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RESEARCH AND EVALUATION REPORT

Institutionalization of Improvement in 15 HCI-supported Countries

JUNE 2012

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DISCLAIMER

The views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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TABLE OF CONTENTS

List of Tables and Figures	i
Abbreviations.....	ii
EXECUTIVE SUMMARY	v
I. INTRODUCTION.....	1
II. METHODOLOGY.....	2
A. Study Design.....	2
B. Sampling.....	2
C. Data Collection	3
D. Analysis.....	3
III. FINDINGS	3
A. Description of the study sample	3
B. Findings.....	3
IV. DISCUSSION AND RECOMMENDATIONS.....	9
A. Summary.....	9
B. Limitations	10
C. Recommendations	10
V. APPENDICES	12
Appendix 1: Institutionalization Framework.....	12
Appendix 2: Summaries of Country Findings.....	15

List of Tables and Figures

Table 1: Sample size by health system level in the 12 countries.....	2
Table 2: Characteristics of sampled programs	4
Table 3: Countries with regional or provincial reporting mechanisms to communicate with facilities	6

Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AMTSL	Active Management of the Third Stage of Labor
ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
BPHS	Basic Package of Health Services
CAP	Centro de Atención Permanente (Guatemala)
CHMT	Council Health Management Team (Tanzania)
CHPA	Chief Health Programme Administrators (Namibia)
CMI	Clínica Materno Infantil (Honduras)
CMO	Centro de Salud con Medico (Honduras)
CPT	Cotrimoxazole Preventive Therapy
CQI	Continuous Quality Improvement
CROCEPS	Regional Council for Coordination, Orientation and Evaluation of Social and Health Programs (Mali)
DGC	Departamento de Garantía de Calidad (Honduras)
DOTS	Directly Observed Treatment, Short-course
DSP	Directorate, Special Programmes (Namibia)
EID	Early Infant Diagnosis
ENC	Essential Newborn Care
EOC	Essential Obstetric Care
EONC	Essential Obstetric and Newborn Care
EPHS	Essential Package of Health Services
FH	Family Health
FP	Family Planning
HCI	USAID Health Care Improvement Project
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HIS & QAS	Health Service Inspectorate & Quality Assurance Section (Tanzania)
HSSP	Health Services Support Project (implemented by Jhpiego)
IPT	Isoniazid Prophylactic Therapy
IQHC	Improving Quality in Health Care Unit (Afghanistan)
ISO	International Standards Organization
JICA	Japan International Cooperation Agency
JSI	John Snow, Inc.
MINSA	Ministerio de Salud (Nicaragua)
MOH	Ministry of Health
MOHSS	Ministry of Health and Social Services (Namibia)
MOHSW	Ministry of Health and Social Welfare (Tanzania)
MoPH	Ministry of Public Health (Afghanistan)
MCH	Maternal and Child Health
MNCH	Maternal, Neonatal, and Child Health

NDOH	National Department of Health (South Africa)
NGO	Non-Governmental Organization
OPD	Out-Patient Department
OVC	Orphans and Vulnerable Children
PAHO	Pan-American Health Organization
PDSA	Plan-Do-Study-Act
PEAP	Poverty Eradication Action Plan
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary Health Care
PK II	Padat Karya II Project
PMTCT	Prevention of Mother to Child Transmission
PNC	Postnatal Care
PRONACS	(Bolivia)
PRSS	Proyecto de Reforma del Sector de Salud (World Bank project in Honduras)
QA	Quality Assurance
QAP	Quality Assurance Project
QI	Quality Improvement
QMS	Quality Management System (Guatemala)
QRM	Quarterly Review Meeting (HCI)
RAAN	Región Autónoma del Atlántico Norte (Nicaragua)
RAAS	Región Autónoma del Atlántico Sur (Nicaragua)
RHMT	Regional Health Management Team (Tanzania)
SERES	Servicio Regional de Salud El Alto (Bolivia)
SHH	Secretariate of Health of Honduras
SILAIS	Sistema Local de Atención Integral en Salud del MINSA (Nicaragua)
SWASA	Swaziland Standards Authority (Swaziland)
TB	Tuberculosis
TQM	Total Quality Management (Honduras)
UN	United Nations
UNICEF	United National Child Fund
URC	University Research Co., LLC
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

EXECUTIVE SUMMARY

Introduction

The USAID Health Care Improvement Project (HCI) defines institutionalization as establishing and maintaining continuous improvement activities as an integral and sustainable part of a health system or organization's daily activities. This approach to institutionalization encompasses both the establishment of structures, processes, and mechanisms to address and improve the quality of care, and the maintenance or sustainability of these structures, processes, and mechanisms. The objective is to institutionalize and sustain improvement after the end of HCI's assistance. We recognize improvement as institutionalized when there is a continuous process of using data to identify problems, implementing changes to address problems, and monitoring indicators.

HCI developed a framework consisting of elements contributing to the institutionalization of improvement at the national, regional/provincial, district, and service delivery levels. These elements are:

- Political will/leadership, which includes commitment to improvement; defined policies, guidelines, strategic plans, or standards; recognition of improvement; and communications with other levels of the health system;
- Roles and responsibilities, which include assigning improvement responsibilities to individuals or a unit or department;
- Organization, such as meetings or visits with other levels of the health system;
- Orientation of new staff to improvement;
- Resources, predominantly financial, to support improvement activities;
- Monitoring and tracking of data and its use in problem identification; and
- Transfer, or the application of improvement methods to areas of service beyond those which HCI supported.

This technical report presents the findings from a preliminary assessment of institutionalization across 15 HCI-supported countries, followed by a discussion of HCI's recommendations for future research and implementation activities to promote sustained institutionalization of improvement at all levels of care in each assisted country.

Methodology

This was a descriptive investigation into the level and form of institutionalization of improvement. Countries receiving HCI assistance for at least 12 months prior to data collection were included. Twelve of the 15 countries (Afghanistan, Bolivia, Cote d'Ivoire, Ecuador, Mali, Namibia, Niger, Russia, South Africa, Swaziland, Tanzania, and Uganda) collected data specifically for this exercise. Three countries (Guatemala, Honduras, and Nicaragua) carried out independent studies on institutionalization in FY2011. Information was extracted from these independent studies in lieu of collecting data based on the framework.

Questionnaires were designed to collect data from key individuals involved in or knowledgeable about improvement activities at the national, regional/provincial, district, and service delivery levels. HCI's work at the community level was not included as these activities were in the early stages of development at the time of data collection. Questionnaires included dichotomous questions on the presence or absence of the elements and opportunity for respondents to qualitatively describe or explain their answer. Data were collected by HCI country staff and, in some instances, MOH staff. Data were analyzed descriptively to examine commonalities across countries with respect to

institutionalization, but also to explore the breadth of expressions of institutionalization across countries and levels of health care systems.

Results

National

All countries had made some commitment to improve health service quality, most often through written policies, plans, strategies, guidelines, or standards of care. Five countries reported offering incentives or recognition for improvement at the national level. Financial resources for improvement activities were consistently reported as absent or insufficient. Few countries reported that advocacy for funding occurred.

There was notable variability across countries in the allocation of roles and responsibilities around improvement. In Afghanistan, the coordinator for the Ministry of Public Health's (MoPH) Improving Quality of Health Care Unit was employed by HCI, but seconded to the MoPH. Namibia, South Africa, Swaziland, and Uganda explicitly indicated that there was a permanent position at the national level dedicated to improvement. While 11 participating countries reported having a unit or division at the national level dedicated to improvement, they did not necessarily indicate that a staff person or position was dedicated to managing the unit or division.

Interaction between the national and lower levels of the system is also important for institutionalizing improvement processes. Nine responding countries reported meeting with staff at the provincial or regional levels, however the regularity and frequency of these meetings varied. Ten participating countries reported that new staff at the national level were oriented to improvement. Eleven countries reported monitoring improvement indicators.

Transfer, or the application of improvement methods to clinical areas not supported by HCI, was one of the most challenging aspects of the institutionalization framework. At the national level, this had been done in four countries. For example, in Cote d'Ivoire improvement methods had been applied to cardiology services and in Ecuador improvement methods were employed in oral health, adult health, and family planning services.

Regional/Provincial

Thirteen of the 15 participating countries provided data on institutionalization at the regional or provincial level. Most regions/provinces implemented standards established at the national level. Compared to the national level, more countries offered incentives or recognition for improvement at the regional/provincial level. Regions/provinces in eight countries indicated having mechanisms for communicating policies or standards with facilities, but in only seven countries did regions/provinces have mechanisms for providing feedback on performance to districts or facilities. Provinces/regions in eight countries reported having mechanisms for communicating with the national level, often through quarterly or annual reports.

Of the countries reporting this level of data, ten indicated that at the regional/provincial level there were staff members dedicated to improvement. Most countries reporting this level of data only collected this information from one region/province, so inter-regional variability cannot be assessed. However, of the five responding provinces in Afghanistan, only one stated there was a provincial-level staff member responsible for improvement. In South Africa, on the other hand, all five provinces indicated there was a staff member. Of 13 countries reporting this level of data, only eight indicated that new staff members were oriented to improvement. Regions/provinces in all but two of the 13 countries reported tracking indicator data relevant to their programs.

Regions/provinces in five countries reported applying improvement methods to clinical areas not supported by HCI. Three of the five responding provinces in Afghanistan stated that improvement methods had been utilized in areas of integrated management of child health and nutrition, stock

management, infection prevention, capacity building, tuberculosis, and family planning. In the St Petersburg Regional AIDS Center in Russia, improvement methods had been applied to administrated processes, specifically in designing and introducing an electronic registration system for appointments. In Tanzania, two of the five regions used improvement methods in the areas of client retention and life saving skills training.

District

Of the 15 participating countries, eight reported data from the district level. None of the districts in any country reported having established standards, but districts in four countries indicated they had written improvement strategies. Districts in seven countries reported having a system for providing incentives or recognition for improvement. Mechanisms for communicating between districts and facilities were present in seven countries. These included written and verbal communication during learning sessions, supervisory visits, and other meetings. Supervisory visits were the most frequent means through which performance feedback was delivered. Only four countries indicated that resources were available at the district level for improvement. In six countries, improvement indicator data were monitored at the district level.

Districts in five countries reported applying improvement methods to clinical areas beyond those supported by HCI. In Afghanistan, one district used improvement methods in infection prevention. Russia's Krasnogvardeisky rayon used improvement methods in designing and implementing interventions for the prevention and treatment of arterial hypertension. Districts in South Africa applied improvement work to waiting times, facility cleanliness, staff attitudes and values, patient safety, infection prevention and control, and availability of medicines and supplies. In Tanzania, one district used improvement to increase access to medicine supplies. A district in Uganda reportedly used improvement methods in the area of immunizations.

Service Delivery

At the facility level, political will or leadership was assessed by the presence or absence of mechanisms for recognizing improvement. Ten of the 15 countries indicated that at least some facilities offer incentives for improvement. Facilities in all 15 countries have staff members and/or units dedicated to improvement. Most countries reported that new staff members were oriented to improvement work. Responding facilities in all 15 countries reported tracking indicators appropriate for their activities. In Honduras, where a larger institutionalization study was conducted, it was found that after three years following the end of HCI support facilities continued to monitor data. However, there were challenges in analyzing and discussing the data.

The application of improvement methods to additional clinical areas was most often seen at the facility level in comparison to other levels of service. At least one facilities in nine of the 15 countries reported using improvement methods in other clinical areas.

Conclusions and Recommendations

This preliminary assessment of the level and form of institutionalization across 15 HCI-assisted countries revealed how much variable the presence of the elements of the institutionalization framework is both across and within countries. Additionally, this exercise showed that much has been done at the national and service delivery levels, where HCI has concentrated its efforts. However, there is less evidence of institutionalization at the middle levels of the health systems across countries.

Based on these findings and the knowledge gained through carrying out this assessment, the following recommendations can be made:

- Research should be conducted to validate the elements of the framework as measures of institutionalization.

- Research should be carried out one to three years after the conclusion of HCI's involvement to aid in determining which characteristics of HCI's intervention were most conducive to institutionalization and sustainability of desirable improvement results.
- Further research should be done to explore why certain facilities, districts, and regions/provinces move more quickly than other in the institutionalization process.
- Efforts should be made to institutionalize improvement methods at the middle levels of the health systems to ensure a functioning, supportive, and cohesive system across all levels.
- A body of literature should be established to determine the most appropriate methods of engaging the community and how to best institutionalize improvement methods at the community level.

I. INTRODUCTION

The USAID Health Care Improvement Project (HCI) defines institutionalization as establishing and maintaining continuous improvement activities as an integral and sustainable part of a health system or organization's daily activities. This approach to institutionalization encompasses both the establishment of structures, processes, and mechanisms to address and improve the quality of care, and the maintenance or sustainability of these structures, processes, and mechanisms. The objective is to institutionalize and sustain improvement after the end of HCI's assistance. We recognize improvement as institutionalized when there is a continuous process of using data to identify problems, implementing changes to address problems, and monitoring indicators.

The process of understanding what contributed to institutionalization began with reviewing previous quarterly and annual reports in which country programs documented the steps taken and forms of institutionalization supported by HCI. Previously, there was little guidance on what constituted institutionalization, allowing countries to highlight activities they viewed as relevant. These self-reports, combined with discussion and input from those with extensive experience working in the field, informed the development of a framework (see Appendix I) consisting of elements contributing to the institutionalization of quality improvement at the national, regional/provincial, district, and service delivery levels. These elements are:

- Political will/leadership, which includes commitment to improvement; defined policies, guidelines, strategic plans, or standards; recognition of improvement; and communications with other levels of the health system;
- Roles and responsibilities, which include assigning improvement responsibilities to individuals or a unit or department;
- Organization, such as meetings or visits with other levels of the health system;
- Orientation of new staff to improvement;
- Resources, predominantly financial, to support improvement activities;
- Monitoring and tracking of data and its use in problem identification; and
- Transfer, or the application of improvement methods to areas of service beyond those which HCI supported.

For each element of the framework there is a spectrum of possible expressions. Using the roles and responsibilities as an example, in the early stages of a project, responsibilities for improvement may be delegated to an individual. Over time this may become more formalized through establishment of a permanent position and/or a unit or division dedicated to improvement. Thus, the institutionalization of improvement is a constructive process that occurs over time.

This technical report presents the findings from a preliminary assessment of institutionalization across 15 HCI-supported countries, followed by a discussion of HCI's recommendations for future research and implementation activities to promote sustained institutionalization of improvement at all levels of care in each assisted country.

Background

HCI is a five-year task order contract issued by the U.S. Agency for International Development (USAID) begun in 2007 to support countries in improving the quality and impact of health services. Guided by the vision that health care quality can be significantly improved by applying proven quality improvement methods, HCI assists national and local programs to scale up evidence-based interventions and improve outcomes in child health, maternal and newborn care, HIV/AIDS, tuberculosis, malaria, and reproductive health. The project also seeks to help countries expand coverage of essential services; make services

better meet the needs of underserved populations, especially women; improve efficiency and reduce the costs of poor quality; and improve health worker capacity, motivation, and retention.

HCI builds on the successes of the Quality Assurance Project (QAP) (1990-2007) which adapted approaches such as continuous quality improvement, improvement collaboratives, accreditation, and pay for performance to the needs of USAID-assisted countries.

II. METHODOLOGY

A. Study Design

This was a descriptive investigation into the level and form of institutionalization of improvement in 15 countries that HCI has assisted under a global task order to develop and implement health care improvement interventions.

B. Sampling

Countries receiving HCI assistance for at least 12 months prior to data collection were included in the study. Excluded from the sample were countries where HCI's assistance was to perform some other task than implement a health care improvement program (Georgia, Indonesia, Zambia) or where assistance focused narrowly on standards development and piloting (Kenya, Mozambique). Also excluded were India and Vietnam, where assistance to improve the quality of tuberculosis (TB) and HIV care had ended prior to the study and where further data could not be readily collected. The sampled countries cover a wide range of geographic and clinical areas.

