 0 -1 year 3.4.4 TB treatment success rates; Proportion of patients that starts treatment and is cured 3.4.5 HIV/AIDS treatment, and survival rates: Number of HIV+ patients that is under treatment % of HIV patients that is alive after 1 and 5 years of treatment.		2015-2020 National& District Targets March 2016, Global Fund Global AIDS response Progress report; 2015, Lesotho, MoH				QL B
Evaluation question from ToR 4 Community outcomes 4.1 What proportion of community members use the Health Centers and OPDs?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
% of community members that seek to use healthcare services for TB, STI and deliveries	++ DHS 2004-2009	DHS 2014	report	VHWs	FGDs	QN B QL B
Evaluation question from ToR 4.2 Who chooses not to seek treatment at Health Centers and OPDs? Why (i.e., what are the barriers to seeking health care)?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Self-reported barriers that block people from using health care In relation to barriers for seeking care: In/decrease of population acceptance towards services for TB, STI and deliveries as expressed by VHW's;	+++ DHS 2004-2009	DHS 2014 Concept note of LMDA Article MSF about financial barriers	reports	VHWs	FGDS	QN B QL B

% of community members that seek to use healthcare services for TB, STI and deliveries Reported barriers that block people from using health care	+++ DHS 2004-2009	DHS 2014 Concept note of LMDA Article MSF about financial barriers	reports	VHWs	FGDS	QN B QL B
Evaluation question from ToR 5 Health Professional Outcomes 5.1 How satisfied are health professionals with their work environment now compared to before the Compact began?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Outcomes are taken from HFS 2011, that served as baseline for the Health Project Expressed satisfaction levels of health professionals concerning working and living conditions	+++ HFS 2011	2015 LMDA survey on Health Facilities Maintenance	report	Health professionals in OPDs and Health Centers	HFS 2017	QN C
Evaluation question from ToR 5 Health Professional Outcomes 5.2 Are Health Centers (especially more remote Health Centers) staffed at appropriate levels?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Outcomes are taken from HFS 2011, that served as baseline for the Health Project Percentage of HCs with at least one Nurse Clinician, one Professional Nurse and one Nursing Assistant % of defined positions factually staffed NB: To define 'remote' Health Centers and 'appropriate' level. No agreed national definition of remote. 'Appropriate' differs per level.	+++ HFS 2011 AJR 2009 and 2010	AJR 2015 and 2016	reports	Health professionals in Health Centers and OPDs	HFS 2017	QN B QL B
		Managers and staff in MoH, CHAL, Red Cross, PiH, Solidarmed LMDA	KII			
		Lesotho Health Worker Optimization Analysis	Report			

Evaluation question from ToR 5 Health Professional Outcomes 5.3 What factors influence staffing levels, motivation, and productivity of health staff? 5.4 Are staff likely to remain in the profession or at their current location? 5.5 Has staffing, motivation, and productivity changed since the start of the Compact? To what extent are changes related to the Project? 5.6 To what extent do these issues still need to be addressed in order to reach and maintain appropriate staffing levels and achieve a high quality healthcare system?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
5.3 Implementation status of the Retention Strategy and Plan ; Reported factors and their relative importance that influence staff levels, motivation and productivity 5.4 Expressed intention to stay at current location and average recorded annual attrition rates; change of % of filled positions 5.5; expressed change in motivation of staff; 5.6 Perceived problems with motivation and productivity of staff.	5.3 +++ 5.4 + 5.5 + 2004 HR Needs Assessment Study MoH Health Worker Retention Strategy and Action Plan 2010	HRH Optimization study HR department of MoH CHAL Red Cross	report KII	Health professionals in Health Centers and OPDs DHMT	HFS 2017 KII	5.3, to 5.6 QN B QL B
Evaluation question from ToR 5 Health Professional Outcomes 5.7 Are health professionals aware of the training opportunities available to them? 5.8 Do they participate in the trainings? 5.9 How do they perceive the relevance and effectiveness of these trainings? 5.10 Are there particular trainings that are more important than others? How so?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
5.7 Rates of health professionals that have information about MoH in-service training opportunities **Outcomes are taken from HFS 2011, that served as baseline for the Health Project** 5.8 Percentage of Nursing Staff that participated in in-service training during the past 12 months	5.7 +++ HFS 2011 5.8 +++	Various departments at MoH that provide trainings	KII	5.7, 5.9, 5.10 Health professionals in Health Centers and OPDs 5.8 DHMT	HFS 2017 KII	5.7 QN D 5.8

5.9 Perceived appropriateness and applicability of training for nurses in the Health Centers and OPD's **Evaluator's proposal:** 5.10 Listed perceived importance (priority) of available trainings for nurses. 5.11 Has the training calendar been used / is it still in use?	5.9 +++ NA 5.10 +++5.11 +++			5.11 MoH	5.11 KII	QN B or QN C (HFS 2011 unclear data) 5.9 QN C 5.10 and 5.11 QN D

Evaluation question from ToR 6 Student outcomes 6.1 Did the NHTC investment contribute to increased enrollment and graduation from NHTC?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
6.1 Number of enrolled and graduated students	+++ Annual Reports of NHTC 2009/10	Annual reports of NHTC 2014 to 2017	reports			QN B
		Management and senior tutors of NHTC and CHAL nursing school	KII			

