TWINNING PARTNERSHIPS FOR IMPROVEMENT

TELLEWOYAN MEMORIAL HOSPITAL AND NAGASAKI UNIVERSITY HOSPITAL

Situational assessment report: quality improvement and patient safety – Tellewoyan Memorial Hospital and Lofa County Health System
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<thead>
<tr>
<th>ACRONYM</th>
<th>FULL FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCEL</td>
<td>Academic Consortium Combating Ebola in Liberia</td>
</tr>
<tr>
<td>ANC</td>
<td>antenatal care</td>
</tr>
<tr>
<td>APPS</td>
<td>African Partnerships for Patient Safety</td>
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<tr>
<td>BPHS</td>
<td>basic package of health services</td>
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<tr>
<td>CDC</td>
<td>Centers for Disease Control</td>
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<tr>
<td>CHB</td>
<td>County health Board</td>
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<tr>
<td>CHC</td>
<td>community health committee</td>
</tr>
<tr>
<td>CHDC</td>
<td>community health development committee</td>
</tr>
<tr>
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<td>County Health Officer</td>
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<tr>
<td>CHT</td>
<td>county health team</td>
</tr>
<tr>
<td>CHW</td>
<td>community health worker</td>
</tr>
<tr>
<td>CSH</td>
<td>collaborative support for health</td>
</tr>
<tr>
<td>DHIS</td>
<td>district health information system</td>
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<tr>
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<td>district health team</td>
</tr>
<tr>
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<td>essential package of health services</td>
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<tr>
<td>EVD</td>
<td>Ebola virus disease</td>
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<tr>
<td>FARA</td>
<td>fixed amount reimbursement agreement</td>
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<tr>
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<td>gross domestic product</td>
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<td>health management information systems</td>
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<tr>
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<td>International Medical Corps</td>
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<tr>
<td>IPC</td>
<td>infection prevention and control</td>
</tr>
<tr>
<td>IRC</td>
<td>International Rescue Committee</td>
</tr>
<tr>
<td>ITN</td>
<td>insecticide-treated net</td>
</tr>
<tr>
<td>JHPIEGO</td>
<td>Johns Hopkins Program for International Education in Gynaecology and Obstetrics</td>
</tr>
<tr>
<td>JISS</td>
<td>joint integrated supportive supervision</td>
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<tr>
<td>MCSP</td>
<td>Maternal Child Survival Programme</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
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<td>non-governmental organization</td>
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<tr>
<td>NHQS</td>
<td>National Health Quality Strategy</td>
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<tr>
<td>NQSP</td>
<td>National Quality Strategic Plan</td>
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<tr>
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</tr>
<tr>
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<tr>
<td>PBF</td>
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<td>patient safety</td>
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<td>quality improvement</td>
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<td>QMTC</td>
<td>quality management team</td>
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<tr>
<td>QMU</td>
<td>Quality Management Unit</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
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<tr>
<td>RN</td>
<td>Registered Nurse</td>
</tr>
<tr>
<td>SARA</td>
<td>Service Availability and Readiness Assessment</td>
</tr>
<tr>
<td>SGBV</td>
<td>sexual and gender based violence</td>
</tr>
<tr>
<td>SOP</td>
<td>standard operating procedure</td>
</tr>
<tr>
<td>TMH</td>
<td>Tellewoyan Memorial Hospital</td>
</tr>
<tr>
<td>TPI</td>
<td>Twinning Partnerships for Improvement</td>
</tr>
<tr>
<td>UHC</td>
<td>universal health coverage</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>WASH</td>
<td>water, sanitation and hygiene</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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</table>
The team is very grateful to the Ministry of Health in Liberia, the Lofa County Health Management Team, staff at Tellewoyan Memorial Hospital and the WHO Country Office, who welcomed the team and coordinated assessment activities in Montserrado and Lofa Counties.

We acknowledge the kind contributions of Dr Ballah, Lofa County Health Officer; Dr Zuanah, Medical Director, Tellewoyan Memorial Hospital; and Dr Monday, WHO Lofa County Coordinator, who took time off from their busy schedules to ensure successful data collection and guided the team in achieving the stated objectives of the mission.

The team expresses their deepest gratitude to Dr Francis Kateh, Chief Medical Officer; Dr Catherine Cooper, Assistant Minister, Curative Services; Mr Phillip Bemah, Lead, Quality Management Unit; Mr Garrison Kerwillain; Infection Prevention and Control Lead, MOH/Liberia; and Dr Alex Gasasira, WHO Country Representative for their leadership and guidance during data collection.

Special thanks and recognition to the Ministry of Foreign Affairs of Japan for the generous financial support received towards the situational assessment and the overall hospital twinning partnership for improvement initiative.