Twelve of the 15 included countries collected data specifically for this exercise. HCI's Research and Evaluation Unit at Headquarters had individual calls with each of the country teams to explain the purpose of this exercise and determine an appropriate sample. Data were collected from the national level for each country, with the exception of Russia. The number of regions, districts, and facilities included in the sample was determined by convenience but was influenced by the size of HCI's program in each country. Table 1 summarizes the sample for each of these 12 countries.

Table 1: Sample sizes by health system level in the 12 countries

Country	National	Region	District	Facility
Afghanistan	1	5	3	6
Bolivia	1	1	4	5
Cote d'Ivoire	1	-	3	31
Ecuador	1	1	-	3
Mali	1	1	-	3
Namibia	1	1	-	1
Niger	1	1	-	3
Russia	-	3	1	8
South Africa	1	5	6	7
Swaziland	1	4	-	5
Tanzania	1	5	13	11
Uganda	1	1	6	15
Total	11	28	36	98

Three country teams, Guatemala, Honduras, and Nicaragua, carried out independent studies on institutionalization earlier in FY2011. In an effort to reduce burden on country staff, information was extracted from these independent studies in lieu of collecting data based on the framework. (For a detailed description of the methods used in these three studies, please see Appendix 2.)

C. Data Collection

Based on the framework described in Appendix I, questionnaires were designed to collect data from key individuals involved in or knowledgeable about improvement activities at the national, regional/provincial, district, and service delivery levels. HCI's work at the community level was not included as these activities were in the early stages at the time of data collection. Questionnaires included dichotomous questions on the presence or absence of the elements and opportunity for respondents to qualitatively describe or explain their answer. Data were collected by HCI country staff and, in some instances, MOH staff and entered into an Excel database.

D. Analysis

Data were analyzed descriptively to examine commonalities across countries with respect to institutionalization, but also to explore the breadth of expressions of institutionalization across countries, clinical areas, and levels of health care systems. HCI headquarters staff analyzed country data individually and compared and contrasted findings among all included 15 countries.

III. FINDINGS

A. Description of the study sample

The sample for this exercise covered a broad range of geographic and clinical areas, as illustrated in Table 2.

B. Findings

In the following sections, the level and forms of institutionalization are presented for the national, regional/provincial, district, and service delivery levels.

I. National

All 14 countries reporting national level data had made some commitment to improve health service quality. Most often this commitment took the form of written policies, plans, strategies, guidelines, or standards of care. Exceptions were Cote d'Ivoire, which indicated that there were no health service standards at the central level, and Swaziland where standards are currently under review, but there was no written improvement strategy.

Five of the 14 countries reported offering incentives or recognition for improvement at the national level. In Bolivia, national level incentives were non-financial, often in the form of certificates issued annually by committee. In Mali, awards at the national level (Ciwara d'Or) were given to the best performing community health center teams under the country's quality accreditation program.

Financial resources for improvement activities were consistently reported as absent or insufficient. Few countries reported that advocacy for funding occurred. Ecuador, Guatemala, Honduras, and Uganda indicated that funding from the central level for improvement was provided, but was inadequate. In Cote d'Ivoire, where HCI works on HIV/AIDS, funding for improvement work was provided by PEPFAR. Swaziland indicated that funding came from partners including ICAP, EGPAF, and UNICEF. Niger reported combining resources from the MOH and donors, including UNICEF, WHO, World Bank, and the French and Belgium aid agencies, to fund improvement activities. MOH funding in Namibia, where HCI's work has centered around injection safety and health waste management practices, was restricted to purchasing commodities and equipment such as sharps boxes, personal protective equipment, and

Table 2: Characteristic of sampled programs

Country	Clinical area(s)	Year HCI program began	Prior URC assistance in health care improvement
Afghanistan	Maternal and newborn health	2009	No
Bolivia	TB	2008	Yes-QAP II and III
Cote d'Ivoire	HIV/AIDS OVC Laboratory services	2009 2009 2010	No
Ecuador	MNCH	2008	Yes-QAP I, II, and III
Guatemala	MNCH	2008	Yes-QAP I and II; Calidad en Salud I and II
Honduras	MNCH	2007	Yes-QAP II and III
Mali	MNCH	2010	No
Namibia	Injection safety, health care waste management	2008	Yes-Safe Injection Project under TASC3
Nicaragua	MNCH, HIV/AIDS	2007	Yes-QAP II and III
Niger	Health workforce	2008	Yes-QAP I, II, and III
Russia	MNCH HIV/AIDS TB-HIV integration	2009 2007 2007	Yes-QAP II and III
South Africa	HIV/AIDS	2007	Yes-QAP II and III
Swaziland	TB, TB-HIV integration	2007	Yes-QAP III
Tanzania	HIV/AIDS	2008	Yes-QAP II and III
Uganda	HIV/AIDS	2009	Yes-QAP I, II and III

incinerators. Afghanistan reported receiving funding from HCI for QI activities and from HSSP for QA activities; Mali also received funding from HCI and PK II projects. Bolivia had no financial resources specifically dedicated to improvement, but funding was allocated to activities as defined by the TB Strategic Plan. No funds were allocated for improvement in Nicaragua. Finally, in Tanzania most improvement activities were donor-funded, however there were some funds available from the Ministry for supportive supervision, and the development and review of standards, guidelines, and tools.

There was notable variability across countries in the allocation of roles and responsibilities around improvement. In Afghanistan the coordinator for the Ministry of Public Health's (MoPH) Improving Quality of Health Care Unit was employed by HCI, but seconded to the MoPH. Four of the 14

countries (Namibia, South Africa, Swaziland, and Uganda) explicitly indicated that there was a permanent position at the national level dedicated to improvement activities. While many countries (11 of 14) reported having a unit or division at the national level dedicated to improvement they did not necessarily indicate that a staff person or position was dedicated to managing the unit or division. As a result, there is a disparity between these two figures.

Interaction between the national and lower levels of the system is also important for institutionalizing improvement processes. Nine of the 14 countries reported meeting with staff at the provincial or regional levels, however the regularity and frequency of these meetings varied. Some countries combined these meetings with supervisory visits. Other forms of communication between the national and lower levels include letters, memoranda, orders, and conferences.

Ten of the countries reported that new staff members at the national level were oriented to improvement. Honduras, Swaziland, and Uganda provided additional information indicating that such orientation was not universal. In Honduras, where a larger institutionalization study was conducted, national level respondents who participated in the demonstration phase were all oriented to improvement. But of the six national level respondents who participated in the spread phase, only four were oriented to improvement.

Eleven countries reported monitoring improvement indicators at the national level. Afghanistan tracked indicators using a dashboard. Only Mali, Namibia, and Niger indicated that quality data were used in decision-making at the national level. In Swaziland, indicators existed, but were not well tracked due to challenges with monitoring and evaluation at the national level. Some indicator data were not readily accessible from the regions due to delayed compilation, restrictions regarding what type of data could be collected directly by partners from facilities, and limited appreciation of the value of some indicators on behalf of some monitoring and evaluation officials. Additionally, collection and analysis of selected indicator data depended upon partners. If these partners did not allocate resources for data collection, the data would not be available for that particular quarter, limiting tracking at the national level.

The application of improvement methods to clinical areas not supported by HCI, or transfer, was one of the most challenging elements of the institutionalization framework. At the national level, this had been done in four countries. In Cote d'Ivoire improvement methods had been applied to cardiology services. Ecuador reported employing these methods in oral health, adult health, and family planning services. The NGO Action-Bio-Mali reportedly began applying improvement methods to their work in laboratory services. Uganda also noted that improvement methods had been utilized in other clinical areas of services, but did not provide details.

2. Regional/Provincial

Thirteen of the 15 participating countries provided data on institutionalization at the regional or provincial level. In Afghanistan and Tanzania, provinces/regions reported adopting national level strategies and improvement plans. Regions in Ecuador, Guatemala, Namibia, Niger, Russia, and South Africa also reported having strategies or plans. As most regions/provinces implemented standards established at the national level, none of the regions/provinces in any of the countries indicated having a mechanism for revising or updating them.

Compared to the national level, more countries offered incentives or recognition for improvement at the regional/provincial level. Provinces in Afghanistan offered recognition in meetings and trainings, letters of appreciation, extra leave, and displaying of photographs. Regions in Mali, as with the national level, offered monetary awards (Ciwara d'Or). In Russia's St Petersburg Regional AIDS Center, funds from its budget were used to provide quarterly financial bonuses. Provinces in South Africa provided "Service Excellence Awards".

Regions/provinces are responsible not only for communicating with districts or facilities, but also with the national level. Regions/provinces in eight countries indicated having mechanisms for communicating

policies or standards with facilities, but regions/provinces in only seven countries indicated that there were mechanisms for providing feedback on performance to facilities. Interestingly, there was only partial overlap of countries reporting these two elements, as illustrated in the Table 3. Afghanistan, Namibia, Niger, Russia and South Africa were the only countries reporting both elements.

Table 3: Countries with regional or provincial reporting mechanisms to communicate with facilities

Countries with mechanisms to communicate policies/plans/standards with facilities	Countries with mechanisms to provide performance feedback to facilities
Afghanistan, Ecuador, Namibia, Niger, Russia, South Africa, Swaziland, Tanzania	Afghanistan, Bolivia, Mali, Namibia, Niger, Russia, South Africa

Provinces/regions in eight countries reported having mechanisms to communicate with the national level, often through quarterly or annual reports.

Of the countries reporting this level of data, 10 indicated that at the regional/provincial level there were staff members dedicated to improvement. Most countries reporting regional data only collected this information from one region, so inter-regional variability cannot be assessed. However, of the five responding provinces in Afghanistan, only one stated there was a provincial-level staff member responsible for improvement. In South Africa, all five provinces indicated that there was a staff member. Only three countries indicated that there was a permanent position at the regional/provincial level dedicated to improvement. Several countries reported that at this level of the system there were units or divisions dedicated to improvement, but there was variability across countries. For example, Nicaragua reported that each region had a QI team, a product of HCI's work, while in South Africa each province had a Directorate of Quality Assurance and an Office of Standards Compliance. There was also variability within countries based on the political structure. In Russia, St Petersburg's City Committee for Healthcare had a Department for Quality, but Kostroma and Tambov oblasts had a Department for Licensing of Medical and Pharmaceutical Activity and a Licensing and Quality Department, respectively.

Of the 13 countries reporting provincial/regional level data, only eight indicated that new staff members at this level were oriented to improvement. Bolivia indicated that such training was not standardized, clarifying that each public official had the obligation and responsibility to educate him/herself on the processes and instruments of the MOH. Of the two participating regions in Swaziland, only one indicated that new staff members were trained, but also shared that the last training on QI/QA was held in 2010.

As with the national level, financial resources for improvement at the regional/provincial level were limited across countries. Honduras and Swaziland received external funding to support improvement work. Regions in Namibia had advocated for commodities and equipment from the national level for injection safety. At the time of data collection, three years of funding had been allocated by the MOHSS to procure new incinerators and repair existing ones. Niger indicated that it received funding for improvement, but infrequently.

Regions in all but two of the 13 countries reported tracking indicator data relevant to their programs. Regions in Bolivia reported measuring quality indicators monthly. In Ecuador, the responding region stated that data were used for identifying problems and advising the regional committee. In Guatemala, not all respondents were aware that quality indicators existed at the regional level.

Provinces in five countries reported applying improvement methods to clinical areas not supported by HCI. Three of the five responding provinces in Afghanistan stated that improvement methods had been utilized in areas of integrated management of child health and nutrition, stock management, infection

prevention, capacity building, tuberculosis, and family planning. In the St Petersburg Regional AIDS Center in Russia improvement methods had been applied to administrative processes, specifically in designing and introducing an electronic registration system for appointments. In Tanzania, two of the five regions used improvement methods in areas of client retention and life saving skills training.

3. District

Of the 15 participating countries, eight reported institutionalization data about the district level. None of the districts in any of the countries reported having established standards, but districts in four countries indicated that they had written improvement strategies. Again, there was variability across districts. In Cote d'Ivoire, only one of the three districts stated that they had a written improvement strategy. In Tanzania, nine of the responding 13 districts had a written improvement strategy. One of the six Ugandan districts that participated in this exercise indicated that it had a written strategy focused on maternal and newborn care.

Districts in seven of the eight countries reported having a system for providing incentives or recognition of improvement. These ranged from letters of appreciation in Afghanistan to financial bonuses in Russia.

Mechanisms for communicating between districts and facilities were present in seven of the eight countries. These included written and verbal communication during learning sessions, supervisory visits, or other meetings. Supervisory visits were the most frequent means through which performance feedback was delivered. District communication with the regions was limited to six countries, most often via reports, though Cote d'Ivoire reported also communicating via email, fax, or telephone. Districts in Tanzania communicated with the national level during supervisory visits.

At the district level, four of eight countries reported having staff members responsible for improvement, but there was notable variability across districts. Of the three responding districts in Afghanistan, only one reported having a district level staff member responsible for improvement, a midwife in charge of monitoring facility-level improvement activities and data. However, when given an opportunity to explain the situation in the other two districts, it was revealed that there were committees responsible for improvement, as opposed to a single individual. In Bolivia, three of four responding districts indicated that a staff member was responsible for improvement activities. Only one of the three reporting districts in Cote d'Ivoire had a staff member for improvement work. Districts in Afghanistan, Bolivia, South Africa, Tanzania, and Uganda reported having a unit or division dedicated to improvement, most frequently QI teams.

Six of the eight countries reported that some districts held regular meetings with facilities. These meetings are held either monthly or quarterly, depending on the country.

Districts in most of the eight countries reported orienting new staff members. In Bolivia, however, orientation in two of the four districts was limited to TB care practices; none of the districts reported orienting new staff to improvement. In Tanzania, district-level staff members were oriented during learning sessions, quarterly visits, and other trainings. In Uganda, only one of the six included districts indicated that orientation of district level staff was done, and only then on an ad hoc basis.

Only four of the eight countries indicated that resources were available for improvement at the district level. In Cote d'Ivoire, one of the three districts indicated that there were funds targeted at improvement. One of the two rayons (administrative districts) in Russia reported having funding as part of the national "modernization" program. In South Africa, each of the five districts had a budget for improvement.

In six countries, improvement indicator data were monitored at the district level. Districts in Afghanistan analyzed and shared data with monitoring teams and other facilities for learning purposes. Districts in Bolivia reviewed data quarterly. In Russia, only one rayon reported monitoring data as part of the national "modernization" program.

Districts in five of the eight countries reported applying improvement methods to clinical areas beyond those supported by HCI. In Afghanistan, one district used improvement methods in infection prevention. Russia's Krasnogvardeisky rayon used improvement methods in designing and implementing interventions for the prevention and treatment of arterial hypertension. Districts in South Africa applied improvement work to waiting times, facility cleanliness, staff attitudes and values, patient safety, infection prevention and control, and availability of medicines and supplies. In Tanzania, one district used improvement methods to increase access to medicine supplies. A district in Uganda reportedly used improvement methods in the area of immunizations.

4. Service Delivery

At the facility level, political will or leadership was assessed by the presence or absence of mechanisms for recognizing improvement. Ten of the 15 countries indicated that at least some facilities offer incentives for improvement. In Afghanistan, two of six facilities provided written or verbal appreciation to staff. Four Bolivian facilities offered certificates of appreciation and prizes. All of the 31 facilities in Cote d'Ivoire reported that staff members received some form of appreciation, including verbal acknowledgement, a sense of satisfaction, patient satisfaction with services, and presentation of improved results at learning sessions. In Mali, friendly competition between staff members functioned as an incentive for improving. Only in Russia were financial incentives offered by the facilities to staff.