7 System outcomes These questions are envisioned primarily for an administrative/system level (rather than individual patient or health care provider necessarily, though some issues will be explored on-site). 7.1 Are essential services offered at all Health Centers? If not, why not?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Outcomes are taken from HFS 2011, that served as baseline for the Health Project 7.1.1 % of Health Centers that offer the following essential services:	+++ AJR 2009 and 2010 Health Facility Survey 2011	AJR 2015 and 2016 Routine data	reports	Health Centers	registers	QN B or C QL B
				Health professionals in Health Centers	HFS 2017	
				VHW's	FGDs	
				DHMT	KII	

- 24/7 availability of obstetric services and transport for obstetric referral - 24/7 availability to attend urgent cases; - availability of HIV and TB diagnostic and therapeutic services. - 7.1.2 % of health centers that received visits by Social Worker during past 3 months 7.1.2 % of health centers that received visits by doctor during past 3 months 7.1.3 Availability of the three guidelines for Primary Care in the Health Centers NB: Analysis of delivery of all essential services in the country would require more resources than available for this evaluation. Therefore, the evaluation will focus on a limited list of essential services, which are related to the targeted outcomes of the Health Project:		Evaluation of MSF OCB Roma & Semongkong project, "reducing maternal and infant morbidity and mortality'	Report			FGDs with VHW's serve to complement and triangulate the results of the other sources

7 System outcomes	These questions are envisioned primarily for an administrative/system level (rather than individual patient or health care provider necessarily, though some issues should probably be explored on-site).
7.2 To what extent have NHTC and other HSS interventions contributed to the quantity and quality of staff at Health Centers?	

Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
7.2.1 Change of quality of graduated students as perceived or objectivized by NHTC tutors and by DHMTs.	++ Annual Reports of NHTC 2009/10	MoH Department of Planning; nursing unit. Management and trainers of NHTC, CHAL, Red Cross, CDC,	KIIs	DHMT	KII	7.2.1 QL B 7.2.2 QL B

7.2.2 NHTC staff's perception of the role of extended/improved premises and of didactic material (computers) in bringing about changes 7.2.3 % of nursing positions filled in Health Centers and OPD's	Health Project documents pertaining to NHTC and HSS	management and trainers of NHTC	KII			7.2.3 QN C
7 System outcomes These questions are envisioned primarily for an administrative/system level (rather than individual patient or health care provider necessarily, though some issues will be explored on-site). 7.3 To what extent do the BTS interventions contribute to an improved health care system? 7.3.1 Has the availability and use of blood in the treatment of patients changed since the Compact started? 7.3.2 Has the processing time for blood services been reduced?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
7.3.1a Level and change in availability of blood units for treatment 7.3.1b Level and change of units of blood disposed of (wasting factor) NB Processing time for blood is irrelevant for the users since hospitals are provided with regular standard supplies. Issue is not timeliness but quantity and quality	+++ Pre-Compact registers of BTS	BTS registers	reports	DHMT	KII	7.3.1a QN C 7.3.1b QN D
		Management of BTS	KII			
		Clinical director of hospitals: Queen Mamohato and Queen Elizabeth II	KII	District Hospital clinicians	KII	
7 System outcomes These questions are envisioned primarily for an administrative/system level (rather than individual patient or health care provider necessarily, though some issues will be explored on-site). 7.3 To what extent does NRL contribute to an improved health care system? 7.3.1 To what extent do the NRL interventions contribute to an improved health care system? Has the availability and use of NRL services in the treatment of patients changed since the Compact started? 7.3.2 Has the processing time for laboratory services been reduced? 7.3.3 Are more tests (or a larger proportion of tests) being processed at the NRL than sent to private laboratories or out of the country for processing?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
	++	Management of NRL	KII		HFS 2017:	7.3.1

7.3.1 Level and change in use of NRL services in treatment % of health centers with HIV Rapid Test, sputum test, Pregnancy Test and Blood Glucose test. 7.3.2 Level and change in availability, quality and timeliness of NRL products NB timeliness to be defined for various key tests, like HIV confirmation. NB Processing time of these services is very relevant since clinical decisions often depend on test results 7.3.3 Change in % or number of tests sent to South Africa or to private labs, annually	Pre-Compact registers of NRL	NRL	Registers	OPD's and Health Centers labs Health professionals in OPDs and Health Centers	Registers of tests observation	QN C and QL B 7.3.2 QN D 7.3.3 QN B or C

7 System outcomes	These questions are envisioned primarily for an administrative/system level (rather than individual patient or health care provider necessarily, though some issues should probably be explored on-site). 7.4 EMRS[9] 7.4.1 Has it been rolled out to all hospitals? 7.4.2 Does it work? 7.4.3 To what extent is EMRS used in the treatment of patients? 7.4.4 Regarding the pharmacy module in particular, does it work and is it used in practice? 7.4.5 Does EMRS contribute to an improved health care system generally? If so, how? If not, why not? 7.4.6 Is the IT system being utilized and maintained?					
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
7.4.1 and 7.4.2 % of the 14 hospitals ánd OPDs in which the EMRS is in operation permanently (without	+++	Managers and policymakers in MoH, CHAL and Red Cross	KII	Doctors, clerk and pharmacist in OPDs OPDs	KII Observations by evaluation team	All 7.4: QN D and QL B

[9] NB: The essence of EMRS is that it needs to function in OPD's ánd the adjacent hospital simultaneously, in order to ensure continuity of information. The use of EMRS in OPD's alone is a stage in the EMRS development.