This report was compiled by Dr April Baller, Lead, Infection Prevention and Control, WHO Liberia; Ms Nathalie Tremblay, Infection Prevention and Control Consultant, WHO Liberia; Dr Sam Omar, Health Policies and Strategic Planning, WHO Regional Office for Africa; Dr Pierre Kariyo, Patient Safety, WHO Regional Office for Africa; Dr Dirk Horemans, Programme Officer, Service Delivery and Safety, WHO headquarters; and Ms Nana Mensah Abrampah, Technical Officer, Universal Health Coverage and Quality, WHO headquarters. Editing of the report was carried out by Ms Laura Pearson.
Tellewoyan Memorial Hospital (TMH) is a government-owned referral hospital with a 135 bed-capacity, located in Voinjama City, Lofa County, Northern Liberia. Established in the 1950s, the hospital provides primary and secondary services including paediatrics, OB/GYN, surgical services, mental health care, antenatal care and dental services, to Liberians as well as to patients from the neighbouring countries of Guinea and Sierra Leone. As part of the national mandate, services are provided free of charge to all patients. TMH operates under the authority of the Lofa County Health Team.

This situational assessment is the first of its kind for the Twinning Partnerships for Improvement Initiative. The assessment aims to inform strategic planning of the twinning partnership for improvement between TMH and Nagasaki University Hospital, in Japan. Further, the assessment seeks to gain a deeper understanding of factors influencing quality and safety at TMH, within the context of its county health system. Quality improvement and patient safety are major areas of concern in the Liberian context and, at the request of the Liberian Ministry of Health, was the focus of this assessment. To achieve the stated objectives of the assessment, a mixed methods approach was adopted to understand quality and safety drivers and bottlenecks within TMH and the Lofa County Health System. Findings from the assessment reveal several gaps needing urgent attention. Recommendations and opportunities for change are presented to address these gaps.

Findings from the quality improvement portion of the assessment, reveal that TMH has no annual plan or long-term strategic plan. Subsequently, hospital planning is done on a quarterly basis through a work plan accounting for 300 000 USD annually. Some degree of quality improvement initiatives, externally funded, are under way at the hospital. These include the Academic Consortium Combating Ebola in Liberia (ACCEL), Collaborative Support for Health (CSH) and the Maternal Child Survival Programme (MCSP). Though some degree of coordination exists between the partners, each partner has a different aim for its improvement effort. However, recognizing the importance of improving the quality of care, the hospital has implemented a number of initiatives to ensure that the knowledge and skills of health workers continually improve. These have included: mortality review meetings, daily handover meetings and Friday presentations. A majority of health workers acknowledged that recognition of health worker performance through in-kind, financial incentives or feedback does not take place in TMH. Additionally, health workers acknowledged that communication and coordination would be areas for improvement, particularly between wards at the hospital and within the county. Overwhelmingly, clinical staff acknowledge that the lack of inputs, superimposed by heavy workload compromises quality of care. Noted shortages raised at TMH include, but are not limited to, insufficient health workforce, lack of training, limited tools and resources. From the assessment, though data collection exists for partner initiatives, it was evident that routine monitoring of improvement initiatives is an area needing improvement.

Patient safety is the prevention of errors and adverse effects suffered by patients while receiving health care. Findings from the patient safety assessment provided a baseline of the patient safety situation.
within TMH. The assessment revealed a significant gap in any continuing medical education programme within the hospital for doctors and nurses. Several bottlenecks aimed at reducing health care-associated infections, including the Patient Rights Declaration or Charter were noted. TMH and much of Liberia has no nationally or hospital-based health worker protection policy or a national policy on patient safety. Currently, TMH has no health care waste management guidance or protocol. Medication safety was a weak area also noted for improvement. Patient safety partnerships, patient safety funding and patient safety surveillance and research were areas with no established mechanism at TMH. On hand hygiene, the hospital scored 130/500, representing a basic score of 26%. A basic score means some measures are in place, but not to a satisfactory standard. Further improvement is required.

Focused group interviews with patient and community members revealed that the limited amount of inputs (equipment, drugs and staff) and maintenance of equipment at TMH have led to increased waiting times, particularly in the outpatient department. As such, this has resulted in patients seeking health care in other health institutions.

TMH, as a referral hospital, functions within the Lofa County health system and the wider local administration system. TMH maintains important linkages with different county health institutions, including district hospitals, health centres and clinics. Though the Lofa County health team oversees functions of health institutions, it has limited authority over hospitals in its precinct. Annual operational plans of the County health team and institutions are developed in parallel as each health institution has its own budget allocation with the MOH. On data management, a push system where monthly DHIS data is shared from the facility level to the country and national level, is in use. However, at the county and facility level, capacity to analyse and interpret data is very limited. The referral system within the county was noted as an area needing immediate improvement. None of the institutions assessed possessed any standardized referral protocols. Clinics and health centres when referring patients provide referral letters and update patient paper-based registers at the facility. The referring facilities, however, do not receive any written feedback or follow-up calls from the hospitals which have treated their patients. Several processes relevant to quality planning and control exist in Lofa County, including joint integrated supportive supervision, performance-based financing and participation in a fixed amount reimbursement agreement. In order to improve coordination with the multitude of partners, the County has established two types of partner coordination meetings.