Facilities in all 15 countries have staff members and/or units dedicated to improvement. Only two of the six participating facilities in Afghanistan were reported to have a unit dedicated to improvement, but all reported having an HCI-assisted QI team. The remaining four had midwives responsible for improvement activities. In Bolivia, all facilities had a QI team and an individual responsible for coordination. In Cote d'Ivoire, 28 out of 31 facilities indicated that staff members were tasked with improvement responsibilities. Facilities in South Africa illustrate the variation that can exist across facilities. Four of the six facilities had staff members tasked with improvement activities. In two of these four, this staff person was a QI manager, while in one facility it was a QA coordinator. The final facility reported that the operational manager was responsible for improvement.

Most countries reported that new staff members at the facility level were oriented to improvement work.

Responding facilities in all 15 countries reported tracking indicators appropriate for their activities. In Honduras, where a larger institutionalization study was conducted including facilities from a demonstration phase that ended three years prior to data collection, it was found that after this three year period, facilities continued to monitor indicators. However, there were challenges in analyzing and discussing the data. Interestingly, between 20-30% of spread facilities in Honduras reported they were no longer producing flow charts, analyzing or graphing data, planning or conducting improvement (Plan-Do-Study-Act) cycles, or using data in decision-making. Not all facilities in all countries reported documenting changes. For example, all six participating facilities in Afghanistan and all seven facilities in South Africa were documenting changes, only three of six facilities in Bolivia and one of three facilities in Ecuador reported this practice.

The application of improvement methods to additional clinical areas was most often seen at the facility level in comparison to other levels of service. At least one facility in nine of the 15 countries reported using improvement methods in other areas of clinical service.

IV. DISCUSSION AND RECOMMENDATIONS

A. Summary

In general, countries studied had made a commitment at the national level to improve the quality of services. This commitment most often manifested itself as written policies, strategies, standards, plans, or guidelines. Most countries had mechanisms for communicating these written commitments to the regional/provincial levels, but fewer countries had means through which to provide performance feedback to the regional/provincial levels. Only eight of the 14 countries reporting national level data indicated that at the national level there was an individual responsible for improvement, and even fewer countries had a dedicated position. However, most countries reported having a unit or division at the national level dedicated to improvement. Meetings with the lower levels of the system and training of new national level staff members were widespread across the 14 countries, but not universally applied. Incentives or recognition for improvement was only offered in five of the countries. Most countries expressed challenges with funding for improvement work. At the national level, improvement indicators were tracked by many countries. The transfer of improvement methods to services areas not supported by HCI was less apparent at the national level, occurring in only three countries on a limited basis.

At the regional/provincial level, expressions of political will around improvement were often through the adoption of nationally established policies, strategies, standards, plans, or guidelines. Regions/provinces tended to have mechanisms for communicating with facilities, but fewer shared performance feedback with facilities. There were also mechanisms for sharing information with the national level in many countries. The provision of incentives or recognition was more often seen at the regional/provincial level than the national level, with regions/provinces in eight countries offering such incentives. Regions/provinces in most countries had a staff member dedicated to improvement activities, but fewer reported this as a permanent position. Meetings between regions/provinces and facilities were common but financial resources were scarce. Regional/provincial tracking of improvement indicators was not universal. Transfer of improvement methods to new areas of service occurred in regions/provinces in five countries.

Eight countries provided district level data. Districts in only two of these countries indicated a political commitment for improving the quality of services. No districts in any country reported having established standards, but districts in four countries indicated having written improvement strategies. Mechanisms for providing incentives or recognition and communicating with facilities were widespread across districts, including letters of appreciation, awards, financial bonuses, and other non-monetary incentives. District level staff members and units or divisions dedicated to improvement were present in most of the countries and meetings with facilities did occur. Districts in four of the eight countries reportedly had funding for improvement work. New staff members at the district level were oriented to improvement methods in most countries. Tracking of improvement indicators at the district level was widespread, with districts in six of eight countries reporting this activity. Districts in four countries indicated transferring improvement methods to clinical areas not supported by HCI.

At the facility level, political will and leadership was assessed through provision of incentives or recognition. Facilities in ten of the 15 countries reported providing some form of recognition for performance. Facilities in all countries have staff or teams dedicated to improvement and track improvement indicators. New staff members at facilities in most countries were oriented to improvement. Transfer of improvement methods to new areas of service appears to have been most successful at the facility level, occurring in at least one facility in nine of the 15 participating countries.

B. Limitations

This assessment was conducted to provide preliminary information on the forms of institutionalization of improvement across 15 HCI-supported countries. There are several limitations with the approach taken which are outlined below, along with suggestions for how to address them for future institutionalization studies. While these findings are presented in the format of a research report, the approach was not designed in such a way to allow for generalizations to be made about the process of institutionalizing improvement. Specific issues with the rigor of this assessment include:

- Method of data collection: Data were self-reported using tools designed by HCI Headquarters staff. Basic explanations were provided to HCI country staff on the tools but comprehensive training was not delivered due to time and financial constraints.
- Dichotomous variables: The questions asked of respondents were dichotomous, with space for qualitative comment, description, or explanation. The nature of dichotomous variables does not allow for exploration of the nuances of processes or expressions of institutionalization.
- Sampling of participating facilities, district, and regions/provinces was not random. Instead, HCI country staff selected sites that they considered were typical case, or those that represented neither the highest nor the lowest performing.
- The design of the assessment did not allow for an understanding of which elements presented in the framework are necessary for successful institutionalization of improvement. A related limitation is that the framework itself has not been empirically validated.
- The assessment only included facilities, districts, and regions/provinces in which HCI had worked directly. As a result, this approach excluded situations in which there was a natural spread of improvement activities to non-HCI supported facilities, districts, and regions/provinces. Where it occurs, this natural spread represents an important form of institutionalization. For example in Niger, HCI implemented a human resource collaborative in the region of Tahoua. However, two other regions, Maradi and Tillabery, have also started implementing the same workforce improvement interventions with technical assistance from Tahoua.
- As mentioned in the description of the study sample, there was programmatic heterogeneity across countries. The assessment was not designed to determine whether there was any relationship between programmatic area and the level of institutionalization that was achieved. Such a study would require a much larger sample size than was permitted in this assessment.
- This assessment was conducted while HCI-supported activities were ongoing in the participating countries. An ideal study into the level of institutionalization would be carried out several years after HCI concluded its work in a country.
- Finally, improvement projects and activities supported by other implementing partners were not taken into account in this assessment. Therefore, it is not possible to attribute the level of institutionalization to HCI's work. Future activities could include comprehensive documentation of interventions as a means of making the case for attribution of HCI's efforts to support institutionalization of improvement.

C. Recommendations

The true test of institutionalization and sustainability of improvement methods in health care is examination of elements of the framework at a point or points in time after the direct intervention of HCI has concluded and the project no longer has any direct involvement in the implementation of health care improvement activities at various levels. It was beyond the scope of the current study to conduct

such an investigation. The time elapsed from HCI direct involvement to institutionalization framework data collection for such a study is somewhat arbitrary at this stage but we suggest a period of between one and three years would be an appropriate starting point. If data were collected from the same entities at the various levels of the health system that participated in this study, two purposes would be served. First, such a study could contribute to validating the elements of the framework as measures of institutionalization. For example, if it was found that facilities that had explicit incentives consistently maintained or improved performance in quality indicators over the long term, then this would give support to importance of incentives for institutionalization. Second, it could help determine which characteristics of HCI interventions were most conducive to institutionalization and sustainability of desirable improvement results. For example, if it was found that short-term, intensive improvement interventions with a narrow clinical focus were associated with the presence of more institutionalization elements and better quality performance, then future interventions might favor this short-term, intensive approach. Once this longer-term evidence of institutionalization framework elements is established, the characteristics of the HCI interventions and the settings in which they took place could be tested against the performance in elements of the framework as well as indicators of quality of health care. While findings from such a study are likely to be context-specific and confounded by several extraneous variables, the exercise may still provide valuable information on potential determinants of institutionalization.

This assessment revealed how variable the presence of these elements of institutionalization is both across and within countries. Further research should be done to explore why certain facilities, districts, or provinces/regions move more quickly than others in the institutionalization process. This research could take the form of concentrated case studies and/or more in-depth institutionalization studies at the country level.

Across HCI, much attention has been paid to national and service-delivery activities, while less work has been done at the regional/provincial or district levels. As a result, greater gains have been made in institutionalizing improvement methods at the top and the bottom of the system. Effort should be made to institutionalize improvement methods at the middle levels to ensure a functioning, supportive, and cohesive system across all levels.

Finally, this assessment did not include data from the community level due to the relative early stages of HCI's programming at the community. However, we recognize the importance of community in improving health outcomes and the quality of services. A body of evidence should be established to determine the most appropriate methods of engaging the community and how to best institutionalize improvement methods at the community level.

V. APPENDICES

Appendix 1: Institutionalization Framework

The USAID Health Care Improvement Project defines institutionalization as establishing and maintaining continuous improvement activities as an integral, sustainable part of a health system or organization's daily activities. This approach to institutionalization encompasses both the establishment of structures, processes, and mechanisms to address and improve the quality of care, and the maintenance or sustainability of these structures, processes, and mechanisms. The objective is to institutionalize and sustain improvement after the end of HCI assistance. We define improvement to be institutionalized when there is a continuous process of using data to identify problems, implementing changes to address problems, and monitoring indicators.

The subsequent framework describes the elements necessary for institutionalization of quality improvement at the national, regional, and facility levels. For each element, a list of questions has been provided to guide the documentation of institutionalization.

Level	Element	Description	Questions
National	Political Will/ Leadership	Commitment to include improvement as an activity; advocate for funding	<ul style="list-style-type: none"> • Has a commitment been made by the MOH (high ranking officials) to address and improve care? • Have funds been advocated for? Are funds regularly/continually advocated for?
		Policy and guidelines/ strategic plan/ standards	<ul style="list-style-type: none"> • Have health service standards, etc. been established and agreed upon by the MOH? Who was/is involved in setting standards, etc.? In which areas of service? • Is there a written improvement strategy? • Is there a mechanism through which clinical standards are reviewed and updated/revised as necessary?
		Recognition of improvement	<ul style="list-style-type: none"> • Is explicit recognition given for achieving improvements? (May include publication of performance). If so, describe.
		Communication with regions on policies/plans/standards/ etc and performance feedback	<ul style="list-style-type: none"> • Is there a mechanism by which information on policies/plans/etc. are communicated from national to regional? What is the mechanism? • Are successes or gaps in performance communicated with regions?
	Roles and Responsibilities	Assignment of improvement responsibilities. This could include appointment of official(s) to follow up on improvement or establishment/ maintenance of an improvement unit/division/ committee	<ul style="list-style-type: none"> • Is/are there staff member(s) who are tasked with improvement responsibilities? What are his/her names? What are his/her specific responsibilities? • Is there a position at the national level dedicated to improvement? What is the position title? • Is there a division/unit at the national level dedicated to improvement? Is there a plan to establish an improvement division/unit within the MOH?

		in Ministry	
	Organization	Meetings and visits to province/district	<ul style="list-style-type: none"> • Are there meetings with regional staff about improving health service delivery? How often?
	Orientation	Improvement induction by non-HCI staff	<ul style="list-style-type: none"> • Is new MOH staff (and relevant national-level partners) oriented to improvement?
	Resources	Financial support included in budget (meetings, transport, etc)	<ul style="list-style-type: none"> • Do activities directly targeted at improving care receive funding?
	Data	Monitoring and tracking data, identification of problems	<ul style="list-style-type: none"> • Are improvement indicators being tracked at the national level? Which indicators? What is done with the data?
	Transfer	Application of improvement activities to other clinical areas	<ul style="list-style-type: none"> • Have improvement methods been used in areas of clinical practice distinctly different from the area of clinical practice that HCI focused on? Which areas?
Regional	Political Will/ Leadership	Commitment to include improvement as an activity; advocate for funding	<ul style="list-style-type: none"> • Has a commitment been made by the regional health office (high ranking officials) to address and improve care? • Have funds been advocated for? Are funds regularly/continually advocated for?
		Policy and guidelines/ strategic plan/ standards	<ul style="list-style-type: none"> • Is there a written improvement strategy?
		Recognition of improvement	<ul style="list-style-type: none"> • Are there explicit incentives for achieving improvements? (May include publication of performance). If so, describe
		Communication with facilities on policies/plans/standards/etc and performance feedback	<ul style="list-style-type: none"> • Is there a mechanism by which information on policies/plans/etc are communicated from regional to facility? What is the mechanism? • Are successes or gaps in performance communicated with facilities? • Are successes or gaps in performance communicated with the national level?
	Roles and Responsibilities	Assignment of improvement responsibilities: This could include appointment of official(s) to follow up on improvement or establishment/maintenance of an improvement unit/division/ committee in Ministry	<ul style="list-style-type: none"> • Is/are there staff member(s) who are tasked with improvement responsibilities? What is his/her name? What are his/her specific responsibilities? • Is there a position within the regional health office dedicated to improvement? What is the position title? • Is there a regional division/unit dedicated to improvement? Is there a plan to establish an improvement division/unit within the regional health office?
	Organization	Regular meetings and visits to facilities	<ul style="list-style-type: none"> • Are there meetings with facility staff about improving care? How often?
	Orientation	Induction of new staff into improvement by	<ul style="list-style-type: none"> • Are new regional staff (and relevant regional-level partners) oriented to

		non-HCI staff	improvement?
	Resources	Financial support included in budget (meetings, transport, etc)	<ul style="list-style-type: none"> Do activities directly targeted at improving care receive funding?
	Data	Monitoring and tracking data, identification of problems	<ul style="list-style-type: none"> Are improvement indicators being tracked at the regional level? Which indicators? What is done with the data?
	Transfer	Application of improvement activities to other clinical areas	<ul style="list-style-type: none"> Have improvement methods been used in areas of clinical practice distinctly different from the area of clinical practice that HCI focused on? Which areas?
Facility	Political Will/ Leadership	Recognition of improvement	<ul style="list-style-type: none"> Are there explicit incentives for achieving improvements? (May include publication of performance). If so, describe
	Roles and Responsibilities	Assignment of improvement responsibilities	<ul style="list-style-type: none"> Is/are there staff member(s) who are tasked with improvement responsibilities? What is his/her name? What are his/her specific responsibilities? Is there a position within the facility dedicated to improvement? What is the position title? Is there a facility-level division/unit dedicated to improvement? Is there a plan to establish an improvement division/unit within the facility?
		Indicator monitoring and promoting changes	<ul style="list-style-type: none"> Is/are there staff member(s) who are tasked with monitoring data, recognizing problems and promoting changes? What is his/her name? Is there a position within the facility dedicated to monitoring indicators and promoting changes? What is the position title?
	Orientation	Induction of new staff into improvement	<ul style="list-style-type: none"> Is new facility staff (and relevant facility-level partners) oriented to improvement?
	Data	Monitoring and tracking data, identification of problems	<ul style="list-style-type: none"> Are improvement indicators being tracked at the facility level? Which indicators? What is done with the data?
		Documentation of activities/changes to address problems identified	<ul style="list-style-type: none"> Is there a written record of the changes that facilities implemented to bring about improvement in care?
	Transfer	Application of improvement activities to other clinical areas	<ul style="list-style-type: none"> Have improvement methods been used in areas of clinical practice distinctly different from the area of clinical practice that HCI focused on? Which areas?

Appendix 2: Summaries of Country Findings

Afghanistan

Scope of HCI activities: Activities in Afghanistan began in 2009 with maternal and newborn care facility and community collaborative in two provinces (17 facilities in Balkh and 15 facilities in Kunduz). In 2010, this activity was expanded to additional facilities in Balkh and Kunduz, as well as Herat, Parwan, and Bamyan provinces. Also in 2010, a maternity care collaborative was initiated in 5 hospitals in Kabul province.