interruption) and used by more than 50 % of doctors 7.4.3 % of OPD patients for which EMRS is used, in each of the OPD's 7.4.3 % of physicians in hospitals and OPDs who use EMRS for (most/all of their patients 7.4.4 Reported use of EMRS for pharmacy stock management 7.4.5 Perceived improvement of availability, quality and continuity of data, compared to previous paper records only; perceived obstacles to use of EMRS. 7.4.6 % of hospitals/OPDs that have functioning IT system that is being used by staff	NA No EMRS exists at the start of the Compact	MoH head of IT department	KII			
7 System outcomes	These questions are envisioned primarily for an administrative/system level (rather than individual patient or health care provider necessarily, though some issues should probably be explored on-site). 7.5 Does HMIS facilitate the provision of data to the MoH? 7.5.1 How does the MoH use data collected at various levels of the health care system? 7.5.2 Does the HMIS facilitate the provision of data to the MoH? 7.5.3 Are the data sent to the MOH considered timely and reliable? If not, why not? 7.5.4 Do mechanisms exist to identify and resolve potential data quality problems within the system? If not, why not? 7.5.5 Are there sufficient personnel located in the districts to use and maintain the HMIS?					
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	

7.5 Major changes in HMIS design and implementation plans since the start of the Health Project 7.5.1 Short term: MoH responsiveness to notifications of infectious diseases Long term: actions taken by MoH on basis of reporting 7.5.2 and 7.5.3 Completeness and timeliness of reporting by districts to MoH improved as a result of HMIS, as recorded and reported by MoH on the basis of registration of the monthly reports; expressed as not-improved/ no change/some improvement / much improvement 7.5.4 Functioning of data quality assessment system at central and peripheral level, as reported by MoH and DHMT's; expressed as not-improved/ no change/some improvement / much improvement 7.5.5 % of districts with perceived sufficient availability of dedicated staff for operating and maintaining HMIS, as reported by DHMT's	7.5 +++ 7.5.1 ++ 7.5.2 and 7.5.3 +++ 7.5.4 +++ 7.5.5 +++ Health management information system - review and plan June 2010 Statistics on timeliness of reception of reports in 2009 Data Quality Assessment 2009	MoH Dep. of Planning; Head of ICT; MoH statistics on quality and timeliness of reports Directors of: ICAP, CDC, PiH CHAL, Red Cross, Solidarmed,	KII reports KII	DHMT	KII	7.5 QL B 7.5.1 QL B 7.5.2 and 7.5.3 QN B 7.5.4 QN B 7.5.5 QN D QL B
7.6 Decentralization 7.6.1 How did the Compact contribute to the GOL's plans for decentralizing health services and changing the role of the DHMTs? 7.6.2 Do these changes contribute to an improved health system? If so, how so? If not, why not? 7.6.3 What is the role of the Research Unit at the MoH in contributing to an improved health system? Is it functioning according to plan? Is research generated through this mechanism? Do research findings inform health policy?						
Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	

7.6.1 Perceived contribution of Compact to decentralization process 7.6.2 perceived benefits and constraints as a result of decentralization and of the process of decentralization; perception of major stakeholders in MoH and among organizations that support health services.	7.6.1/7.6.2 + NA	Compact documents on Decentralization; AJRs 2015 and 2016; PHC Revitalization-Services Availability and Readiness Assessment-	Reports	DHMT	KII	7.6.1 and 7.6.2 QL B 7.6.3 QL B QN D QL B
		Ministry of Local Development; Management of PiH, Solidarmed	KII			
7.6.3 Description of current functioning of Research Unit # Proposals submitted # Proposals approved Examples of policy decisions informed by research	7.6.3 +++ Health Research Assessment Report 2010	7.6.3: Annual plans of Research Unit; Lists of research plans submitted to ERB Directors of MoH Departments of Planning and Health Services, Head of Research Unit;	KII and reports			

7 System outcomes	These questions are envisioned primarily for an administrative/system level (rather than individual patient or health care provider necessarily, though some issues should probably be explored on-site). 7.7 Health Care Waste Management 7.7.1 Has the rollout of HCWM been completed? 7.7.2 Is the overall system functioning according to plan? 7.7.3 Do health facilities have the materials and equipment required for HCWM? 7.7.4 To what extent do health professionals use HCWM materials and equipment according to proper procedure? 7.7.5 Is waste being picked up and transported to facilities with incinerators on a regular basis? What happens when waste is brought to facilities with incinerators? What happens with any waste that is not transferred to other facilities? 7.7.6 Are closed systems functioning well? 7.7.7 Is maintenance and oversight taking place?

Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Post Compact				Data analysis
		Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
Description of the implementation of HCWM plans. In particular: Use and implementation of (1)	+++	MoH Estate Management Unit	KIIs	Health professional Health Centers and OPD's	HFS 2017	7.7 Evaluator's review QL A and QL B

'asset management policy' and (2) the guideline for the 'Preventative Maintenance Management Strategy' and (3) recommendations of the 'Report on the Institutional Arrangements for the EMU' that were developed by the Health Project 7.7.1 and 7.7.2 and 7.7.3 % of OPD's and Health Centers in which the basic components of HCWM have been introduced and are functioning: Training of staff, availability of 3 types of disposable containers and functioning placenta refrigerator; based on declarations of KIIs and on observations. 7.7.4 % of health professionals using the materials and equipment properly NB: 'Properly' will be defined with MoH Estate Management Unit. 7.7.5 % of health facilities with regular access to a functioning incinerator or transport of waste to an incinerator 7.7.5 % of health facilities where waste is collected and finally disposed of according to standard procedure 7.7.6 description of current disposal practices when there is no incinerator available. 7.7.7 % of facilities with closed system that work according to standard procedures 7.7.7 % of health facilities where the standard number of supervisory visits takes place	Situational analysis report, April 2010 NHCW Plan for Maternal/Newborn Project, 2012	Findings of Independent Engineer Investigation, Nov /Dec 2014 Health Infrastructure Deployment AJRs 2015 and 2016 UNFPA report 2015: HCWM data in selected health facilities Health Care Waste Management Technical Assistance Project HCWM Pilot Project – Final Report May 2013	reports	DHMT Health Centers and OPD's	KII observations	7.7.1 and 7.7.2 and 7.7.3 QN D 7.7.4 to 7.7.8 QN D
8. What lessons can MCC or the Government of Lesotho apply in future programs related to program design, implementation, and sustaining results?						
		Post Compact				Data analysis