Recommendations and opportunities for change are put forth to address identified areas needing urgent attention. The recommendations are addressed to the four main stakeholders: the TMH- Nagasaki Partnership, the TMH, Lofa County and the Government of Liberia. Immediate priority areas for quick wins include:

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>TPI</th>
<th>Hospital</th>
<th>County</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rollout patient safety and hand hygiene assessment in other key county hospitals</td>
<td></td>
<td></td>
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<tr>
<td>2. Establish Patients’ Rights Declaration/Charter</td>
<td>x</td>
<td>x</td>
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<tr>
<td>3. Immunize all health care workers against Hepatitis B at TMH as part of occupational health and safety</td>
<td>x</td>
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<tr>
<td>4. Finalize national IPC programme and guidelines and implement as soon as possible</td>
<td>x</td>
<td></td>
<td></td>
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<tr>
<td>5. Finalize national OHS guidelines and implement as soon as possible</td>
<td>x</td>
<td></td>
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<tr>
<td>6. Establish permanent isolation capacity as soon as possible (minimum for 1 person)</td>
<td>x</td>
<td>x</td>
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<table>
<thead>
<tr>
<th>Recommendations</th>
<th>TPI</th>
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<tr>
<td>1. Hospital to implement an action plan to improve hand hygiene practices to upgrade TMH from basic level to advanced level with support from WHO</td>
<td>x</td>
</tr>
<tr>
<td>2. ABHR sample to be sent for external quality efficacy assessment, with WHO assistance</td>
<td>x</td>
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Executive summary
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>TPI</th>
<th>Hospital</th>
<th>County</th>
<th>National</th>
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<tbody>
<tr>
<td>1. Develop monitoring and evaluation system for quality and safety</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>2. Identify and train hospital management</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>3. Strengthen in-service staff training</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
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<tr>
<td>4. Provide guidance on quality control, planning and improvement</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
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<tr>
<td>5. Improve access to technical resources</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>6. Institute forum for best practices exchange</td>
<td></td>
<td>X</td>
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<table>
<thead>
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<th>Quality Improvement</th>
<th>TPI</th>
<th>Hospital</th>
<th>County</th>
<th>National</th>
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<tr>
<td>1. Develop and validate manuals for health boards</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Train TMH Board of Directors and Lofa County health board on different management mechanisms</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3. Map county and district level stakeholders and verify existing manuals, procedures and protocols</td>
<td></td>
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<tr>
<td>4. Develop and pilot standardized referral protocol for TMH and stakeholder institutions (referral register, feedback mechanism) in Lofa County and beyond</td>
<td></td>
<td>X</td>
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<tr>
<td>5. Build data analysis and capacity of health workers in performance monitoring</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>6. Develop, validate and implement manuals for health boards and the community health development committees</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7. Develop a referral transport management system</td>
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<th>County Health</th>
<th>TPI</th>
<th>Hospital</th>
<th>County</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Establish patient safety and quality of care champions</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2. Initiate health worker training on patient and community engagement</td>
<td></td>
<td>X</td>
<td>X</td>
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<table>
<thead>
<tr>
<th>Patient/Community</th>
<th>TPI</th>
<th>Hospital</th>
<th>County</th>
<th>National</th>
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OVERVIEW OF LIBERIA’S HEALTH SYSTEM

Liberia is a low-income country located in West Africa. The country was ranked 168 out of 194 with a recorded GDP of just over US$ 2 million in 2015 (1). Liberia is divided into 15 counties with over 760 health facilities. Public health facilities account for the majority (57%) of clinical services, followed by private for-profit (36%) and private not-for-profit (7%) facilities (2). Since March 2014, Liberia has been reeling from the devastating effects of the Ebola outbreak which caused significant declines in health and socio-economic status of its population. The outbreak disrupted provision of essential health services and several health facilities were closed for a myriad of reasons (3). Before the outbreak, Liberia had made concerted efforts to improve the health outcomes of its population. However, the Ebola outbreak shed light on the fragility and pre-existing constraints within the Liberian health system, including acute limitations in health workforce, essential medicines, leadership and governance capacities, amongst others (4). The lack of focussed efforts on quality of care and in particular on patient safety at the institutional, sub-national and national level was highlighted. In response to the outbreak and to complement the National Health Policy (2011-2021) (5), the Ministry of Health issued the Investment Plan for Building a Resilient Health System in Liberia (2015-2021) (6) to restore the gains lost due to the Ebola crisis, provide health security to Liberians and accelerate progress towards universal health coverage (UHC). Objective 1 of the investment plan specifically aims to provide universal access to safe and quality services through improved capacity of the health network to provide safe, quality essential packages of health services.