Scope of QAP activities: QAP did not provide any technical assistance to Afghanistan.

Data: Data were collected at the national level, 5 provinces (Balkh, Parwan, Herat, Kunduz, and Bamyan), 3 districts (Dehdadi, Gusara, and Yakawlang) from 3 provinces, and 6 facilities (3 comprehensive health centers and 3 basic health centers) from 6 districts.

Level	Element	Findings
National	Political Will/ Leadership	The Afghanistan MoPH supports all improvement activities.
		The MoPH, UN agencies, and other stakeholders have been involved in establishing and agreeing upon health service standards, but there is no mechanism for reviewing, updating, or revising clinical standards. There is a National Strategy of Improving Quality in Health Care.
		Information on policies and standards is communicated from the national to provincial level through an annual results conference and quarterly workshops with provinces. Successes and gaps in performance are communicated to provinces through coordination workshops on the Basic Package of Health Services (BPHS) and the Essential Package of Hospital Services (EPHS).
	Roles and Responsibilities	There is a coordinator for the Improving Quality in Health Care (IQHC) Unit at the national level. This unit is under the leadership of the General Directorate of Curative Medicine at the MoPH.
	Organization	To date there are no regular meetings with provincial staff about improving health service delivery.
	Orientation	The IQHC Unit orients MoPH key directorates, partners, UN agencies, NGOs, and MoPH stakeholders to the IQHC National Strategy.
	Resources	QI activities are supported by HCI, while QA activities are supported by HSSP.
	Data	IQHC dashboard and other performance indicator data are collected through the HMIS for monitoring and evaluation.
Transfer	WHO is implementing patient safety, while HSSP is implementing QA. Tech-serve is responsible for hospital accreditation.	
Provincial (n=5)	Political Will/ Leadership	All participating provinces reported a commitment by establishing and supporting QI teams, providing space for a local HCI office, integrating and participating in trainings and learning sessions, and purchasing necessary equipment.
		Provinces reported using the National Strategy as their provincial strategy for QI.
		Incentives for performance are given to individual staff members through the following mechanisms: recognition in meetings and trainings, letters of appreciation, the World Bank-funded Results Based Finance project, extra leave, and displaying their photograph.
		Communication with facilities is undertaken via official MoPH letters and

		other written communication, monthly meetings, and through NGO implementing partners. Communication with the national level is undertaken through official MoPH letters, Provincial Public Health Department staff meetings, facility status reports, and learning sessions.
	Roles and Responsibilities	Only one province reported having a provincial-level staff member responsible for improvement activities. No province reported having a dedicated unit or division for improvement.
	Organization	Meetings with facility staff are held daily, weekly, monthly, or quarterly in each province.
	Orientation	Provincial staff are introduced to improvement during orientation and training in each province; however this orientation is conducted by HCI staff.
	Resources	No province reported possessing funding directly targeted to improvement activities.
	Data	Provinces reported tracking the following indicators: AMSTL indicator, correct use of partograph, maternal mortality rate, newborn mortality rate, deliveries conducted by skilled birth attendant, women's knowledge of maternal and newborn danger signs, postnatal monitoring standards, deliveries, ANC, PNC, vaccination, and infection prevention.
	Transfer	Three provinces reported that improvement methods have been applied to integrated management of child health and nutrition, stock management, infection prevention, capacity buildings, tuberculosis, and family planning.
District (n=3)	Political Will/ Leadership	Each district reported having a QI team that participated in meetings and learning sessions, but none reported having a budget for improvement activities.
		No district reported having a written improvement strategy. One district reported having quality assurance standards and PDSA sheets.
		One district reported providing letters of appreciation or rewards for performance.
		Information is disseminated during learning sessions and exchanges with other facilities. One district indicated that information was disseminated quarterly. Two districts stated that successes or gaps in services were shared with facilities through learning sessions, while one district indicated that sharing performance feedback was not its responsibility. Two districts reported sharing performance data with the provincial level through direct conversation, letters, HMIS reports and other forms. One district reported that they did not share information with the province.
	Roles and Responsibilities	Two districts indicated that they did not have a district-level staff member responsible for improvement. One district stated that a midwife was the QI focal point who monitored PDSAs, introduced changes, and plotted data. However, this district did not have a fixed position dedicated to improvement. No district reported having a dedicated unit or division for improvement.
	Organization	One district indicated holding meetings with facility staff every other week. One district indicated that such meetings were held during joint learning session. The final district stated that no regular meetings with facilities were held.
	Orientation	District staff members are oriented to improvement during orientation and training in each district.
	Resources	No district reported that having funding directly targeting improvement of

		care.
	Data	Districts reported tracking the following indicators: AMSTL elements, correct use of partograph, essential newborn care standards, immediate breastfeeding, ANC counseling standards, tetanus vaccination, infection prevention, pregnancy and postpartum danger signs, and postpartum hemorrhage. Data are analyzed and shared with monitoring teams and other facilities for learning purposes.
	Transfer	One district indicated that improvement methods have been applied to infection prevention.
Facility (n=6)	Political Will/ Leadership	Two facilities reported providing staff with verbal or written appreciation as incentives.
	Roles and Responsibilities	Two facilities reported having QI teams while the remaining 4 facilities indicated that a midwife was responsible for improvement activities. None of the facilities reported having a fixed position or unit dedicated to improving care.
		Two facilities indicated that the in-charge, midwife, and vaccinator were responsible for monitoring data, recognizing problems, and promoting changes. Two other facilities indicated that the QI team was responsible for these activities. The final 2 facilities reported that all facility staff were involved in these activities.
	Orientation	All facilities reported that new facility staff are oriented to improvement methods. Two facilities indicated that HCI was responsible for this training.
	Data	All facilities reported tracking indicators monthly and/or discussing them quarterly.
		All facilities reporting using PDSA sheets to record changes implemented to bring about improvement in care, including data and graphs.
	Transfer	The application of improvement methods to other areas of clinical practice has not been done at the facility level.

Bolivia

Scope of HCI activities: HCI-Bolivia has worked on improving the quality of tuberculosis care since 2008. The project began with a TB diagnosis and treatment improvement collaborative in El Alto in which 4 hospitals, 43 health centers, and 19 laboratories participated. In 2011, a treatment and diagnosis improvement collaborative began in Cochabamba with 9 hospitals, 29 health centers, and 6 laboratories.

Scope of QAP activities: In 2002, QAP translated the Tuberculosis Case Management computer-based training into Spanish and adapted it to the norms of the National TB Control Program in Bolivia. The Mission funded no further technical assistance at the time, but in 2006 requested that QAP work with John Snow, Inc. (JSI) to implement a TB improvement collaborative with municipal provider networks. This collaborative expanded from 114 facility CQI teams in 2006 to 217 by 2008 and from 16 municipalities (out of 169) in three departments (out of nine) of Bolivia (Santa Cruz, La Paz, and Cochabamba) to 31 municipalities and 6 departments.

Data: The sample for this study included the national level, one region (El Alto), 4 districts (Gerencia de Red Boliviano Holandés, Gerencia de Red Corea, Gerencia de Red Los Andes, and Gerencia de Red Lotes y Servicios) in El Alto, and 5 facilities (all health centers).

Level	Element	Findings
National	Political Will/ Leadership	The Bolivian MoH has a national unit for accreditation and quality called PRONACS. This unit is in charge of quality, but there is no specific support for TB. The National Program for TB Control does not have a specific unit dedicated to improvement. The National Program includes standards and norms, along with appropriate quality indicators. All levels of services regardless of ownership (public, private, social security) are expected to comply with and implement established standards. An annual evaluation is conducted at which time indicators are reviewed and standards are modified or revised as necessary. There is an incentive plan with certificates. Non-financial incentives are included in the program's improvement process and are issued annually by committee with the support of international organizations.
	Roles and Responsibilities	There is no specific national-level staff member responsible for improvement. The individual responsible for monitoring and evaluation is in charge of monitoring the quality indicators. The national supervisory nurse is in charge of monitoring, strengthening, and managing national DOTS activities. The Head of the National TB Program is responsible for all activities pertaining to TB, including quality improvement.
	Organization	Meetings are held with the departmental level at which time information on policies, plans, and standards are communicated. Supervisory visits are carried out with regional and local authorities. Written and verbal circulars and instructions are also distributed. Every two months there is a meeting with the national program and every area within the national office with departmental offices.
	Orientation	All new staff members are introduced to improvement. They participate in a modular course, rotate through health facilities and participate in national and departmental evaluations.
	Resources	Specific funds are not allocated for quality improvement. Funding is allocated according to strategic activities in the TB Strategic Plan.
	Data	Indicators are monitored quarterly. Each area is responsible for monitoring its own indicators, with technical consultation from the national team. Feedback is provided to departmental level when a problem is identified.

	Transfer	Improvement methods have not been applied to clinical areas beyond TB care.
Regional (n=1)	Political Will/ Leadership	Within the Department of Accreditation of SERES (Servicio Regional de Salud El Alto), there is a Quality Improvement Unit which works with the health facilities. HCI's TB program supports regional office and all the facilities within the municipality in improving the quality of care provided. The respondent to this questionnaire was not aware of the policies or plans upon which the regional activities were based. SERES does not have an incentive program, but the regional TB program in El Alto is starting an incentive program and is currently looking for financial support. The regional level provides feedback to the facilities through supervision and evaluation. Communication with the national level is sporadic, but there is strong communication and coordination with the Departmental TB Program in La Paz.
	Roles and Responsibilities	The unit responsible for accreditation and quality in hospitals and health centers is led by a director. The interviewee did not know the name of the nurse in charge of quality unit or her responsibilities. There is not a unit or department within the TB program dedicated to improvement.
	Organization	Communication between health facilities and the regional level is conducted through nurses responsible for TB as well as through written circulars and verbal instructions. Weekly meetings are held with managers responsible for TB within the network in El Alto.
	Orientation	There is no standard process for orienting new staff to improvement. Each public official has the responsibility and obligation to education themselves on the processes and instruments of the MoH.
	Resources	There are no funds within the TB program's annual operating plan specifically dedicated to quality improvement. Funding is allocated for activities such as monitoring and evaluation and supervision which contribute to quality improvement, however they are insufficient.
	Data	Quarterly meetings are held to discuss program indicators, including those measuring quality. Quality indicators are measured monthly and focus on the quality of clinical diagnosis, the quality of sputum samples, the quality of laboratory diagnosis, and the quality of follow-up until cure.
	Transfer	The application of QI methods to other clinical areas has not occurred at the regional level.
District (n=4)	Political Will/ Leadership	Through the presence of HCI, the use of improvement methods has been strengthened. Monthly meetings are held with the region at which time information on policies and plans are shared with districts. There appears to be little feedback from the district to the facility level on performance. Two districts indicated there was an incentive plan, though all incentives were non-monetary. One other district indicated that the plan was to establish a day of the doctor and day of the nurse at the end of the year as appreciation.
	Roles and Responsibilities	Three of the four districts reported that there was an individual or committee responsible for improving the quality of TB care. No district reported a fixed position focused on improvement.
	Organization	Meetings are held regularly with facility staff.
	Orientation	Two of the four districts indicated that new staff are oriented to TB care practices, but none indicated that orientation on improvement methods was carried out.

	Resources	Financial resources have not been allocated for improvement activities.
	Data	Indicators are monitored monthly. They include: capturing cases, quality of sputum samples, and data quality.
	Transfer	Improvement methods have not been applied to clinical areas beyond TB.
Facility (n=5)	Political Will/ Leadership	Four of 6 facilities reported having incentives for achieving improvements. These included certificates of appreciation and prizes.
	Roles and Responsibilities	Each facility reported having a QI Team with an individual responsible for coordination.
	Orientation	New staff are oriented to TB care practices and QI.
	Data	Indicator data are monitored monthly. Indicators include: capture of TB cases, quality of sputum samples, quality of information and data, conversion rates, and treatment and follow-up. Only 3 of the 6 facilities indicated that implemented changes were documented.
	Transfer	Improvement methods have not be applied to clinical areas beyond TB.

Cote d'Ivoire

Scope of HCI activities: HCI implemented an ART and PMTC collaborative in Cote d'Ivoire starting in 2009. HCI has worked in 120 sites in 17 of the country's 19 regions (41 pilot sites and 79 spread sites). HCI has also conducted OVC and peer prevention piloting of standards in 4 regions and provided assistance to 57 NGOs working in OVC and 28 NGOs working in peer prevention. In 2010 HCI began working with laboratory services in 25 laboratories across 10 regions.

Scope of QAP activities: QAP did not provide technical assistance to Cote d'Ivoire.

Data: Data were collected at the national level, 3 districts (Abobo Est, Yamoussoukro, and Daloa) from 3 regions (Lagune, LAC, Hautassandra), and 31 facilities (12 general hospitals, 7 regional hospitals, 3 urban health facilities, 3 urban health centers, 2 maternal and child health centers, 1 urban dispensary, 1 faith-based dispensary, 1 TB center, and 1 private health center) from 20 districts .

Level	Element	Findings
National	Political Will/ Leadership	Funds have been advocated for but there are no health service standards that have been established and agreed upon by the MOH.
		The HCI collaborative was cited as the only improvement strategy.
		There is no mechanism through which clinical standards are reviewed, updated, or revised.
		There is no systematic recognition given for achieving improvements.
	Roles and Responsibilities	No national-level MOH staff member is tasked with improvement responsibilities. There is no position or unit dedicated to improvement. However, there are plans to create a division within the HIV Program to address quality issues.
	Organization	Information is communication to the district level via letters, workshops, conferences, and supervisory visits. Success or gaps in performance are not currently communicated to regions but, there are plans to do so in the future. There are no meetings with district staff to improve health service delivery.
	Orientation	New MOH staff members are not oriented to improvement.
	Resources	Activities directly targeted at improving care receive funding from PEPFAR.
	Data	Improvement indicators are not tracked at the national level.
Transfer	Improvement methods have been applied to one other area of clinical practice (cardiology).	
Districts (n=3)	Political Will/ Leadership	Only one of 3 districts reported that funds have been advocate for improvement. The same district reported that there is a written improvement strategy but did not name the document.
		Two districts reported that incentives were given for achieving improvements but did not specify what these incentives were.
		All 3 districts reported having a mechanism to communicate information to facilities. Mechanisms include: meetings, supervisory visits, and memos. Successes or gaps are communicated to facilities during meetings. One district reported that successes or gaps were communicated to the national level via email, phone, or fax.
	Roles and Responsibilities	One district reported t hat there was a district-level MOH staff member tasked with improvement responsibilities. The same district reported that

		there was a focal point position dedicated to improvement. Currently, there is no unit dedicated to improvement. However, one district reported that the creation of a QI unit was in progress.
	Organization	One district reported holding meetings with facilities' QI teams and one district reported planning to hold meetings with facilities starting January 2012.
	Orientation	Two districts reported that staff were oriented to improvement
	Resources	Only one district reported that activities directly targeted at improving care receive funding.
	Data	Improvement indicators are not tracked at the district level.
	Transfer	Improvement methods have not been used in areas of clinical practice distinctly different from those HCI supported.
Facility (n=31)	Political Will/ Leadership	All 31 facilities reported having incentives to achieve improvement, including verbal acknowledgement, pride/satisfaction of delivering good care, patients' satisfaction, and presentation of good results at learning sessions.
	Roles and Responsibilities	Of 31 facilities, 28 reported that staff members were tasked with improvement responsibilities. All but 2 sites were able to name this person. Only one facility reported that there was a position dedicated to improvement (pharmacist). The same facility also reported that there was a unit dedicated to improvement. Twenty-eight facilities reported having staff members tasked with monitoring data, recognizing problems, and promoting changes while 15 facilities reported that there was a position dedicated to such activities. The majority (11) of these 15 sites reported that the title of this position is "Assistant Data Monitor".
	Orientation	23 of 31 facilities reported that new staff members were oriented to improvement. One site specified that only new ART/PMTCT staff were oriented.
	Data	All but one facility reported monitoring ART/PMTCT indicators for decision-making and quality improvement purposes. Sites reported sending data to districts or implanting partners.
		The majority of facilities (29) reported having a written record of the changes implemented in documentation journals for QI teams.
	Transfer	One facility reported that improvement methods had been extended to the laboratory unit.