Key outcomes/metrics	Feasibility of answering the questions Does baseline data exist?	Central level		Peripheral level		
		Data source	Data type	Data source	Data type	
List of lessons learned with regards to program design, implementation and sustainability of results. Statements on contribution by and attribution to the Health Project	+++ Baseline data are MCC's pre-Compact documents	Final implementation report Nov 2013; End of program review, report – January 2014; Health project implementation unit exit report	Reports	DHMT	KII	QL C
		Stakeholders in Lesotho and in MCC	KII FGD discussions as part of dissemination			

Table 13 Limitations to the feasibility of answering some of the evaluation questions

Question	Degree of limitation and specific reason
2 Description of original plan, changes of objectives and major changes in the implementation. Implications of changes in objectives or implementation.	++ Incomplete data on planning and implementation of the Health Project. For ex, no minutes or decisions lists of PIU.
3.2.1 Costs of transport to/from health facility: % of health facilities where 50 % or more of users/patients have to pay; average costs for those who pay	0 No baseline data from HFS 2011 on transport costs
3.2.2 Level and change in use of health services by specific population groups: rural/urban; education level, Men having Sex with Men Sex Workers	For Men having Sex with Men and Sex Workers no baseline data exist, for rural/urban and education level these data do exist.
3.3.1 Have ART integration efforts contributed to a reduction in social stigma around HIV/AIDS treatment?	+ The first survey in Lesotho on stigma related to HIV/AIDS took place at the end of 2013, using the stigma index. No pre-compact measurement of stigma has been done. The scope of the evaluation does not allow for a repetition of the survey. Reduction of stigma cannot be measured during this evaluation.
3.4.1, 3.4.2 and 3.4.3 Maternal, child and infant mortality	+ Health services data and community data through civil registry are vastly incomplete. Only population based survey or census can provide reliable data. No data available from post-Compact period. DHS 2014 data cover the period 2009-2013 and are not really post-Compact
4.1 % of community members that seek to use healthcare services for TB, STI and deliveries	+ DHS 2014 data cover the period 2009-2013 and are not really post-Compact
5.4 Expressed intention to stay at current location and average recorded annual attrition rates; change of % of filled positions 5.5; expressed change in motivation of staff;	+ No HFS 2011 data but data from other reports available
7.2 Change of quality of graduated students as perceived or objectivated by NHTC tutors and by DHMTs.	+ Availability of pre-Compact data on quality of graduated students not confirmed.

7.3.1 Level and change in availability of blood units for treatment	++ Availability of pre-Compact registers of BTS and NRL not confirmed
7.5.1 How does the MoH use data collected at various levels of the health care system?	++ Observed reluctance in MoH to discuss in what way data inform policy. Might change during the implementation of the evaluation.
7.6.1 and 7.6.2 Do these changes contribute to an improved health system? If so, how so? If not, why not?	+ The answer to question 7.6.2 requires a full evaluation of the decentralization process. This is beyond the scope of the current evaluation. A general description of the status quo of the decentralization can be made.

Assumptions, limitations and risks

The Evaluation Design presented here, hinges on some assumptions, takes into account certain risks and expects a major opportunity.

- Retrieving statistical data from MoH archives is assessed as level of effort 2 (see Table 14, below). However, in view of recent experience to retrieve these data, the effort may be higher and more time consuming.
- AJR's are an important source of information in this evaluation. In the earlier years, 2006 to 2012, methodology of the AJRs had to be developed and only since 2012 the methodology is annually the same and the same type of data are collected. However, there are no annual reports on the implementation of the AJR, so it is not possible to verify the data completeness and quality. For example, there are no data on the number of clients and staff that are interviewed per health facility and there is no data quality assessment or discussion. Some obvious errors in the AJR's suggest that there may be also less obvious and less visible errors. See also Annex I.
- Interpretation of the data and reconciliation of data from different reports will be a major challenge for this evaluation. Data quality has shown to be questionable during MCC's previous Data Quality Assessments and there is no clear reason why the data quality would be much improved. This does not only apply to the AJR's as discussed above but also to the numerous other secondary sources to be used.
- The scope of this evaluation requires a relatively short period of data collection in the districts in the country by three small teams (3 teams of 2 persons). External obstacles in terms of extreme weather, events in the country and unavailability of interlocutors and internal obstacles like sudden unavailability of team members due to illness or for other reasons could have a negative impact on the completeness and quality of data collection. This risk cannot be completely mitigated by creating reserve staff or enlarging the time-frame for the evaluation, due to resource constraints.
- According to informants in Lesotho, it may be difficult to find sufficient surveyors who have the right combination of skills and who also are available for the relatively short period of time that this evaluation work will take: around 8 weeks. The same constraint or risk does exist for contracting an assistant. Both surveyors and assistant should be proficient in Sesotho for obvious reasons. However, it may be necessary to

contract a non-Sesotho speaking assistant if none is available from Lesotho. Second best is an assistant from the Southern African region.