With the outbreak declared over in Liberia, the Ministry of Health is looking to embed quality improvement approaches into routine health service delivery and institutionalize quality of care and patient safety at all levels of the health system. As part of its overall aim of accelerating progress towards UHC, the MOH launched a Quality Management Unit (QMU) in 2015 with the goal of institutionalizing quality at all levels and sectors of Liberia’s health system in order to “improve the health of the population by increasing universal access to and utilization of quality health services that are patient-centred, equitable and responsive to the community’s needs and wants by 2021.”

### Table 1: Liberia’s health parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Total population (2015)</td>
<td>4 503 000</td>
</tr>
<tr>
<td>Gross national income per capita (Purchasing Power Parity international $, 2013)</td>
<td>790</td>
</tr>
<tr>
<td>Life expectancy at birth m/f (years, 2015)</td>
<td>60/63</td>
</tr>
<tr>
<td>Probability of dying under five (per 1 000 live births, 0)</td>
<td>not available</td>
</tr>
<tr>
<td>Probability of dying between 15 and 60 years m/f (per 1 000 population, 2013)</td>
<td>279/240</td>
</tr>
<tr>
<td>Total expenditure on health per capita (Intl $, 2014)</td>
<td>98</td>
</tr>
<tr>
<td>Total expenditure on health as % of GDP (2014)</td>
<td>10.0</td>
</tr>
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</table>
Liberia is in the process of finalizing its National Health Quality Strategy (NHQS). The national quality strategy, in its draft stages, sets out the mission, objectives, strategic approaches, the QMU structure, operational plan, timeline and ways of measuring improvement.

The aim of the Liberian NHQS, as previously mentioned in the overview chapter, is to “improve the health of the population by increasing universal access to and utilization of quality health services that are patient-centred, equitable and responsive to the community’s needs and wants by 2021.” The strategy has been developed in alignment with and to facilitate the achievement of the goals set in the existing national health sector plan (5) and the investment plan (6). In line with the Liberian MOH key priority health areas, the NHQS prioritizes maternal, newborn and child health services, with the intention of expanding its focus and integrating quality more broadly across all levels of the health system. The national quality management approach will build on the cycle of three interlinked processes: quality planning, quality control and quality improvement.

The proposed national management organizational structure (Annex 1) builds on quality management teams (QMT) at the different levels of the Liberian health system (national, county, district and hospital), with the national quality advisory board providing governance oversight. The QMU will be an integrated quality structure operating across all levels of the health system. It is housed within the Department of Institutional and Community Care and reports directly to the Chief Medical Officer.

The draft NHQS identifies seven key drivers, aligned with the WHO health system building blocks, to achieve the aims of the strategy: leadership and governance; patient and community involvement; professional skills development; creating a culture of learning and quality improvement; health financing; investing in key infrastructure; and creating data and decision support systems.

Validation workshop process
The Ministry of Health Liberia organized a two-day NHQS validation workshop on 13-14 October 2016. High level MOH and stakeholder attendance demonstrated strong interest and support for the strategy. The workshop harvested a number of observations and recommendations, which will be addressed in the final iteration of the strategy. Most importantly these include the need to:

a) develop a National Quality Policy with support from WHO,
b) review key driver interventions with relevant programmes and departments,
c) develop a monitoring and evaluation framework in close collaboration with the planning and health information department,
d) expand the priority areas in the strategy,
e) cost the five-year strategic plan to allow for budgeting and resource mobilization,
f) update the situational analysis chapter using the Service Availability and Readiness Assessment (conducted in 2016) and human resource plans and
g) work closely with county health teams (CHT) to establish QMTs at the county, hospital/health centre, district, clinic and community level.

Linkages and implications of strategy to situational assessment
The draft NHQS provided a useful framework for the Tellewoyan Memorial Hospital (TMH) and Lofa County quality improvement and patient safety situational assessment. Findings from this situational assessment will inform strategic direction in the finalization of the NHQS, particularly, implications of quality of care delivery at health facilities and management processes at the county level to contribute to the realization of goals articulated in the quality strategy.

Twinning partnerships for Improvement. Tellewoyan Memorial Hospital and Nagasaki University Hospital
Lofa County, located in the north-western region of Liberia, is the second biggest county in the country. The County lies on the northern border of Liberia, with the Republic of Guinea to its north and Sierra Leone to the west. The County records a population of around 270,114 (7), with a growth rate of 2.1% expected by 2021. The county has 59 health facilities comprising four hospitals (including TMH, Kolahun, Foya and Voinjama District Hospitals), three health centres and 52 clinics. Seventy percent of the population lives within 5 km (approximately an hour’s walk) of a health facility, while approximately 29% of Lofa’s catchment communities live beyond 5 km of the nearest health facility. Assessing health care in the County is challenged by harsh topography, limited infrastructure and a poor road network.