Ecuador

Scope of HCI activities: Starting in 2008, the EONC package has been spread to 51 hospitals that were not previously involved in QAP-supported improvement activities. HCI has conducted research on the process of improvement in 13 of the 51 hospitals.

Scope of QAP activities: QAP supported implementation of an Essential Obstetric Care improvement collaborative starting in 2003 as a demonstration in Tungurahua Province and spreading to 11 of the country's 22 provinces. QAP also supported an obstetrical complications collaborative, which grew out of the EOC collaborative, and an AMTSL spread collaborative, begun in 2007. These collaborative efforts ended in December 2007.

Data: Data were collected at the national level, 1 province (Pichincha), and 3 facilities (2 hospitals and one health center) from Pichincha province.

Level	Element	Findings
National	Political Will/ Leadership	The Regulation Unit sets quality improvement standards. The government of Ecuador has designed a "Public Unified Health Care System" in which the MoH, social security, military, and police health systems are brought into one. During this process, national authorities have included decrees regarding the quality of care that govern all, not only publicly funded, health facilities. The government also issued a guide mandating the costs for a facility to provide services and includes a monetary incentive to be added or subtracted from the cost of services based on the quality of care.
		Standards are revised every 2-3 years by inter-institutional group including the MOH, Ecuadorian Institute of Social Security, the Armed Forces, and the Police.
		There is no specific mechanism for giving recognition for improvement. There is no mechanism for communicating policies, standards, or guidelines with the provinces.
	Roles and Responsibilities	At the national level there is an Improvement Committee which is led by a doctor and nurse. Within the MOH there is a Quality Assurance Unit.
	Organization	Every 6 months a meeting is held with the provincial and area level to discuss maternal health.
	Orientation	New staff members at the national level are not oriented to improvement.
	Resources	A regular budget exists for every unit or program within the MOH.
	Data	22 maternal and child health indicators are tracked.
Transfer	Improvement methods have been applied to adult health, oral health, and family planning.	
Provincial (n=1)	Political Will/ Leadership	The province is in the process of establishing a Plan for Accelerated Reduction of Maternal and Neonatal Death. The Manual of Standards was issued in 2008 and implemented in 2009. There are no incentives for improvement. Standards and plans are shared with the facilities through trainings, formal information disseminated by the authorities, emails, and meetings.
	Roles and Responsibilities	One doctor at the provincial level is responsible for monitoring the quality of care. There is a department called the Quality Assurance Process is responsible for improvement.
	Organization	Meetings with facilities are held with problems are identified. No meetings had been held around the time of data collection due to transportation and other logistical challenges.

	Orientation	New staff members in maternal health are oriented to improvement.
	Resources	There have not been dedicated funds for improvement since 2010.
	Data	The province reported using data for identifying problems for improvement, advising the committee. Data are consolidated and sent to the national level.
	Transfer	Improvement methods have been applied to family planning activities.
Facility (n=3)	Political Will/ Leadership	There are no specific incentives for improvement.
	Roles and Responsibilities	Staff members are designated responsible for improvement work at the facility level, but there is no designated position. Two facilities do have committees for improvement, but one facility (a health center) stated that it did not have an established team for improvement.
	Orientation	New staff members are oriented to norms and protocols, though orientations are not done regularly.
	Data	Indicators are tracked in the following areas: prenatal care, delivery, and management of obstetric complications. Data is reported to the central level. Improvement activities are documented.
	Transfer	In 2 facilities, improvement methods had not been applied to other areas of care. Another facility reported that improvement teams had been established in the areas of adult and adolescent health, but rapid improvement cycles had not yet been conducted.

Guatemala

Scope of HCI Activities: In 2008, HCI began supporting the MOH in improving the quality of maternal and newborn care services at the community, facility, and referral care levels in 9 of the country's 29 health areas. At the same time, a quality management assurance system was implemented to achieve ISO certification at the central levels and in one health center. In 2010, 7 other health facilities were also ISO certified.

Scope of QAP activities: QAP did not provide technical assistance to Guatemala. However, URC implemented the USAID-funded Calidad en Salud (Quality in Health) project in Guatemala from 1999 to 2009. Calidad en Salud helped the Ministry of Health increase access to family planning services and contraceptives, especially in rural areas, and built national capacity to provide an integrated and holistic approach to strengthen the health system, focusing in particular on maternal, neonatal, child, and reproductive health. Calidad worked to increase family planning services, create demand for contraceptives through communication strategies, and address cultural and institutional barriers to family planning service use.

Data: Qualitative and quantitative data were gathered at the national level and from 6 districts (San Pedro, Tejutla, Concepción Tutuapa, San Lorenzo, Tacaná, and Tajumulco) in the San Marcos health area, all of which had participated in the ProCONE strategy which focused on improving the quality of maternal and newborn care. Three of these districts (Pedro Sacatepéquez, Tejutla, and Concepción Tutuapa) also participated in ISO certification activities. Data were also gathered from the national level ministry. Interviews and focus group discussions were conducted with key actors at the central, health area, and district levels. Self-administered questionnaires using a 5-point Likert scale were conducted at all three levels of the Ministry (national, health area, and district). A table describing the sample is presented below:

MSAP Level	Sample	Data Collection Method
Central	- 12 individuals ¹ from Units in the Quality Management System (QMS).	- 8 interviews with open and structured questions - 1 group discussion, including 4 people from senior level QMS.
	- 42 people working in the QMS	- Structured questionnaires
Health Area (San Marcos)	- 3 members of the QI Area team	- 1 Group discussion
	- 31 Health Area workers	- Structured questionnaires
Districts: San Pedro, Tejutla, Concepción Tutuapa, San Lorenzo, Tacaná and Tajumulco	- 16 District members of the QI Districts/Health Centers teams	- 6 open and standardized interviews - 1 Group discussion in the Tejutla Health Center (10 people)
	- 117 personnel from Health Facilities (CAP)	- Structured questionnaires

Level	Element	Findings
National	Political Will/ Leadership	Within the Ministry of Public Health and Social Assistance there is a Quality Management Unit. On a scale of 1-5, where 1 means "I am in complete disagreement" and 5 means "I am in complete agreement", central level authorities scored an average of 4.7 when asked if QI was important. All respondents indicated that there are policies related to QI.

- ¹ Included representatives from the National Reproductive Health Program and the Immunization Program.

		There was general agreement (4.1) that there were mechanisms to recognize and incentivize improvement work.
	Roles and Responsibilities	There was general agreement among the respondents that the Vice-Minister of Health was responsible for improvement activities at the national level.
	Organization	No information was provided.
	Orientation	Of the 42 national level respondents, 38 reported having participated in improvement activities for ISO, but only one person reported having participated in the collaborative improvement approach.
	Resources	On the 1-5 scale, the average response to “there are financial resources for QI activities” was 3.6. However, due to a national financial crisis, resources were limited.
	Data	No information was provided.
	Transfer	No information was provided.
District (n=6)	Political Will/ Leadership	Respondents indicated that QI was important (4.6) and there was strong interest in QI activities (4.7). There was agreement that improvement policies existed within the health area (4.6), but slightly less agreement that there were standards on the quality of services (4.0). The average response to the question about the presence of a mechanism for recognizing and incentivizing improvement was 2.6.
	Roles and Responsibilities	When asked if there was a unit or group responsible for improvement activities, the average response was 3.8, slightly higher than the average response (3.6) to the question of whether there was an individual responsible for improvement activities at the health area level.
	Organization	No information was provided.
	Orientation	No information was provided.
	Resources	There was general disagreement that there were financial resources for improvement activities (1.3).
	Data	Not all respondents were in agreement that quality indicators existed.
	Transfer	No information was provided.
Facility	Political Will/ Leadership	All respondents at the facility level had heard of quality improvement. There was general agreement that QI is an important activity. Respondents in the facilities participating in both ISO and ProCONE activities had a higher average response (4.9) to the question about whether there were policies pertaining to QI at their facilities, in comparison to those facilities only participating in the ProCONE activities (average 3.5). There was the same discrepancy in responses in regard to the presence of standards of quality of services. There was general agreement across ISO and ProCONE facilities that there were limited financial resources available for improvement work.
	Roles and Responsibilities	Participants from the ISO and ProCONE facilities had a higher average response when asked about the presence of a unit/group or individual responsible for improvement activities (4.6 and 4.5, respectively) compared to the ProCONE only facilities (2.5 and 3.3, respectively).
	Orientation	No information was provided.

	Data	Respondents from those facilities participating in both ISO and ProCONE activities had a higher average response (4.9) when asked there were quality indicators, compared to respondents from ProCONE only facilities (3.9).
	Transfer	No information was provided.

Honduras

Scope of HCI Activities: HCI-Honduras supported the Secretariat of Health of Honduras (SHH) to improve the quality of maternal and child health services. HCI supported five health regions (Copan, Comayagua, Lempira, Intibucá, and La Paz) between 2004 and 2006 in implementing CQI activities. This introduction has been called the demonstration phase. Between 2007 and 2009, HCI-Honduras supported the expansion of CQI to 6 additional regions (Yoro, Santa Bárbara, Olancho, Colon, Atlántida, and El Paraíso), reproducing the approach used during the demonstration phase. While the demonstration phase was implemented by HCI, the replication phase, as the expansion component is known, was implemented by SSH.

Scope of QAP activities: QAP began assisting the SHH in 1997, designing and implementing a QA system to improve maternal and child health services in the Comayagua region. In 2003 QAP expanded to support an EOC improvement collaborative in the Copán Region. In 2004, the SHH reorganized the country from eight health regions to 20 health departmental regions, and requested QAP to support scale up of CQI to five regions. QAP supported to SSH to implement a CQI system within the municipal health networks as part of a health sector reform project. In 2006, QAP's support expanded to technical support for health sector reform, family planning, and child health, as well as to incorporate quality improvement activities into these components. In 2006, the SHH began its own initiative to expand CQI to six new regions using other donor funds.

Data: The sample for this study on institutionalization of EONC included 17 of the 119 health facilities from the demonstration phase and 14 of the 114 health facilities from the spread phase, for a total of 31 health facilities across 11 regions. Facilities included hospitals, mother-child clinics (CMI, per the Spanish acronym), and health centers with doctors (CMO per the Spanish acronym). The table below illustrates the sample taken for this study.

Region	Demonstration Phase			Region	Spread Phase		
	Hospital	CMO	CMI		Hospital	CMO	CMI
Comayagua	1	2	2	Atlántida	1	1	
Copan	1	1	2	Colon	1	2	1
Intibucá	1	1		El Paraíso	1	1	
Lempira	1		2	Olancho	1	1	
La Paz	1	2		La Paz		1	
				Santa Bárbara	1		1
				Yoro	1		

Level	Element	Findings
National	Political Will/ Leadership	In 1998, the National Unit for Quality Assurance (Unidad Nacional de Garantía de Calidad) was established. In 2006, this unit was transformed into the Department of Quality Assurance (Departamento de Garantía de Calidad [DGC]).
		The DGC developed a Institutional Plan for Continuous Quality Improvement (Plan Institucional de Mejoramiento Continuo de la Calidad) in conjunction with HCI, PRSS of the World Bank, and Salud con Calidad of the World Bank, TQM, and JICA. There is also a Strategy for Continuous Quality Improvement (Estrategia de Mejora Continua de la Calidad).

		The DGC supports health regions and hospitals in developing workplans for improving quality of care. It also facilitated the establishment of a structure naming a departmental coordinator, groups of coaches in the health unit network, and quality improvement committees and teams.
		A recommendation from Honduras' study on institutionalization was to encourage the implementation of an incentive scheme for high performing QI teams. This incentive scheme would motivate QI teams to continue improving and share ideas and experiences.
	Roles and Responsibilities	The DGC is responsible for offering political and financial support for the implementation of the QI process at the department level.
	Organization	At the national level, quarterly monitoring and an annual evaluation are conducted.
	Orientation	During the demonstration phase, all respondents at the national level reported participating in training activities, but during the spread phase only 4 of 6 respondents reported participating in training.
	Resources	Respondents commented that additional financial resources would be required for institutionalization.
	Data	DGC, through the HCI project, introduced monitoring of indicators and establishment of rapid cycles for testing changes to the problems revealed by the data.
	Transfer	At the national level, transferring quality improvement methods to other areas of clinical practice beyond maternal and neonatal care is being considered.
Regional	Political Will/ Leadership	All participating regions reported having a regional department coordinator for quality.
	Roles and Responsibilities	Regional department coordinators are responsible for implementation of the quality improvement strategy, including facilitating training of coaches and supervisors.
	Organization	Regional department coordinators are expected to make 2 visits per year to QI teams.
	Orientation	Regional department coordinators are trained in QI.
	Resources	USAID has provided funding for QI activities in the following regions: Comayagua, Copan, Intibuca, La Paz, and Lempira. The Health Secretary of Honduras has allocated funds provided by other organization to promote and spread QI activities.
	Data	All regions reported establishing a database and tracking relevant indicators.
	Transfer	The application of QI methods to other clinical areas has not occurred at the regional level.
Facility (n=31)	Political Will/ Leadership	82% of demonstration sites and 79% of spread sites reported that they had standards and indicators for essential obstetric and newborn care within the facility.
	Roles and Responsibilities	Each participating facility report having an established QI team that met either monthly or weekly.
		One participating facility reported that each QI team member was assigned specific duties.
	Orientation	More than 90% of participants in the demonstration and spread phases were trained in QI methods.

	Data	Three years following the end of the demonstration phase, participating facilities continued to monitor indicators. Some facilities indicated that while they met regularly there was little time to analyze indicator data or share results. Between 20-30% of spread facilities reported that by the end of their implementation phase they were no longer producing flow charts, analyzing or graphing data, planning or conducting PDSA cycles, or using data in decision-making. Indicator data are shared with the departmental coordinators on a monthly basis.
	Transfer	QI methods have been applied to statistics, pharmacy, and laboratory activities in hospitals. QI methods have also be applied to the Blood Bank at the Escuela Hospital in Teguciagalpa. HCI is currently working on using QI methods in hazardous waste management at hospitals, which incorporates three new areas: patient safety, infection management, and waste management.

Mali

Scope of HCI activities: HCI has implemented an EONC collaborative in the Kayes Region since 2010 (41 facilities: 38 community health centers, 2 district hospitals and the Regional Hospital). The Active Management of third stage labor (AMSTL) and Essential Newborn care (ENC) demonstration phase of the collaborative have been completed and screening and case management of pre-eclampsia/eclampsia and postpartum family planning were added to the collaborative in 2011.

Scope of QAP activities: QAP did not provide technical assistance to Mali.

Data: Data were collected at the national level, one region (Kayes), and three facilities (one regional hospital, one district referral hospital, and one community health center) from one district (Kayes).