- In 2016, a large national survey has been done by BOS in the period May-September and in November 2016 another large household and individual survey has started, by ICAP and partners. This population-based HIV impact assessments is a multi-country initiative to measure the reach and impact of HIV programs in PEPFAR-supported countries and guide policy and funding priorities. Further, annually, there is a data collection effort in the health system through the AJRs, which includes extensive field visits. The risk is that certain survey fatigue may affect some of the interlocutors at central and peripheral level, leading to (relative) unavailability for interviews or feedback on the draft report.
- The ICAP survey mentioned above includes questions on use of health services during pregnancy and reasons why, HIV testing before pregnancy and when negative, test offered during pregnancy. Reason for not testing for HIV during pregnancy, taking ARV's during pregnancy and why, location of last delivery, HIV test offered during delivery and if positive, ARV offered during delivery, taking ARV's after delivery, survival/mortality of last born; ARV treatment and adherence, TB diagnosis and treatment, stigmatization HIV, reasons for (non) treatment of HIV (adherence) and CD4 testing, reasons why and why not. The results of this survey may become available in the second half of 2017. This evaluation therefore will try to use this information, which is of major relevance to answering many of the questions, if it is available in time.
- The benefit of evaluating the Health Project more than two years after it finished is that sustainability of results can be better assessed than immediately after the Compact. The constraint or risk is that some relevant actors may not be available anymore, that some documentation cannot be traced back and that memories may fail. Reliability of memories of periods of 5-6 years ago is challenged in the literature. For some Activities or outputs the recall period is as long as five years and for pre-Compact recollections it is longer.
- As mentioned earlier, the evaluation report will discuss contribution and will attempt to discuss attribution of the Health Project of the changes in the health system. In a complex and adaptive system as a health system there are many factors and influences at work and without a valid control group, attribution is likely impossible, and even contribution may be difficult or impossible to define. This is a limitation of the evaluation and can hardly be mitigated.

5 Administrative

Ethical Review requirements

The evaluation will make use of previously published reports and data and will also collect primary data from a number of respondents as indicated above. The data are on personal

experiences and opinions, not referring to medical conditions or diagnosis/treatments. These personal data will be collected through FGDs and KIIs. Informed consent will be asked of all respondents and will follow MCC's standard consent forms.

In Lesotho, approval of the evaluation design (protocol) from the Institutional Review Board (IRB) called IRB/Ethics Committee for health is required and a proposal will be submitted upon approval (or before) of this evaluation design. The Lesotho IRB/Ethics Committee is registered at the Office for Human Research Protections (OHRP) and Federal wide Assurance (FWA) in the USA so approval by the Lesotho IRB will suffice for ethical review.

In view of the non-medical and non-interventional character of the evaluation and data, it is expected that the IRB/Ethics Committee will categorize the evaluation as needing an expedited review, which requires a period of up to two months.

Data Protection

Informed consent and respondents' privacy

As mentioned above, the evaluation team will use MCC's standard informed consent language and will adhere to all promises made therein. PDAs and voice recorders for primary data are password protected. Respondents to the surveys are labelled by number and not identified and not identifiable by name. The KIs interviewed are not named in the records but could easily be identified through the nature of their position or their information and are asked, after each interview, for consent to use the data/information gathered and in how far this may be identifiable. Accordingly, the data that can be traced back to one specific informer then will not be included in the report.

Since no clinical or individual patient data are collected, the sensitivity level of data is considered as low.

Data storage and safety

During the evaluation, all data collected (see below) are transferred to and stored on the laptop of the evaluator with a hard disk back up. All reports and data are uploaded on dedoose for data analysis.

Dedoose (www.dedoose.com) has been selected because it can handle mix method data sets, is encrypted, password protected and functions as a back-up as well. It has been mandated by the NSA.

The assistant disposes of a second password protected laptop with a part of the data and part of the files for analysis, according to a still-to-plan division of work. The assistant accesses dedoose for data uploading and analysis as well.

Long term data storage

At the end of the evaluation, the paper records used for the KIIs at central level are destroyed. In accordance with MCC's data de-identification guidelines, all data files, transcriptions and

spreadsheets, are digitally stored on a carrier to be agreed with MCC, for the benefit of future studies and surveys. Data are deleted from the PDAs, recorders, laptops, the back-up and from dedoose.

KIIs at peripheral level are semi-structured interviews and the surveys among patients/users and health professionals make use of standard questionnaires. All these are recorded on voice recorders. KIIs and questionnaires for professionals will be recorded in English and questionnaires/interviews with users/patients will be conducted and recorded in Sesotho.

FGDs with VHW's will be conducted with the use of a template and recorded in Sesotho and later transcribed in English and digitally stored on the above mentioned laptops of the Principal Investigator and assistant. The participants are anonymous and referred to as person 1, person 2, etc. in the evaluation report. The original recording will be deleted after transcription.

The effort to transcribe the FGDs and to develop spreadsheets is considerable but required for the purpose of the evaluation. Per MCC's current guidance, the evaluator will not attempt to de-identify qualitative data, see also the privacy paragraph of the qualitative data section. However, the evaluator will prepare the data for transfer to MCC along with the de-identified quantitative data.

Dissemination Plan

A digital copy of the evaluation report will be sent to local stakeholders and those based at MCC, including stakeholders that have contributed to the evaluation. It is to be agreed with MCC who will expedite the report to collect comments: MCC or the main evaluator. The review process will follow MCC's standard clearance process for final reports, including a presentation of the draft report to stakeholders in Lesotho.