The concept of moving to more decentralized health systems in Liberia was conceived by the MOH in 1985. An important next step for decentralization will be the passing of the local governance act. In line with this, the sub-national health system operates in six health districts, each with a fully functional district health team (DHT). Priority areas identified within the Lofa County health system annual plan include: increase access to quality health services; reduce maternal and newborn mortality; and strengthen service to other services such mental health, focusing on noncommunicable diseases and neglected tropical diseases.
Tellewoyan Memorial Hospital (TMH) was established in the 1950s as a nongovernmental organization (NGO) hospital by the International Medical Corps (IMC). On 1 July 2010, IMC handed over operations of the hospital to another NGO, the International Rescue Committee (IRC). Ownership of the hospital came under the Liberian Government in 2011.

The hospital, located in Voinjama City, Lofa County, counts 135 beds. TMH is the referral hospital for this region, providing services to Liberia but also the neighbouring countries of Guinea and Sierra Leone. In line with the Government mandate, the hospital provides free services to all patients. Although due to drug shortages, patients occasionally have to purchase medication from private pharmacies. As a referral hospital, TMH provides primary and secondary health services, including paediatrics, OB/GYN and surgical services. Mental health, antenatal care and dental services are also provided. The outpatient department at the hospital serves around 80-100 people per day. On average, clinicians attend to 40-60 inpatients per day.

The Government-owned hospital has two operating theatres, however just one of them is currently functional, due to staff and equipment shortages. Two ambulances are available to attend to referrals from neighbouring facilities and address emergencies within the community. Overall, TMH has around 140 staff (excluding security staff). Staff composition at TMH is reflected in Table 2.

Table 2: Staff Composition at TMH

- Doctors (3) including the Medical Director
- Pharmacist (1)
- Pharmacist aides (10)
- Laboratory technicians (3)
- Maintenance: Electrician (3), Plumber (1), Mechanic (2)
- Physician Assistant (5)
- Nurses (35)
- Nurses’ aids (30)
- Cleaners (20)
- Midwives (14)
- Nurse anaesthetists (2)
- Administration: Hospital Administrator (1), Accountant (1), Secretary (1)
- Logistics: (3)
- Security
The overall aim of this assessment was to gain a deeper understanding of factors influencing quality and safety at TMH, within the context of its county health system. Quality Improvement and safety* were chosen by the MOH as areas needing urgent attention and as a means of improving patient outcomes along the continuum of care. Additionally, the assessment aimed to inform strategic planning of the twinning partnership for improvement between Tellewoyan Memorial Hospital and Nagasaki University Hospital, in Japan.

The specific objectives of the mission were:
1. to conduct an assessment on factors influencing quality and safety activities at Tellewoyan Memorial Hospital, including linkages with central and county-level structures;
2. to make recommendations on approaches for improving quality of care and patient safety with implications for county spread within and beyond Lofa County;
3. to provide a foundation for establishing an effective twinning partnership between Nagasaki University and Tellewoyan Memorial Hospital.

* For the purposes of this assessment, safety was viewed within the wider umbrella of quality.
A mixed methods approach was employed to understand quality and safety drivers and bottlenecks within TMH and Lofa County health systems. A desk review of documents at the national (health sector strategic plan, investment plan for building resilient health systems, national quality strategy), county level (work plans) and facility level (organigram, work plan) complemented county and facility assessments. Four thematic areas were addressed at the hospital: quality improvement, patient safety, hand hygiene and patient/community engagement (see Annex 2 for quality improvement interview guide). The county level (see Annexes 3 and 4 for county interview guide) used different thematic areas with emphasis on quality improvement and system-level aspects at the sub-national level that have direct implications at the facility level. Data collection for quality improvement, county level drivers and patient/community engagement included the use of a semi-structured interview guide for individual and focused group discussions. Random sampling was used to identify health worker cohort for the interviews. The WHO African Partnerships for Patient Safety (APPS) validated questionnaire (8) and WHO Hand Hygiene Self-Assessment Framework (9) were used to gather information relating to patient safety and hand hygiene promotion and practices at the hospital. A team of experts from the national, regional and headquarters level of WHO and the Ministry of Health, Liberia undertook the assessment. The composition of technical expertise represented quality improvement, patient safety, leadership and governance, and district/county level management. The week-long situational assessment agenda, along with the composition of individuals interviewed, are reflected in Annex 5.

Qualitative data were transcribed immediately and deductive coding applied to extrapolate common themes and sub-themes emerging from the interviews. Triangulation of data from across all thematic areas was conducted to ensure credibility and validity of collected results.