Level	Element	Findings
National	Political Will/ Leadership	Funds have been advocated for but are insufficient and irregular.
		The MOH, stakeholders, community organizations, NGOs and health providers are involved in setting standards in the area of reproductive health, malaria and tuberculosis. A written strategy is highlighted in Axes 4 (Extension et Amelioration de la Qualite des Services 2005-2009 or Extension and Quality Improvement of Services 2005-2009) of PRODESS 2 (Programme de Developement Sanitaire et Social or Program for Health and Social Development). Clinical standards are reviewed every five years.
		Awards (Ciwara d'Or) are given to best performing community health center teams under the quality accreditation program.
		Information is communicated to the regional level via technical committees and dissemination workshops. Successes and gaps are communicated by the Monitoring Committee and the Technical Committee. Gaps are also communicated in supervision reports.
	Roles and Responsibilities	No national-level MOH staff member is tasked with improvement activities. However, the Division of Health Facilities and Regulations (Division des Etablissements Sanitaires et de la Reglementation) is responsible for improvement. This division reports to the National Health Director.
	Organization	There are not meetings with regional staff about improving health service delivery.
	Orientation	New MOH staff members are not oriented to improvement.
	Resources	Current activities directly targeted at improving care only receive funding through the USAID HCI and PKII projects.
	Data	Reproductive health indicators are tracked at the national level and used for decision-making and planning purposes.
Transfer	Improvements methods have been used for laboratory services by the "Action Bio-Mali" NGO.	
Regional (n=1)	Political Will/ Leadership	No funds have been advocated for and there is no written improvement strategy.
		Monetary awards (Ciwara d'Or) are given to best performing community health center teams under the accreditation system.
		Information is disseminated to facilities through monitoring sessions, meetings and the Regional Council for Coordination Orientation and

		Evaluation of Social and Health Programs (CROCEPS). Successes or gaps in performance are communicated to facilities during monitoring sessions. Successes and gaps are communicated with the national level via the Technical Committee, Monitoring Committee for PRODESS and annual reports.
	Roles and Responsibilities	There is no regional-level MOH staff member tasked with improvement responsibilities.
	Organization	Meetings are not held regularly.
	Orientation	New staff members are not oriented to improvement.
	Resources	Currently, activities directly targeted at improving care only receive funding through the USAID HCI project.
	Data	Reproductive health indicators are tracked and used for evaluation and planning purposes.
	Transfer	Improvement methods have not been used in areas of clinical practice distinctly different from the area of clinical practice HCI supports.
Facility (n=3)	Political Will/ Leadership	Facilities reported friendly competition and verbal recognition as incentives for achieving improvements.
		All three facilities reported that at least 3 staff members were tasked with improvement responsibilities. Responsibilities included specific clinical activities (e.g., pre-eclampsia/eclampsia), data collection, quality environment, prevention of infection, and improvement changes. The regional hospital reported having a position dedicated to improvement (midwife in charge of delivery room). There is no unit dedicated to improvement.
	Orientation	All three facilities reported that new staff members are oriented to improvement. One facility reported training during meetings. Two facilities reported training interns and students.
	Data	All facilities reported tracking reproductive health indicators
		All facilities reported having a written record of changes implemented in documentation journals for QI teams.
	Transfer	One facility reported that improvement methods have been extended to the immunization unit.

Namibia

Scope of HCI Activities: HCI-Namibia has worked on improving medical injection safety and health care waste management practices in all 13 regional across the country starting in 2008.

Scope of QAP activities: QAP did not provide technical assistance to Namibia. However, from 2004 to 2009, URC implemented the PEPFAR-funded Improving Medical Injection Safety in Namibia Project, providing technical support to the Ministry of Health and Social Services on improving medical injection safety and health care waste management practices, eventually scaling up to all 13 regions and all 351 facilities across the country. This project supported the development and operationalization of policy documents, such as the National Infection and Prevention and Control Guidelines, National Quality Assurance Policy, and National Waste Management Policy and Guidelines.

Data: Data was collected from the national level, one region (Ohangwena) and one district level facility in Namibia.

Level	Element	Findings
	Political Will/ Leadership	The National Injection Safety Group meets under the MOHSS to address and advise on improvement of care. The Division of Quality Assurance and Public Hygiene sets the standards on infection control and waste management. A multidisciplinary team comprised of both public and private providers advise the divisions. The National Strategic Framework was updated in 2011. The National Injection Safety Group, under the Prevention Forum and the Technical Working Group on Treatment, is responsible for reviewing and updating standards as necessary. There is no explicit recognition given for achieving improvements.
	Roles and Responsibilities	Three individuals are responsible for improvement activities: the head of the Quality Assurance Division, the Chief Public Health Officer, and the Medical Officer, Occupational Health.
	Organization	Information on policies and plans are communicated to the regions through policy memos and short briefs. Feedback is given to regions during quarterly supervisory visits at which time areas requiring additional support are identified.
	Orientation	All new recruits are oriented in injection safety and waste management.
	Resources	Three years of funding have been allocated by the MOHSS to procure new incinerators and repair existing ones. The MOHSS procures commodities for injection safety and waste management (sharps boxes, bin liners, personal protective equipment).
	Data	Injection safety and waste management indicators are tracked at a national level. Support supervisory visits are organized to the lowest performing regions to address bottlenecks.
	Transfer	The national level respondent was not aware of whether improvement methods have been applied to clinical areas beyond waste management or injection safety.
Regional (n=1)	Political Will/ Leadership	There is a regional infection control plan, which is part of the larger regional management plan. Through in-service training supported by the MOHSS and URC, information on policies and plans is communicated to facilities. Performance feedback is provided to facilities regarding waste segregation, Hepatitis B immunization for health care workers, hand hygiene, and the national use of medications. Information is shared with the national level through the Quality Assurance Division.

	Roles and Responsibilities	Five regional level staff are responsible for improvement activities: Control Registered Nurse (infection control), Chief Health Programme Administrator/Family Health, Chief Health Programme Administrator/Directorate: Special Programmes, Control Health Inspector (waste management), and Chief Control Officer (procurement). The Nursing Division, which reports to the Chief Medical Officer, is responsible for improvement at the regional level.
	Organization	Meetings are held with facilities on a monthly basis or as needed.
	Orientation	New staff members are oriented to improvement.
	Resources	Funds for the procurement of new incinerators and commodities used in infection control and waste management are continually advocated for at the regional level.
	Data	Injection safety and waste management indicators data are tracked. Districts provide data to the regions which, in turn, report data to the national level. The data are used by regions to identify areas of low performance.
	Transfer	The respondent was not aware whether improvement methods have been applied to clinical areas beyond waste management or injection safety.
Facility (n=1)	Political Will/ Leadership	The facility reported that there are no explicit incentives for achieving improvement.
	Roles and Responsibilities	The Nurse Manager and the Principle Medical Officer are members of the District Infection Control Committee. The Infection Control Nurse is responsible for mentoring on infection control best practices at the facility level, collecting data, and conducting in-service training. Nursing services are responsible for improvement under the Quality Assurance Division.
	Orientation	The respondent was not aware of whether facility staff members are oriented to improvement.
	Data	Injection safety and waste management indicators are tracked and used to identify bottlenecks and areas in need of improvement. Changes that facilities have implemented to bring about improvement are documented.
	Transfer	The facility level respondent was not aware of whether improvement methods have been applied to clinical areas beyond waste management or injection safety.

Nicaragua

Scope of HCI Activities: Since 2007, HCI-Nicaragua has provided technical assistance to 16 of the country's 17 SILAIS (health regions). This includes 18 hospitals and 29 health centers in 16 SILAIS on family planning, 26 health centers in 8 SILAIS on VCT for various target groups, 12 hospitals in 10 SILAIS on infection prevention, and 8 SILAIS on maternal and newborn complications care.

Scope of QAP activities: QAP began supporting QI programs focused on MNCH in four municipalities in two SILIAS in Nicaragua in 1999, eventually scaling up to support 15 of the country's 17 SILIAS. QAP began providing technical assistance on HIV/AIDS activities in 2005. In addition to supporting the Ministry of Health (MINSa), QAP provided technical assistance in QA to Profamilia, the leading private sector family planning provider from 2000-2005, and began providing support to private sector health care delivery organizations that deliver Social Security-financed services in 2004. In 2005, QAP began supporting the NGO ProMujer with technical assistance for QA.

Data: The sample included 10 of the 17 SILAIS in Nicaragua (Boaco, Chinandega, Chontales, Jinotega, Leon, Matagalpa, Nueva Segovia, North Atlantic Autonomous Region [RAAN], South Atlantic Autonomous Region [RAAS], and Rio San Juan. The health personnel sampled for the study consisted of health professionals working in 30 facilities that had been involved in the CQI process at the facility and had work in their position for over three months. Survey respondents included 37 CQI coordinators and facility heads, and 143 health personnel involved in CQI. An additional 110 health personnel participated in 27 focus groups. Data were also captured using the Documentation, Analysis, and Sharing (DAS) tool, developed by HCI to measure performance in these three tasks critical to CQI implementation.

Level	Element	Findings
	Political Will/ Leadership	HCI has encouraged MINSa to develop quality standards, norms, and indicators for MCH, FP and HIV. As a result of HCI technical assistance, MINSa has issued 2 ministerial resolutions for national implementation: Reduction of Stigma and Discrimination Against People with HIV and Humanization and Cultural Adaptation of Delivery. There is also a database for quality indicators and standards of care that are implemented nationally. After HCI conducted a research study on health staff competencies in delivery and newborn care, MINSa, in conjunction with UNICEF and PAHO, developed norms and standards for prenatal care, delivery, and postpartum care, including standards and indicators. HCI conducted a study on the cost-effectiveness of hospital infection prevention associated with mechanical ventilators which resulted in MINSa incorporating necessary consumables to manage children on mechanical ventilation and supply of antiseptic solution and disinfectants into the basic list of supplies and equipment. Perinatal technology, specifically the partograph, has been introduced into national level norms following demonstration of its usefulness.
	Roles and Responsibilities	MINSa officials are tasked with ensuring that indicator data are collected and monitored.
	Organization	Meetings and supervisory visits are conducted to the SILAIS.
	Orientation	New staff members are oriented to QI as they are hired.
	Resources	Financial resources have not been allocated to improvement.
	Data	MINSa-level officials are in charge of following up on indicator data which is collected nationally.

	Transfer	At the national level there has not been an application of improvement methods to clinical areas other than what HCI has done.
Regional (n=10)	Political Will/ Leadership	Each SILAIS has a team dedicated to improvement. Recognition for improved quality is done infrequently and tends not to reflect specific activities or results.
	Roles and Responsibilities	Each SILAIS that has participated in HCI's work has a QI team.
	Organization	There are monthly meetings with QI teams to analyze indicator data as well as visits across teams to exchange QI experiences.
	Orientation	New staff members are oriented to QI as they are hired.
	Resources	No information was provided.
	Data	Data is recorded at the SILAIS level and used by administrative teams to make decisions.
	Transfer	Five SILAIS reported applying QI methods to clinical areas not covered by HCI.
Facility (n=30)	Political Will/ Leadership	Each facility reported having and maintaining a QI team.
	Roles and Responsibilities	28 of the included 30 facilities reported having an individual responsible for continuous QI. These individuals are responsible for ensuring indicator monitoring, organizing QI team meetings, supervising others involved in QI, functioning as an intermediary between those involved in QI and facility administration and/or supervisors, promoting and applying rapid improvement cycles, and ensuring that improvement activities are documented.
	Orientation	Facility staff members are trained in QI through 4 different mechanisms: training sessions, training and continuous education sessions, training for new staff, and in-service technical support.
	Data	Facility level indicators for MNCH, FP, and HIV/AIDS are monitored and data are used for decision-making purposes.
	Transfer	At the facility level, improvement methods have not been applied to clinical areas other than what HCI has supported.

Niger

Scope of HCI activities: HCI has applied collaborative improvement methods to enhance the performance of the health workforce, human resources management, and health worker productivity in all 8 districts of Tahoua region since 2008 (15 facilities: 2 regional hospitals, 7 district hospitals, and 6 health centers).

Scope of QAP activities: QAP began work in Niger in 1993 and began supporting improvement collaboratives in the country in 2003 with the launch of a Pediatric Hospital Improvement collaborative. This work expanded to cover 32 of Niger's 46 pediatric hospitals. In 2006, QAP began supporting a new EONC collaborative in Niger that began in 28 reference maternities and expanded in 2007 to an additional 11 primary care maternities, totaling 39 maternities in 64% of Niger's districts.

Data: Data were collected at the national level, one region (Tahoua), and 3 facilities (one regional hospital, one district hospital and one health center) from 2 districts (Tahoua and Keita) .

Level	Element	Findings
National	Political Will/ Leadership	The MOH's commitment to QI is reflected through the inclusion of QI in the Health Development Plan for 2011-2015.
		QI activities are included in health facilities' annual work plans.
		Standards exist for all levels of the healthcare systems and for various clinical areas. Standards for health care are developed by clinicians. Planning standards were developed in collaboration with various divisions and programs in 2007.
		The MOH has developed a written improvement strategy for 2009-2013. Although there is no national committee for the development of revision of norms, divisions and programs have ad hoc committees that meet to revise standards as needed.
		Currently, there are no explicit incentives for achieving improvements.
		Information is communicated to regions via conferences, meetings, administrative letters, and internet. Successes or gaps are communicated with regions through meetings, semi- annual and annual meetings with regional health and administrative management teams.
	Roles and Responsibilities	There is a National Quality Assurance Division dedicated to improvement activities. This division reports to the Directorate of Health Care Organization.
	Organization	National learning sessions are organized with regions but do not occur regularly.
	Orientation	New staff members are not oriented to improvement.
	Resources	Quality improvement activities receive annual funding from the MOH's common funds. Donors such as WHO also provide funds for QI.
Data	Various indicators are tracked at the national level and used for QI purposes.	
Transfer	Improvement methods have not been used in areas of clinical practice distinctly different from the area of clinical practice that HCI supported.	
Regional (n=1)	Political Will/ Leadership	QI activities are included in work plans and funded by MOH and WHO.
		A national QI Plan was developed in 2009.
		Awards are given to the best performing teams.
		Information is disseminated to facilities during annual action plan meetings, supportive supervision meetings, learning sessions, and via other communication means (phone, reports, handheld transceiver). Successes

		or gaps are shared with facilities during meetings and monitoring/supervision visits. Performance is discussed and decisions made to address gaps. Successes or gaps are communicated with the national level via meetings and through the National Health Council.
	Roles and Responsibilities	There are four regional staff members tasked with improvement activities. There is a position dedicated to improvement.
	Organization	Meetings with selected facility staff are held semi-annually.
	Orientation	Regional staff members are not oriented to improvement.
	Resources	Activities directly targeted at improving care received funding in 2009 and 2011.
	Data	Indicators related to human resources, family planning, and adherence to clinical standards are tracked at the regional level.
	Transfer	Improvement methods have not been used in areas of clinical practices distinctly different from the areas that HCI supported.
Facility (n=3)	Political Will/ Leadership	Two of 3 facilities reported having explicit incentives for achieving improvements. Incentives include congratulating well-performing facilities and providing positive feedback.
	Roles and Responsibilities	All 3 facilities reported having 2 to 7 staff members tasked with improvement responsibilities. Two facilities reported that there is a position dedicated to improvement (physician and midwife). Two facilities reported that the maternity unit is responsible for improvement activities. All 3 facilities reported having staff members responsible for monitoring indicators and promoting changes.
	Orientation	Two facilities reported that new facility staff members are not oriented to improvement. One facility reported that the pharmacist is oriented to QI.
	Data	All facilities reported tracking MNCH and nutrition indicators. All facilities reporting having a written record of the changes implemented to bring about improvement in care.
	Transfer	Only one facility reported using improvement methods in areas of clinical practice distinctly different from the area of clinical practice HCI supported.

Russia

Scope of HCI Activities: Since 2007, HCI has supported the scale-up of locally developed best practices for HIV/AIDS counseling and testing, treatment, care and support, and TB-HIV integration in all 18 rayons of St Petersburg. In 2009, 5 MCH collaboratives began in Kostroma, Yaroslavl, and Tambov oblasts in the Central Federal District. The specific areas included prevention of hypothermia and respiratory disorders among newborns in 16 facilities, breastfeeding in 12 facilities, optimizing labor management in 14 facilities, prevention of unwanted pregnancies, abortions, and STDs among teens in 9 facilities, and improving primary neonatal resuscitation in 18 facilities.