Once finalized, further dissemination can be done through presentations in Lesotho. For example, the Annual Forum in Maseru takes place twice per year; this is a national conference that discusses research planned and results of research carried out. It is a very appropriate platform to present a summary of the evaluation. The timing would be after the approval of the evaluation Report.

Evaluation Team Roles and Responsibilities

The evaluation team will consist of Pim de Graaf, who is the Principal Investigator; a local or regional assistant; and six people who will be hired to collect data. This team carries out both quantitative and qualitative data collection and analysis and reporting. A data manager based in Maseru is part of the team. Their responsibilities are as follows.

Phase I

This phase will be implemented by the Principal Investigator, with the help of an English-proficient Basotho assistant, to be recruited. The Principal Investigator will carry out KIIs and data collection at the national level. Semi-structured interviews and handwritten notes (no recordings) will be used in view of the unique character of questions for each informant. During this phase, preparations and translations of the survey questionnaires and FGD protocols and conditioning of PDA's to be used during Phase II will be carried out as well. At the end of Phase 1, a pilot survey is undertaken on one OPD and one Health Center in Maseru. The pilot serves to train the survey teams and to improve the questionnaires.

Phase II

This phase is carried out by the Principal Investigator, an assistant and three survey teams of two persons each. During this phase, one single round of KIIs, surveys, FGDs and observations will be carried out in a period of approximately 6 weeks

- The Principal Investigator is responsible for the overall evaluation implementation. He prepares the questions for each KII and develops the protocols for KIIs, FGDs and observations as required. He analyses the data collected and issues the report. He recruits and supervises the assistant and the data collection teams.

- The assistant, to be recruited locally or regionally (Southern Africa), helps the main evaluator with the recruitment, training and supervision of the three teams and assists also with the processing and analysis of the data collected by the teams. The assistant is expected to be a (previous) staff member of an organization that has worked in the health sector and has proven experience and skills in reviewing / evaluating health programs or health system and that has no conflict of interest. This includes experience overseeing data collection and conducting data analysis.

- The three survey teams collect and process data from the districts. They visit two districts each and per district the visit takes approximately one week (though this estimate will be refined after the pilot). During the first days of the district visit, each team is accompanied by the Principle Investigator or assistant. The teams carry out interviews and FGDs and do observations. The three teams are composed, each, of two locally recruited persons. The selection of the team members is to be done during Phase I.

  Selection criteria for the survey team members are as follows: in each team one is a graduate from the Faculty of Social Sciences of Lesotho University that is trained in social research and one of them will have a para-medical background, such as nurse. This composition ensures that the interviewees have a relevant mix of research experience and of health services functioning and are sufficiently proficient in English. Preferably, the team members also have been working as evaluator or data collector before and have a stable position in Lesotho. The expected benefit would be that the evaluators/data collectors would be available also in future, when and if they would be needed for further explanations of the data collection/analysis. A potential constraint may be a conflict of interest, in that the evaluators/data collectors may have specific interests in the process or outcomes of sampling and data collection. During their

selection this risk will be eliminated as much as possible by scrutinizing the candidates on (potential) interests and by discussing the issue.

During Phase I of the evaluation, a further orientation among agencies and authorities in Lesotho will lead to selection and choice of the team members.

Per surveyor team, the work takes approximately 6 weeks, including time for travel and recovery and for transcription of FGDs. Total time for phase II is estimated at 8 weeks.

- The data manager is a Sesotho person that assists with the transferring data from PDAs and mobile phones to the data base.

Phase III, analysis and reporting

This phase will be carried out by the Principal Investigator and the assistant. This concerns analysis of data and reporting, including consultation process among stakeholders in MCC and in Lesotho. Total time for this phase is estimated at 16 weeks.

Timelines and reporting

Table 14 indicates the expected level of effort for the data collection for the various questions. This overview serves mainly for the further planning of time and resources for this evaluation. The six levels of effort are defined as follows, with 1 being the lowest level and 6 being the highest.

1. Information and data are available at central level and can be accessed immediately. Most of this information has already been collected during the previous stages of this evaluation.
2. Information and data do exist in databases or archives and need intervention to become accessible to the evaluation;
3. Information and data need to be collected through (semi)structured interviews at central level; presence / availability of the interviewees may require more time and effort.
4. Information needs displacement after attempt to make prior appointment; interviews with limited number of interviewees.
5. Surveys, study of registers and observation require displacement to the OPD's and health centers, with high number of activities and interlocutors.
6. FGDs with VHW's require more preparation and processing time and extensive displacement in the country with a high level of effort.

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Table 14 data sources and level of effort to collect data

		Phase I				Phase II			
Data source →		**Readily available information Published reports**	**Statistical data and unpublished reports, to be received from MoH, LMDA and central agencies/institutions**	**Statistical data and unpublished reports to be received from other agencies and NGO's**	**KII of MoH and central institutions: MoH, BTS, NRL, NHTC, LMDA; NGO's Survey among NHTC students**	**KII of DHMT's in 6 districts**	**Survey among health professionals in hospitals (only for 7.3), OPD's and Health Centers; KII and observations in OPDs and Health Centers Study of registers In 6 districts**	**Survey among users in Health Centers and OPD's In 6 districts**	**FGDs with VHW's who are attached to the sampled Health Centers In 6 districts**
Level of effort →		1	2	2	3	4	4	5	6
Evaluation questions									
Patient outcomes	3.1	x						x	x
	3.2	x	x				x	x	
	3.3	x	x			x	x	x	x
	3.4	x	x				x		
Community outcomes	4.1	x						x	x
	4.2	x						x	x
Health Professional Outcomes	5.1	x					x		x
	5.2	x		x			x		x
	5.3	x	x	x		x	x		
	5.4	x	x	x		x	x		
	5.5					x	x		
	5.6	x			x	x	x		
	5.7				x	x	x		
	5.8				x	x	x		
	5.9					x	x		
	5.10					x	x		