Prior to the in-depth assessment, a pre-assessment exercise comprising representatives from the county and facility was held to gain a shared understanding of quality, including its enablers and blockers. Outcomes from this pre-assessment exercise are reflected in Annex 6. Post-mission debriefing exercises were conducted with the Lofa County health team, TMH management team, WHO Country Office as well as Ministry of Health representatives.
Quality improvement at Tellewoyan Memorial Hospital

Leadership and management
This section of the assessment looked at the management processes in place to support quality and safety initiatives in TMH. The hospital does not currently have an annual plan or long-term strategic plan. Hospital planning is done on a quarterly basis through a workplan. This process entails discussions at the departmental level based on expected levels of funding for the quarter. TMH operates on a budget of US$ 300 000 (for operational purposes only, excluding salaries) per year. This is dispatched to the facility on a quarterly basis. Prior to TMH being a government-run hospital, its annual budget (under IMC and IRC leadership) was US$ 1 million. Presently, the central Government, using the Liberia health pool fund mechanism, is the sole funding source for the hospital. Due to the significant decrease in funding from US$ 1 million to US$ 300 000, several initiatives that were implemented by previous NGOs were not sustained.

Quality improvement initiatives
Currently, TMH has a number of quality improvement initiatives under way. Three quality improvement activities are funded by external partners:

1. Academic Consortium Combating Ebola in Liberia (ACCEL): mentoring and supportive supervision, funded by the Centers for Disease Control (CDC). The main objective of ACCEL is to train health workers from TMH as mentors for other health workers within the hospital. The mentorship programme has three phases:
   • Phase 1 (6 months): recruit individuals, train and develop their capacity to become mentors. After training, each mentor has to provide mentorship on off-duty days to other health workers for 12 hours per month. Upon completion of 12 hours, the selected individuals receive a motivation package of US$ 25.
   • Phase 2 (3 months): recruited individuals provide 12 hours of mentoring per month during working hours. Incentive of US$ 15 is provided upon completion.
   • Phase 3: continued engagement with peers offering mentoring in priority areas identified by the hospital.

Throughout the process, mentors from ACCEL provide technical support to TMH mentors. ACCEL provides mentorship and supportive supervision based on improvement areas identified by the quality management team. The quality management team is supported by another partner (see section on CSH). In an effort to address identified barriers, ACCEL meets with the hospital management staff, TMH quality management team (QMT) and mentors at least once a month (ACCEL is not based at the hospital, field visits are conducted to participating facilities). Challenges encountered during the implementation of ACCEL have been staff attrition, lack of technology, lack of materials/equipment to adhere to identified practices and overall staff motivation.

2. Collaborative Support for Health (CSH): another mechanism for quality improvement at TMH funded by the United States Agency for International Development (USAID). At TMH, CSH was instrumental in the establishment of the QMT. CSH supports the QMT by identifying areas needing improvement. Areas identified to-date at TMH include improving waiting times for first ANC visit and appropriate use of partographs. The QMT meets monthly. Its composition is illustrated in Table 3.
Prior to CSH developing a set of interventions to address the improvement areas mentioned, a baseline assessment was conducted for the period 2014-2016. To measure the progress of improvement initiatives, data is collected monthly via the district health information system (DHIS) and the hospital ledger. Feedback is provided to TMH on a quarterly basis.

Challenges faced during implementation of CSH activities include: incomplete data from the point of record and poor use of standard operating ledgers from the MOH.

3. Maternal Child Survival Programme (MCSP): funded by JHPIEGO, the project aims to improve compliance with infection prevention and control (IPC) standards and improve maternal and child health service delivery. The programme was started in 2015 at TMH. A baseline assessment conducted in December 2015 by MCSP highlighted that overall capacity-building was an area requiring urgent attention. Challenges highlighted for MCSP include lack of inputs (resources needed to improve quality of care) which hamper staff capacity to implement interventions introduced.

Two sources of data are utilized to monitor progress of the interventions: data collected on maternal and child health indicators from the health management information systems (HMIS) and data collected directly at TMH using the MCSP Safe and Quality Services for Health Facility tool in Liberia. This tool was developed using the Minimum Standard Tool initiated by the IPC taskforce in February 2015.

Coordination between the different partner initiatives
Some degree of coordination exists between the three externally-funded QI initiatives. MCSP and CSH collaborate in data collection for TMH. However, MCSP does not interact with ACCEL. ACCEL implements quality improvement activities identified by CSH and the QMT at TMH. Figure 2 illustrates the levels of coordination and communication among partners at TMH.

All health partners within Lofa County participate in the health partners meeting organized by the county health team (additional details in county section).