Scope of QAP activities: QAP began work in Russia in 1998 supporting pilot and scale-up of improved systems of care for maternal, child, and primary care. In 2003, QAP shifted focus in Russia to apply QI methods to improve treatment, care, and support for HIV-infected and AIDS patients in three oblasts and one district of St. Petersburg. In 2006, new spread collaboratives were developed for improving detection, referral, and follow-up of HIV-positive persons, increasing access to ART, and improving management of TB-HIV co-infection throughout St. Petersburg and in Orenburg Oblast, and QAP supported improving family planning services in three oblasts and St. Petersburg, and improving social support services for HIV-positive pregnant women and mothers in St. Petersburg, and improving linkages with drug rehabilitation services for persons with HIV/AIDS in St. Petersburg. QAP coordinated closely with the Federal AIDS Center and Federal Center for TB and HIV Co-infection.

Data: Data were collected from 3 regions (Kostroma, Tambov, St Petersburg), 1 district (Krasnogvardeisky), and 8 facilities (one regional AIDS center, 2 polyclinics, one rayon center for social protection, 3 hospitals, and one family planning and reproduction center).

Level	Element	Findings
Regional (n=3)	Political Will/ Leadership	<p>The St Petersburg Regional AIDS Center indicated that a commitment has been made to address and improve care and funding is regularly advocated for. There is a City Target Program to Fight HIV/AIDS.</p> <p>The St Petersburg Regional AIDS Center uses funds from its budget to provide financial bonuses on a quarterly basis as incentives for improvement. Kostroma indicated that incentive payments are made by the employer, while Tambov said there is no incentive scheme for recognizing improvement. Kostroma and Tambov regions indicated that there is a political commitment to address and improve care, including written improvement strategies, but did not describe.</p>
	Roles and Responsibilities	The St Petersburg Regional AIDS Center Deputy Head for Research and Organization of Work is responsible for improvement activities. The City Committee for Healthcare has a Department for Quality. In Kostroma and Tambov, the Department for Licensing of Medical and Pharmaceutical Activity or the Licensing and Quality Department is responsible for improvement.
	Organization	Through conferences and regular meetings of Rayon Head Infectious Disease specialists, and other trainings the St Petersburg Regional AIDS Center communicates information on policies and plans to other levels of the system. There is not a mechanism through which successes or gaps in performance are fed back to the facilities. Using national project “health” templates, data is shared with the national level. The City Head Infectious Disease Specialist meets weekly with Head Rayon Infectious Disease Specialists. In Kostroma and Tambov information on policies, plans, and standards are communicated to facilities via the health department website, emails, fax, and post. Successes or gaps in performance are shared

		with facilities during staff meetings, case analysis, health department board meetings, and conferences or workshops. Performance information is shared with the national level at conferences, via quarterly reports or as requested. Meetings are held with facility staff about improving care as needed.
	Orientation	At the St Petersburg Regional AIDS Center there is no mechanism through which new staff members are oriented to improvement. In both Kostroma and Tambov regions the respondents did not know if new staff members were oriented to improvement.
	Resources	The St Petersburg Regional AIDS Center reported receiving funding for improvement activities through the national “modernization” program. In Kostroma funding is provided by the Oblast Health Department for Licensing of Medical and Pharmaceutical Activity which seeks to monitor quality of medical care. Kostroma Oblast is also participating in the 2009-2013 “Safe Motherhood – Health of the Prospective Mother” initiative and the “Improving Care for Mothers and Babies” initiative.
	Data	All oblasts reported that indicators are tracked under the national “modernization” program. In Kostroma and Tambov Oblasts indicators on service delivery are tracking, including infant and maternal mortality rates and activities around reducing the number of abortions.
	Transfer	At the St Petersburg Regional AIDS Center improvement methods have been applied to administrative processes, specifically through designing and introducing an electronic registration system for appointments. Tambov oblast also reported that improvement methods were used in the implementation of the Ministry of Health and Social Development Guidelines.
District/Rayon (n=1)	Political Will/ Leadership	One rayon (Krasnogvardeisky) indicated that the department provides support and assistance for QI. Funds are advocated for under the national “modernization” program. Information on policies, plans and standards are communicated through orders. Financial bonuses are envisaged under the national “modernization” program.
	Roles and Responsibilities	The rayon of Krasnogvardeisky falls under the jurisdiction of the City Committee for Healthcare in St Petersburg. Within this committee is a Department for Quality of Medical Services. There is no position or unit within the rayon that is dedicated to improvement.
	Organization	No information was provided.
	Orientation	The rayon of Krasnogvardeisky has no mechanism for orienting new staff to improvement.
	Resources	Improvement activities within the rayon of Krasnogvardeisky are funded under the national “modernization” program.
	Data	The rayon of Krasnogvardeisky reported that indicators are tracked as part of the national “modernization” program.
	Transfer	Within the rayon of Krasnogvardeisky improvement methods have been applied to designing and implementing interventions for the prevention and treatment of arterial hypertension.
Facility (n=8)ty	Political Will/ Leadership	Four facilities indicated that funds are allocated to reward quality work on a monthly or quarterly basis. One facility responded that there is no incentive mechanism.
	Roles and Responsibilities	One MNCH hospital reported that heads of divisions are responsible for improvement activities, but there is no division or unit within the hospital

	<p>structure dedicated to improvement. In another facility, the head of the youth consultation voluntarily assumed responsibility for improvement activities in spite of the fact that it is outside his scope of work and he was not compensated. Three other facilities indicated that the head doctor of the facility is responsible for improvement, but there is no unit or department dedicated to improvement. These doctors are also responsible for monitoring data and promoting changes, though one facility also indicated that it has a “methodologist” to assist with data.</p>
Orientation	<p>Three facilities indicated that facility staff members are oriented to improvement, while a polyclinic in Krasnogvardeisky district in St Petersburg does not have a system for orienting new staff. Staff members are expected to adjust to the environment, including engaging in QI. Another facility in Kostroma oblast reported that information for new staff on improvement activities is expressed solely through their job description.</p>
Data	<p>One MNCH hospital indicated that the Deputy Head for Medical Care and the Heads of Divisions are responsible for monitoring indicators and promoting changes. These data are tracked monthly and used in decision-making and to determine estimates of efficiency. In a polyclinic in Krasnogvardeisky district in St Petersburg data are monitored by one of the medical staff which presents a notable burden both on his time, but also as he does not have adequate training in monitoring and evaluation. The remaining three facilities also reported tracking indicators.</p> <p>All facilities reported having written documentation on the changes implemented.</p>
Transfer	<p>Two facilities reported that improvement methods had been applied to clinical areas beyond what HCI supported, but did not describe. The polyclinic reported that, based on their data, it became evident that a large number of their adolescent female clients had menstrual disorders. However, these young women were seen in the pediatric polyclinic. There is now collaboration with the pediatric polyclinic to allow for counseling with girls starting at age 13 to determine whether earlier intervention will impact the prevalence of menstrual disorders.</p>

South Africa

Scope of HCI activities: Since 2007 HCI has assisted the Departments of Health in 5 provinces to expand and improve the quality of HIV counseling and testing, PMTCT, TB-HIV co-infection management, and ART services. As of mid-2011, HCI was assisting and supporting 79 facilities, down from 120 facilities in 2008.

Scope of QAP activities: QAP began working in South Africa in 2000 in one province implementing QI to improve TB and maternal and perinatal health. QAP gradually expanded to five provinces. In 2004, QAP shifted focus to PEPFAR-funded treatment and care interventions working with the National Department of Health, provincial health departments, and local service area levels to improve HIV and TB-HIV services. By the end of QAP, work had scaled up to 145 facilities.

Data: Data were collected at the national level, 5 provinces (Mpumalanga, Kwa Zulu Natal, Eastern Cape, North West, and Limpopo) 6 districts (Ehlanzeni, Chris Hani, Nelson Mandela Metro, Uthungulu, Dr Kenneth Kaunda, and Waterburg) from 5 provinces, and 7 facilities (2 hospitals, one primary health care clinic, 2 clinics, and 2 community health centers) across 7 districts. At the provincial level, the Provincial QA Coordinator was interviewed. HCI's country director provided information for the national level.

Level	Element	Findings
National	Political Will/ Leadership	South Africa has a Directorate of Quality Assurance and Office of Standards Compliance at the national level. Funds are advocated for annually and allocated by the Government of South Africa to the Department of Health for QI/QA activities.
		In 2007, the Office of Standards Compliance was established in NDOH. A technical working group was also established to revise and advise on the standards for the public and private sectors. HCI is a member of this working group. The National Quality Plan for South Africa has been implemented since 1994. All clinical standards are revised biannually, or more frequently as necessary.
		The Minister hosts annual "Service Excellence" awards for best performing health facilities and health workers. Since 2009, HCI has been an integral part of this, assisting with judging best performing facilities and provinces and providing technical assistance to NDOH staff. In 2009, HCI assisted the NDOH in hosting the awards ceremony, which was coupled with a 2 day QA seminar.
		Each NDOH program manager communicates with their provincial DOH counterparts to disseminate any information. Feedback is provided on an ad hoc basis. Some programs are stronger at providing feedback, while others are less strong.
	Roles and Responsibilities	Dr Louis Classens is the NDOH QA Director. His responsibilities include oversight for all QA/QI initiatives in South Africa. There are 3 additional positions at the national level Quality Assurance Directors within the NDOH: Deputy Director, Program Assistance, and Administrator.
	Organization	Meetings are held quarterly.
	Orientation	New staff members are oriented to improvement methods.
Resources	No information was provided.	
Data	Some indicators, such as retention of ART patients, are tracked; however,	

		few indicators are tracked at a national level.
	Transfer	HCI has been responsible for advocating for the use of QI methods in HIV and TB programs. This has not been done at such scale in other clinical areas.
Provincial (n=5)	Political Will/ Leadership	South Africa has a Directorate of Quality Assurance and Office of Standards Compliance at the provincial level. In each province there is an annual QA budget.
		Each province has a written QI/QA strategy.
		Each province gives Service Excellence Awards.
		Information is disseminated during trainings and in-service. Assessment reports are discussed with staff. Successes or gaps in performance are communicated with the national level via quarterly and annual reports.
	Roles and Responsibilities	Each province reported that there is a provincial health office staff member tasked with improvement activities, but only 4 of the 5 could provide the name of this individual. All provinces reported either a Coordinator or Director level position at the provincial level dedicated to improvement.
	Organization	Meetings with facility staff are held quarterly in each province.
	Orientation	Provincial staff members are oriented to improvement during orientation and training in each province.
	Resources	No information was provided.
	Data	All provinces reported tracking the following indicators: percent of PHC/hospital facilities with QI plans focusing on 6 specific areas (reduce waiting times, staff attitudes, patient safety, percent of facilities that conduct an annual patient satisfaction survey, and percent of facilities conducting monthly maternal and neonatal mortality reviews).
	Transfer	All provinces reported that improvement methods have been used in the following clinical practices distinctly different from the areas that HCI focused on: reducing waiting times; improving cleanliness; positive staff attitudes and caring values; patient safety; infection prevention and control; availability of medicines and supplies.
District (n=6)	Political Will/ Leadership	Each district reported having a QA Coordinator, QA Team, and an annual budget.
		Each district has a written QI/QA operational plan.
		Each district gives District Service Excellence Awards.
		Information is disseminated during trainings and in-service. Assessment reports are discussed with facility staff during quarterly QA/PHC meetings. Successes or gaps in performance are communicated with the provincial level via quarterly and annual reports.
	Roles and Responsibilities	Each district reported that there was a district health office staff member tasked with improvement activities, but only 4 of 6 could provide the name of this individual. All districts reported there was a Coordinator position dedicated to monitoring, evaluating, and leading all QA activities. Each district reported having a District QA Unit.
	Organization	Quarterly QA/PHC meetings with facility staff are held in each district.
	Orientation	District staff members are oriented to improvement during orientation and training in each district.
Resources	Each district reported having an annual budget.	

	Data	All districts reported tracking the following indicators: percent of PHC/hospital facilities with QI plans focusing on 6 specific areas (reduce waiting times, staff attitudes, patient safety, percent of facilities that conduct an annual patient satisfaction survey, and percent of facilities conducting monthly maternal and neonatal mortality reviews).
	Transfer	All districts reported that improvement methods have been used in the following clinical practices distinctly different from the areas that HCI focused on: reducing waiting times; improving cleanliness; positive staff attitudes and caring values; patient safety; infection prevention and control; availability of medicines and supplies.
Facility (n=7)	Political Will/ Leadership	Three of 6 facilities reported there were explicit incentives for achieving improvements. Incentives included congratulating well-performing facilities during reviews, improvement was graphed and posted on boards, and the Annual District Excellence Awards.
	Roles and Responsibilities	Of the 6 included facilities, 4 reported that there are staff member(s) tasked with improvement responsibilities. Of those 4 facilities, 2 reported that there was a QI manager, one reported a QA coordinator, and one reported the operational manager was responsible for improvement. One facility reported having a QA team and plan, three facilities reported that all units were involved in QA, and one unit reported having a QA plan.
		Four of six facilities reported that there is a staff member tasked with monitoring data, recognizing problems and promoting changes; however only 2 could report his/her name. Two facilities reported that the individual is the QI manager, one reported the responsibilities are shared by a data capturer, facility manager, and clinic supervisor. The other facility reported the responsibilities are shared by data capturer, facility manager, and QA coordinator.
	Orientation	All facilities reported that new facility staff members are oriented to improvement. However, one reported having a plan in place, and one did not provide details. Three other reported orienting staff during QA training and in-service training, and one reported having an orientation program.
	Data	All facilities reported tracking indicators monthly and/or discussing them quarterly.
		All facilities reporting having a written record of the changes implemented to bring about improvement in care, including data and graphs.
	Transfer	All facilities reported that improvement methods had been used in areas of clinical practice distinctly different from the area of clinical practice that HCI focused on. Areas included staff attitudes, TB, drug management, core standards, and infection control. One facility reported that improvement methods had been extended to all areas of clinical practice.

Swaziland

Scope of HCI Activities: HCI, beginning in 2007, has worked to strengthen DOTS implementation, integration and decentralization of TB and ART services, and implementation of guidelines for multi-drug resistant TB case management in all 4 regions. HCI is now working in all 7 hospitals, all 5 health centers, and all 60 TB diagnostic facilities, and 59 of 102 clinics.

Scope of QAP activities: QAP began work in Swaziland in 2005, conducting an assessment of TB-HIV co-infection and of TB and HIV control and care activities. QAP began supporting three TB diagnostic units in 2006 in the Manzini Region developing policies and integrated TB-HIV service delivery models, and expanded to assist 14 of 17 diagnostic sites and 71 of 162 clinics in the country in 2007.

Data: Data were collected at the national level, 4 regions (Hhohho, Lubombo, Shieselweni, and Manzini) and 5 facilities (4 hospitals and one TB center) across 4 regions .