		Phase I			Phase II				
Data source →		**Readily available information Published reports**	**Statistical data and unpublished reports, to be received from MoH, LMDA and central agencies/institutions**	**Statistical data and unpublished reports to be received from other agencies and NGO's**	**KII of MoH and central institutions: MoH, BTS, NRL, NHTC, LMDA; NGO's** **Survey among NHTC students**	**KII of DHMT's** **in 6 districts**	**Survey among health professionals in hospitals (only for 7.3), OPD's and Health Centers; KII and observations in OPDs and Health Centers** **Study of registers In 6 districts**	**Survey among users in Health Centers and OPD's** **In 6 districts**	**FGDs with VHW's who are attached to the sampled Health Centers** **In 6 districts**
Level of effort →		1	2	2	3	4	4	5	6
Student outcomes	6.1				x				
	6.2				x				
System outcomes	7.1	x	x			x	x	x	x
	7.2		x	x	x	x	x		
	7.3				x				
	7.3		x	x	x		x		
	7.4				x		x		
	7.5	x	x		x	x	x		
	7.6	x		x	x	x			
	7.7	x			x	x	x	x	
Lessons learnt	8	x		x	x	x			

Phase I of the data collection is planned upon approval of this evaluation design and take a total of approximately 4 weeks of which half is home-based and half takes place in Lesotho.

Phase II will be planned upon completion of Phase I. Between Phase I and II will be a period of approximately 1 month, in order to allow for recruitment of the assistant and the three survey teams.

Table 15 Time table for the evaluation

Name of Round	Data Collection		Data Cleaning & Analysis	First Draft Report Expected	Final Draft Report Expected
Phase I	Start within 1 month after the approval of the evaluation design has been received. Duration 8 weeks, including time for review of the materials Work home – based and in Lesotho				
Phase II		Start within 2 months after the end of Phase I, duration 8 weeks. Work in Lesotho			
Phase III			Start 2 weeks after the end of data collection of Phase II, duration 6 weeks	4 weeks after the end of the data cleaning / analysis	One month after all comments on the draft report have been received, duration 2 weeks.
Time after approval of Evaluation Design Report	2 months	5-6 months	8 months	9 months	11-12 months

Annex 1 Annual Joint Reviews

In Lesotho, Annual Joint Reports (AJRs) are reports with information on health status of the population and on health services: inputs, activities and outputs. The data are collected through the regular reporting system of the health services, using data bases in the MoH, and through annual short surveys at the level of health facilities.

The AJRs are developed by the MoH in close collaboration with donors, who take actually part in the data collection and / or contribute funding to the data collection exercise. This is a major annual undertaking and a national census in 2016 claimed many resources and reduced appetite for another large data collection undertaking. Still, the MoH succeeded in collecting the data in the period July-September 2016 and issuing a report, the AJR 2015/2016.

AJRs have been developed since 2006, as a follow up to the Paris Declaration of 2005[25], through which countries agreed on a practical, action-oriented roadmap to improve the quality of aid and its impact on development.

As described in the section on 'limitations, assumptions and risks' obvious errors in the AJR's challenge the reliability of the data and observations/conclusions.

AJR's cover the entire health sector, including those health facilities that have not been part of the MCA Health Project. Therefore, the AJR health facility data cannot be used to show baseline data or results of the Health Project.

Annex 2 Demographic Health Surveys

Demographic Health Surveys in 2004, 2009 and 2014 are population based surveys that cover various retrospective or recall periods. The 2004 and 2009 entirely cover pre-Compact periods and the 2014 DHS, for which the data collection was carried out in November/December 2014, covers mostly pre-Compact periods and includes one year post-Compact, since 2014 is considered the first post-Compact year.

For children's vaccination DHS 2014 assesses 'Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report) and percentage with a vaccination card seen, by background characteristics, Lesotho 2014'. This covers one Compact year and one post-Compact year.

The DHS 2014 includes an assessment among women age 15-49 who had a live birth in the five years preceding the survey, the percentage who received antenatal care from a skilled provider for the last live birth, the percentage with four or more ANC visits for the last live birth, and the percentage whose last live birth was protected against neonatal tetanus. It also assesses, among all live births in the five years before the survey, the percentage delivered by a skilled provider and the percentage delivered in a health facility. These five years include four during the Compact, for the purpose of evaluation considered as pre-Compact, and one year post-Compact.

Another result of DHS 2014 is 'among children under age 5 who had symptoms of acute respiratory infection (ARI) or had a fever in the two weeks preceding the percentage for whom advice or treatment was sought from a health facility or provider, and among children under age 5 who had diarrhoea during the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, percentage given a fluid made from oral rehydration salt (ORS) packets, and percentage given zinc, by background characteristics, Lesotho 2014'. The recall period of two weeks is entirely in the post-Compact period.

Another result is the 'percentage of women age 15-49 who know where to get an HIV test, percent distribution of women age 15-49 by testing status and by whether they received the results of the last test, percentage ever tested, and percentage who were tested in the past 12 months and received the results of the last test, according to background characteristics, Lesotho 2014'. The 'last 12 months' are entirely post-Compact.