<table>
<thead>
<tr>
<th>Medical Director</th>
<th>Nursing Directress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Administrator</td>
<td>Physician Assistant Supervisor</td>
</tr>
<tr>
<td>Deputy Nursing Director; Registered Nurse (RN)</td>
<td>Supervisor, Certified Midwife</td>
</tr>
<tr>
<td>Surgical Ward Supervisor (RN)</td>
<td>Hygienist Supervisor</td>
</tr>
<tr>
<td>Medical Ward Supervisor (RN)</td>
<td>Laboratory Technician Supervisor</td>
</tr>
</tbody>
</table>

**Figure 2: Communication Pathways for Partners at TMH**

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**Table 3: Composition of TMH quality management team at time of situational assessment**

Composition of quality management team

<table>
<thead>
<tr>
<th>Medical Director</th>
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</tr>
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</tr>
<tr>
<td>Medical Ward Supervisor (RN)</td>
<td>Laboratory Technician Supervisor</td>
</tr>
</tbody>
</table>
On knowledge sharing, cross-county meetings of CSH occur on a quarterly basis. ACCEL participates in regional meetings organized by CSH. ACCEL does not have a knowledge mechanism for ACCEL-supported facilities located in northern Liberia. Consequently, they utilize the knowledge sharing meetings of CSH.

**Capacity-building and in-service training**

TMH has undertaken a number of initiatives to ensure that the knowledge and skills of health workers can continually improve as a means of instituting improvement as part of everyday work. Strategies to address clinical gaps identified in the system and sustain improvements at TMH include:

- **Mortality Review Meetings**: held weekly to review the cause of death, processes and measures administered prior to a patient dying.
- **Daily handover meetings**: ensure successful exchange of information on patients and address any issues during the shift changes of health workers.
- **Friday presentations**: conducted weekly to review the gaps identified in care delivery and jointly develop solutions and interventions. This improvement mechanism is led by a health worker at TMH with interest in this subject.

In addition to those mentioned above, a best practice that has seen tremendous improvement was the appropriate use of the partograph which has seen a 90% compliance among health workers (ACCEL continues to provide mentoring for partograph use).

However, hospital staff noted that the lack of materials such as guidelines, standards and technical resources such as manuals, checklists, standard operating procedures and mentoring tools, limits capacity-building and has a direct implication on nurturing a quality and safety culture at TMH. Additionally, the lack of in-service training for clinical, non-clinical staff and the hospital management team at TMH was highlighted as a barrier needing urgent attention.

**Health worker workloads**

Health workers noted the importance of quality of care and recognized that quality is everyone’s business. However, due to the lack of inputs (i.e. the resources needed to improve the delivery of health services), health workers acknowledged the difficulty of rendering such services and prioritizing quality. Clinical staff acknowledged that the lack of inputs, superimposed by heavy workloads compromises quality of care. The establishment of the QMT and in-service Friday presentations, are steps in the right direction to address quality of care.

Moderate numbers of health workers received their terms of reference which spell out roles, responsibilities and functions. This is an important strategic planning mechanism to identify actions, promote efficiency and identify pathways of each health worker’s contribution to achieve the desired outcomes. This is also an important benchmark to ensure that everyone in the system is working to meet the goals articulated by the hospital.

Improving health worker performance, motivation and productivity are critical to deliver safe and quality health services. The majority of health workers assessed acknowledged that recognition of health worker performance through in-kind, financial incentives or feedback is not implemented within TMH. However, hospital management did acknowledge that supervisors receive 1000 Liberian dollars (US$ 11) from TMH and that an appraisal form is under development. The appraisal form will acknowledge health workers who have over-performed on their duties through non-financial incentives. Overall, health workforce motivation and feedback mechanisms were identified as areas for quick-wins.

**Communication and coordination across departments**

This part of the assessment reviewed levels of communication and coordination across multiple levels of the health system: health workers and management; between wards (departments); among health workers in the same department; between health workers and patients/family; between TMH and the community; TMH and the county; and between TMH health facilities within Lofa County and beyond Lofa County.

From the perspective of the health worker, good levels of communication (using the verbal or written medium of exchanging information) and coordination (working relationships and interactions inter and intra-departmentally) were reported in all areas except between wards at TMH and externally (with the Lofa County health team and other health facilities in and outside Lofa County).
Between wards, an internal communication system was used to communicate with departments upon the transfer of a patient or to obtain further information regarding supplies or input resources. However, this mechanism has ceased to function in recent years. TMH relies on verbal communication and personal mobile phones to contact colleagues in other departments. The lack of an internal communication system directly affects work productivity and efficiency due to time spent leaving the ward to walk to another department.

Externally, poor communication and weak referral systems within the County and nationally has direct implications on coordination with other health facilities in and outside Lofa County. Moreover, the lack of coordination and communication across different health facilities has a direct impact on nationally stated goals aimed at improving the quality of care. The issue of referral systems is further elaborated in the county health system section.