Level	Element	Findings
National	Political Will/ Leadership	Swaziland has established a national QA office. The MOH has recommended merging QA and QI. The program does not have specific funding; health funds are used with presents a challenge to the program.
		Hospital standards have been established, but are still with SWASA. The CNO has been involved in this exercise. There is no written improvement strategy.
		There is no mechanism by which recognition is given for achieving improvements.
		A mechanism is currently being established whereby the national office is trying to engage Regional Health Management Teams. Successes or gaps in performance are not currently communicated with regions.
	Roles and Responsibilities	The respondent did not know if there was a staff member at the national level tasked with improvement responsibilities. However, there is a new post for a Deputy Director of Quality Assurance, but this has yet to be put into effect. There is also a National QA Coordinator who reports to the Chief Nursing Officer.
	Organization	There are no meetings with regional staff about improving service delivery.
	Orientation	Yes, but not all staff members are oriented.
	Resources	A few partners do support the QI program, but the MOH does not specifically support it.
Data	There are some indicators in place, but they are not well tracked at the national level because of challenges with national M/E in using the data. These indicators are HIV-related, such as TB, PMTCT, ART, and pre-ART.	
Transfer	The respondent reported that QA activities in facilities follow the same approach as the national level.	
Regional (n=4)	Political Will/ Leadership	Only one region reported that there is a commitment made by the regional health office to address and improve care. In Manzini, the Regional TB Coordinator is a member of the Regional Health Management Team addressing improvement in TB care. Manzini also reported that funds are advocated for with support from partners in the region.
		Neither of the regions reported that they knew if their region had a written QI/QA strategy.

		<p>One region reported that facilities performing well are recognized at a conference. The other region reported that there is the intention to begin giving prizes to well-performing facilities.</p> <p>Both regions reported that information is disseminated from the Regional Health Management Team to the facilities during monthly meetings. One region reported that facility team members are periodically invited to report on their performance. Gaps were identified at the national level.</p>
	Roles and Responsibilities	Both regions reported that there is a regional staff member tasked with improvement activities. In one region the tasks are carried out by the Regional TB & AIDS Coordinators who ensures that facilities reached their set targets. In cases where targets are not met, the Coordinators together with the facility QI Team develop an improvement plan. In the other region the QI/QA Offices are responsible for monitoring facilities and ensuring quality services are delivered. Both regions reported having an office dedicated to improvement.
	Organization	Meetings with facility staff are held quarterly in one region, while the other region reported occasionally attending monthly QI team meetings.
	Orientation	One region reported that a QA/QI training for staff was conducted in 2010. The respondent from the other region did not know if new staff members are oriented to improvement.
	Resources	One region reported that funding from URC and the Global Fund TB Grant are provided for improvement activities. The respondent from the other region did not know if funding for improvement is provided.
	Data	Both regions reported tracking relevant indicators. The indicators for one region are: TB screening; CPT uptake among co-infected; and ART uptake among co-infected. The other region reported the following indicators: case funding rate; smear conversion rate; treatment success rate; the number of people who know their HIV status; and CPT uptake.
	Transfer	The respondent from one region did not know if improvement methods had been applied to other areas of clinical practice. The respondent from the other region said that they had, but did not provide examples.
Facility (n=5)	Political Will/ Leadership	Four of 5 facilities reported there are explicit incentives for achieving improvements. Incentives include a poster presentation at a union conference by the trainer in 2010, recognition during a QRM, sharing their performance with other programs, and presentations to the national QI/QA team.
	Roles and Responsibilities	All 5 of the included facilities reported that there is staff member(s) tasked with improvement responsibilities. However, only 3 of the 5 could provide that person's name. All facilities reported that there is a position dedicated to improvement. Two of the 5 facilities stated that the entire QI Team is responsible. Four of the 5 facilities reported having a dedicated division or unit for improvement, but only 2 provided details. One facility reported having both a QA Department and a Customer Care Department. The other facility stated that the deployment of a QI Officer from the National Quality Management Office is the first step toward establishing a QI Department within the facility.
		All facilities reported that there is a staff member tasked with monitoring data, recognizing problems and promoting changes.
	Orientation	Four of 5 facilities reported that new facility staff members are oriented to improvement. One reported that new staff members are oriented to

		indicators and data. One reported that every 6 months staff members rotate to the TB services at which time they are oriented to QI. The other two facilities did not provide detail.
	Data	All facilities reported tracking indicators, which include CPT uptake; HTC uptake; ART uptake; HIV/TB co-infection rate; defaulter rate; TB cure rate; number of TB patients that had their smear converted between 2-3 months of treatment; number of patients screened for TB; number of TB patients tested for HIV; and number of TB patients completing treatment.
		Four of 5 facilities reporting having a written record of the changes implemented to bring about improvement in care, including data and graphs.
	Transfer	Three facilities reported that improvement methods had been used in areas of clinical practice distinctly different from the area of clinical practice that HCI supported. Areas included HIV testing and counseling and home-based care.

Tanzania

Scope of HCI activities: HCI started to work on HIV care quality improvement in Tanzania in 2008. An ART/PMTCT improvement collaborative began in the Tanga region in 2008, including 8 district hospitals and health centers). In 2009, the collaborative spread to the Morogoro region, including 6 district hospitals and 2 health center), the Lindi region, including 5 district hospitals, 2 mission hospitals, and 3 health centers, and the Mtwara region, including 6 government district hospitals, a mission hospital, and a health center. Since 2010, an infant feeding improvement collaborative has been implemented in 6 sites in the Iringa region. Beginning in 2011, an OVC improvement collaborative has been implemented in one district (Bagamoyo) of Pwani region.

Scope of QAP activities: QAP began work in Tanzania in 2003 implementing an infection prevention improvement collaborative in three district hospitals. Starting in 2004, QAP supported a pediatric HIV/AIDS care and support collaborative, which expanded from five hospitals in three regions to cover 17 facilities in six regions.

Data: Data were collected at the national level, 5 regions (Morogoro, Iringa, Mtwara, Lindi and Pwani), 13 districts (Morogoro Municipal, Morogoro District Council, Iringa Municipal, Masasi, Tandahimba, Mtwara Municipal Council, Newala, Kilwa District council, Ruangwa, Bagamoyo, Mtwara District Council, Liwale and Lindi Municipal Council) from 3 regions (Morogoro, Mtwara and Lindi), and 11 facilities (2 regional hospitals, 6 hospitals, and 3 health centers) from 11 districts.

Level	Element	Findings
National	Political Will/ Leadership	The MOHSW has expressed its commitment to improve care through the development of QI policies, framework, HIV/AIDS QI guidelines and training packages, clinical mentoring and supportive supervision guidelines and tools.
		12% of the annual MOHSW budget (~ 8000Mil Tsh in year 2010/2011) is allocated to QI activities. The majority of these funds (approximately 75%) is used for supportive supervision to regions.
		A written improvement for strategy (Tanzania Quality Improvement Framework) was first published in 2004 and is currently under review. Standards are reviewed under the Hospital Reform Section in collaboration with stakeholders. Incentives are given. In addition, the MOHSW has plans for conducting a QI forum to develop guidelines for incentives/recognition.
		Information is communicated to Regional Health Management Teams (RHMT) which shares the information with their respective Council Health Management Teams (CHMT). CHMTs disseminate the information to Health Facilities. Information is shared through letters, circulars, meetings, seminars, and phone calls
		Gaps in performance are communicated with regions through meetings with respective RHMTs. Successes are summarized in national surveys and communicated to respective regions.
	Roles and Responsibilities	The head of the Health Service Inspectorate and Quality Assurance Section (HIS&QAS) of the MOHSW is responsible for coordinating quality improvement activities nationwide and coordinating the development and review of national QI policies, guidelines, and tools. His unit is also in charge of analyzing and sharing QI information with stakeholders. This section reports to the Policy and Planning Directorate. There are plans to

		create a Quality Assurance Directorate. The director of this section would report to Chief Medical Officer.
	Organization	Currently, there are no meetings with regional staff about improving health service delivery. However, HIS & QAS conduct semi-annual supportive supervision visits to all regions and to a few randomly selected facilities.
	Orientation	News staff members are oriented by the head of the unit. Partners are also oriented.
	Resources	Although most QI activities are donor-funded, MOHWS has limited funding for supportive supervision and development and review of standards, guidelines, and tools.
	Data	QI indicators are not tracked at the national level.
	Transfer	Improvement methods have not been used in areas of clinical practices distinctly different from the areas of clinical practice that HCI supported.
Regional (n=5)	Political Will/ Leadership	All five regions reported a commitment from the regional health office to address and improve care. Commitment is reflected through integrating QI activities into regional health implementation plans, forming regional QI team, distributing guidelines, and conducting supportive supervision visits.
		All regions reported that funds have been advocated. One region reported that funds have not been allocated to date and another region reported that funds are not received regularly.
		Regions rely on national guidelines.
		All regions reported explicit incentives for achieving improvements.
		Information is disseminated to facilities through letters, meetings, and supportive supervision visits. Information is communicated with the national level through national QI forum, supportive supervision, quarterly reports and phone calls.
	Roles and Responsibilities	All 5 regions reported the presence of a regional level MOH staff member tasked with improvement responsibilities. One region reported that this person was not a full time QI staff member.
	Organization	Meetings with facility staff are held quarterly in each region. In addition, one region reported annual meetings
	Orientation	All regions reported that staff members are oriented to improvement.
	Resources	All regions reported receiving funding for activities directly targeted at improving care.
	Data	Regions reported tracking reproductive and child health and PMTCT indicators.
	Transfer	Two regions reported that improvement methods have been used in clinical practices such as improving retention of patients on ART and Life Saving Skills training.
District (n=13)	Political Will/ Leadership	Nine districts reported that funds have been advocated for.
		Nine districts reported that a written improvement strategy exists.
		Eight districts reported that there are explicit incentives for achieving improvements, such as sharing improvement internally, pay for performance rewards, and letter of appreciation from the CHMT.
		All districts reported sharing information with facilities via formal letters, phone calls, meetings, and supportive supervision visits. Successes or gaps in performance are communicated with facilities during supportive

		supervision visits, learning sessions, and quarterly and annual reports. Successes or gaps are communicated with the national level during supportive supervision visits, learning sessions, monthly, quarterly and annual reports.
	Roles and Responsibilities	All districts reported the presence of a district health office staff member tasked with improvement activities. All districts reported having a quality improvement team dedicated to improvement.
	Organization	Meetings with facilities are held monthly or quarterly.
	Orientation	District staff members are oriented to improvement during learning sessions, quarterly visits, and training.
	Resources	Districts reported that activities directly targeted at improving care receive funding
	Data	Districts reported tracking selected ART, PMTCT, and OVC indicators.
	Transfer	One district reported that improvement methods were used to improve drug supplies.
Facility (n=11)	Political Will/ Leadership	Ten of 11 facilities reported that there were explicit incentives for achieving improvements. Incentives included: printing run charts and sharing improvements internally as well as verbal recognition during meetings.
	Roles and Responsibilities	All facilities reported having staff members tasked with improvement responsibilities. Of the 11 facilities, 5 reported that there was a position dedicated to improvement.
		Eight facilities reported that there was someone in charge of monitoring data, recognizing problems, and promoting changes but no facility reported having a position dedicated to such activities.
	Orientation	All facilities reported that new facility staff members are oriented to improvement during learning sessions, coaching visits, and monthly meetings.
	Data	All facilities reported tracking indicators. Data are plotted, discussed in meetings and learning sessions, and shared with other facilities.
		All facilities reporting having a written record of the changes implemented. Facilities reported documenting changes in journals or QI files.
Transfer	No facilities reported using improvement methods in areas of clinical practice distinctly different from HCI's area of focus.	

Uganda

Scope of HCI activities: In 2009, HCI began supporting the MOH to improve HIV care coverage, retention, and outcomes in 111 sites in the Eastern region. Additionally, support was provided to apply QI methods to improve palliative, neonatal, and chronic care.

Scope of QAP activities: QAP began supporting the MOH of Uganda to strengthen and institutionalize QA in its ART expansion program in 2005. This HIV/AIDS Quality of Care Initiative launched CQI activities in 57 sites in 51 of 56 districts of Uganda. By the time the country reorganized into 80 districts in 2007, QAP was supporting 89 sites in 56 of those districts.

Data: Data were collected at the national level, 6 districts (Lira, Masaka, Lyantonde, Tororo, Mayuge, and Arua), and 15 facilities (3 health center III, 3 health center IV, and 9 hospitals) across 7 districts.

Level	Element	Findings
National	Political Will/ Leadership	The MOH has a Quality Assurance Division and is currently working on a series of standards to ensure quality health care is provided. MOH officials, partners, districts, and training institutions have been involved in establishing health service standards for all service areas. Clinical standards are revised and updated as necessary. A quality improvement framework and strategy is currently being developed and is expected to be finalized by January 2012. Recognition is given for achieving improvements through the annual health assembly and joint review mission, among other mechanisms. Information on standards, policies, and plans are shared with the regions at launches and via letters. Information is also communicated with the public through television, radio, and newspapers. Successes or gaps in performance are not communicated from the national to the regional levels.
	Roles and Responsibilities	Within the MOH's Quality Assurance Department, there is a commissioner, assistant commissioner, Principal Medical Officer, Medical Officer, QI advisor, and support staff.
	Organization	National coordination meetings are held quarterly, however there was a hiatus for just over 2 years. These meetings resumed as of September 2011.
	Orientation	Some, though not all, national level staff are oriented to improvement.
	Resources	The MOH has allocated funds for improvement activities, however it may not be adequate. This funding tends to cover supervision and professional development, and printing and dissemination of guidelines.
	Data	All ART framework indicators are tracked at the national level. Data is discussed in planning meetings.
	Transfer	The national level indicated that others have reported using improvement methods, but there is no evidence to support this.
District (n=6)	Political Will/ Leadership	Four of the 6 districts indicated that the local health authorities have made a commitment to improve care. In only 2 districts are funds for improvement regularly advocated. Only one district reported having a written improvement strategy, which was specific to maternal and newborn care. One district indicated that it had an incentive mechanism to reward performance, but it did not function well. Other districts stated that such a mechanism has been discussed. Information on policies, plans, and standards are shared from the national level to the district at quarterly

		meetings, during supervisory visits, or through circulars. Successes and gaps in performance are communicated to facilities during coaching and supervision visits. Performance information is shared with the national level via weekly, monthly, and quarterly reports.
	Roles and Responsibilities	In four of the 5 districts there were district QI teams responsible for improvement activities.
	Organization	Five of 6 districts reported that quarterly supervisory visits are made to facilities. One district reported that no meetings on QI were held with facility staff.
	Orientation	None of the districts reported having a formal system for orienting new staff to improvement. One indicated that such orientation was provided on an ad hoc basis.
	Resources	Four districts indicated that funding was received for HIV/AIDS, but nothing specifically for improvement activities beyond HCI support.
	Data	At the district level the following indicators are tracked: adherence, TB assessment, clinical outcomes, Diphtheria, Pertusis, and Tetanus, Isoniazid Prophylactic Therapy, ANC, ART coverage, malaria, HIV/AIDS, palliative care, PMTCT, EID, MNCH, deliveries, Poverty Eradication Action Plan.
	Transfer	One district indicated that improvement methods were being applied to the area of immunization, but there was no evidence to substantiate this.
Facility (n=15)	Political Will/ Leadership	Four of 15 facilities reported having an incentive scheme for rewarding good performance. Incentives ranged from verbal praise to presents and lunches, to being identified as a “model site” for improvement.
	Roles and Responsibilities	All facilities reported having a QI team, but only 2 stated there was a position within the facility dedicated to improvement.
	Orientation	Ten of the 15 facilities stated that new staff members are oriented to improvement.
	Data	All facilities reported tracking indicators. They include: PMTCT, TB assessment, adherence to ARVs, retention, coverage, ANC, enrollment of HIV+ pregnant women into care/ART, appointment keeping among ART clients, referrals of TB/HIV co-infected patient to HIV clinic, couples counseling, immunizations, MNCH indicators, palliative care indicators, pain assessment and scoring, patients provided with oral morphine, hypertension. All facilities reporting recording changes implemented to improve quality of care in documentation journals and QI team meeting minutes.
	Transfer	Facilities reporting applying improvement methods to the following clinical areas: nutrition (with support from NuLife), OPD, ANC coverage, deliveries, immunizations, infection prevention and control

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