In conclusion, some data from the DHS 2014 cover exclusively the post-Compact period and can be used to assess the evolutions since the start of the Compact, but many data cover a mixed pre/during/post Compact period and cannot be used in that way. These issues have been accounted for in Table 11: DHS 2014 is only referred to as secondary information where it contains post-Compact data.

Annex 3 Health Facility Survey 2011

In 2011, the MCA Health Project commissioned a survey of the health facilities in Lesotho, with the intention to provide for baseline monitoring data, later to be used for comparison.

The Health Facilities Survey (HFS) was carried out by the German ICON-INSTITUT Public Sector GmbH and the NUL-CONSULS, the consultancy branch of the University of Lesotho, in close collaboration with MoH. Data collection in the field took place in the period July-August 2011 by 4 teams of 4 persons each.

The HFS 2011 includes 138 Health Centres and 14 Hospital OPDs, both Government and CHAL facilities. These are the facilities included in the MCA Health Project and therefore the survey does not represent all health facilities in the country. The report describes the indicators that were used to assess key aspects of the health facilities, including the physical infrastructure, human resources, equipment and supplies, operationality, service provision and quality of care.

The study focused on a quantitative approach, combined with Care Recipient (Client) Exit Interviews. Both methods were in the form of structured questionnaires. In order to obtain comprehensive data and an accurate picture of the current situation at the health facilities, it was regarded as crucial to deploy a range of survey methods, including:

- Interviews with facility staff;
- Review of facility equipment and supplies;
- Limited sample record review;
- Exit interview with sample care seekers;
- Inventory of pharmaceuticals;
- Data from registers of attendance; and
- Review of staffing structures.

A sample of up to six patients per health facility was planned, in reality the total number of patients interviewed was 639, or approximately 4 patients per facility. One senior staff member was interviewed per health facility.

At the time of the HFS, construction works had already started at many of the health facilities, which brought with it the threat of distortion of the baseline indicators. To mitigate the effect of this, care has been taken for the relevant indicators to regard a subset of health facilities, i.e. those not yet affected by renovations, as being representative for the totality of health facilities prior to the MCA-Lesotho initiated interventions. This has no effect on the sampling for the 2017 HFS.

Annex 4 Assumptions and risks, from the Theory of Change.

Assumptions

A1: A key constraint facing improved quality of care (including provider behavior) is the clinical environment; an improved environment is seen as important for recruitment and retention, along with boosting morale which are all important for improving provider behavior/provision of care.

Related risks:

It is acknowledged that the environment alone will not improve provider behavior and quality of care; an effective recruitment and retention plan are extremely important factors for improving provider morale, behavior, and ultimately, quality of care; they are not addressed through the Compact but are currently receiving attention outside of the Compact.

A separate government ministry places health professional in government-run health facilities and this process takes a long time. Recruitment efforts will likely be affected by this. The Compact is not addressing this constraint.

A2: Awareness of improved infrastructure, integrated OPD services and quality of staff will attract more people to seek health care, including services associated with high levels of social stigma.

Related risks:

Barriers to seeking care (e.g., costs (though basic health care package is free), stigma of HIV/AIDS) exist and are not necessarily being addressed in the Compact.

A3: Test results arrive in time to be useful; patients follow up with doctors to get test results, results influence treatment.

A4: "We have done what we set out to do": The combination of Compact activities will result in higher quality care; doctors and patients are better able to communicate; staff allocate sufficient time to and have the knowledge and ability to provide quality care; staff use new equipment, information systems, and expanded diagnosis and treatment services (blood transfusion services, NRL), as appropriate; electricity and internet are available for services that require them (off-grid facilities have solar power); policymakers use information systems to improve high-level service provision

A5: "Everything else is working as expected": Complementary inputs are available and effective (e.g., medicines, staff retention efforts, PPPs); proper O&M is conducted; patients adhere to treatment

A6: Expanded and improved dorms and housing are sufficient to attract and retain students and staff to NHTC

A7: Staff are willing and able to attend training; if training is required, appropriate enforcement mechanisms exist; training is relevant and sufficient to improve practices (i.e., service delivery)

A8: Increased utilization does not result in lower quality of care, i.e., nurses will not have to care for more patients than they can handle

A9: Breakthroughs are identified; appropriate infrastructure exists to apply research findings

A10: Better integration of ART effectively reduces stigma (and does not lead to worse perceptions); an example of an unsuccessful integration effort was the use of red folders to integrate HIV-positive patients amongst other patients while also providing information to healthcare professionals, but once others learned the purpose of the red folders they became stigmatizing rather than integrative

A11: New NHTC classrooms, equipment and curriculum changes result in higher quality graduates

Complementary Inputs

C1: Equipment in the Reference Lab (PEPFAR, Global Fund)

C2: Better salaries and hardship pay (PEPFAR, Global Fund, Irish Aid)

Annex 5 Budget

This budget includes all tasks and phases of the evaluation, including the development of the Evaluability report.

Item	Initial budget	Revised budget, June 16, 2017
tasks evaluator	**84.000**	**108.500,00**
other direct costs	**26.765**	**19.765,00**
1) per diem and accomodation	*12.765*	*12.765,00*
2) local comms costs	*5.000*	*1.500,00*
3) local travel costs	*4.500*	*1.000,00*
4) international travel	*4.500*	*4.500,00*
data collection costs	**75.000**	**128.982,00**
assistant, data manager and surveyors	no value	*71.526,00*
transport for data collection	no value	*30.732,00*
laptops, PDAs, recorders, software, stationary	no value	*12.576,00*
ERB	no value	*6.288,00*
contingencies	no value	*7.860,00*
Total	**185.765**	**257.247**

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