**Resource constraints**

A recurring theme that emerged from the assessment was the lack of overall inputs which are critical to ensure quality of care and patient safety. The system deficiencies illustrated in Figure 3 highlight constraints shared by health workers during the assessment:

- Insufficient health workforce
- Inadequate water supply
- Limited energy (electricity)
- Lack of training
- Limited tools and resources
- Lack of incentives (e.g. allowance for transportation)
- Limited laboratory capacity
- Low levels of fuel for generator and ambulance services
- Shortage of drugs and medical supplies
- Weak monitoring and evaluation of improvement activities
- Poor referral systems in TMH/Lofa County
- Poor maintenance and repair of infrastructure and equipment
- Weak mechanisms to capture process of how and what care was delivered
- Inadequate resources and activities mentioned earlier have direct implications on:
  - Health services delivery
  - Health behaviour change
  - Change in health status
  - Client satisfaction

**Measurement and reporting on quality initiatives**

Monitoring and tracking improvements over time are critical to understand if changes introduced into a system actually yield the intended results or not. Furthermore, monitoring over time allows to continually identify gaps, address root causes, improve change mechanisms and tailor interventions. From the assessment, it was evident that the routine monitoring of ongoing improvement initiatives is an area needing improvement. Data collection and management is an important dimension of monitoring and needs to be strengthened at TMH. It will be important to build on and collaborate with other partners engaged at TMH should any initiative be undertaken in this area.

Learning mechanisms to share best practices at TMH are limited. With the exception of the CSH regional meeting (mentioned previously) which are for CSH-funded initiatives, no other learning mechanism exists to foster the sharing of ideas, stimulate creative thinking and spark the transfer of innovative ideas from TMH to other health facilities or counties.
Patient safety at Tellewoyan Memorial Hospital

Patient safety is the prevention of errors and adverse events to patients receiving health care (10). Patient safety is a critical component of providing quality health services. This part of the assessment provided a baseline of the patient safety situation within TMH. The analysis reviewed 12 key action areas for patient safety action in line with the APPS Framework [8].

Patient safety and health services and systems development
TMH has no reliable process for obtaining the health care supplies and materials it needs.

National patient safety policy
Liberia currently has no national committee or board responsible for patient safety policy-making or any patient safety guidelines.

Knowledge and learning in patient safety
The assessment revealed a significant gap in continuing medical education programmes within the hospital for doctors and nurses. Moreover, the lack of a hospital training plan, clinical audit system and adverse event reporting system was noticeably absent as well.

Patient safety awareness-raising
There is no Patient Rights Declaration or Charter in existence. This mechanism is important for community-focused activities to raise awareness on patient safety and for patients and health workers to share ideas and concerns relating to patient safety.

Health care-associated infections
Several bottlenecks aimed at reducing health care-associated infections were noted, namely:
- strategies and goals of IPC at TMH are not well defined;
- IPC is not represented in the QMT;
- absence of national IPC guidelines (though draft guidelines are under development);
- lack of written hospital policies or guidelines on the following: hand hygiene, disinfection and sterilization, general IPC, aseptic practices related to patient care, safe injection practices, sharps disposal, triaging patients with high risk of rapid infectious disease transmission, equipment/instrument reuse;
- no mechanism for conducting health worker training on health care-associated infections – additionally, TMH has no microbiology laboratory services;
- though routine notification of infectious diseases to the national surveillance system does exist, little or no research is being undertaken on infectious disease surveillance;
- insufficient sterilization equipment;
- limited supply of single-use paper towels throughout TMH;
- lack of protocol for changing, handling and reusing bed linen;
- absence of policies on surgical prophylaxis and available data on antimicrobial resistance.

Health worker protection
TMH and much of Liberia has no national or hospital-based health worker protection policy. As a result, health workers at TMH are not immunized against Hepatitis B, for example.

Health-care waste management
Currently, TMH has no established health care waste management guidance or protocol. It is important to note that Liberia does have some national guidance on waste management. Additionally as highlighted, the insufficient amount of input resources affects the proper and timely collection, segregation and disposal of infectious and non-infectious health care waste. Furthermore, the hospital has no environmental cleaning protocol, nor does it provide guidance on how to dispose of patient waste in the home.

Safe surgical care
When asked, health workers were not aware of the WHO Surgical Safety Checklist. Presently, Lofa county has no trained surgeon or anaesthetist.

Medication safety
Generally, a weak area noted for improvement at TMH. The hospital is lacking in several areas:
- no medication safety policy in place;
- absence of a functioning hospital drug and therapeutics committee and hospital medicine formulary;
- weak drug procurement processes;
- no adverse drug reaction and medication error reporting and learning system in place for in-service health care worker education on medication safety.

Patient safety partnerships
TMH does not have any established mechanisms in place to encourage patient and family member involvement and feedback around improving patient safety. Further, the establishment of a committee
to engage with patients, family members, health professionals and policy-makers on this subject is not foreseen. At the moment, no dedicated staff has been assigned to manage patient complaints.

**Patient safety funding**
No existing funding mechanisms to improve patient safety.

**Patient safety surveillance and research**
TMH lacks a hospital patient safety surveillance and research strategy.

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**Hand hygiene at Tellewoyan Memorial Hospital**

The hand hygiene assessment used the WHO hand hygiene self-assessment framework (9), a systematic diagnostic tool, to obtain information on hand hygiene practices and identify key issues requiring attention and improvement. The results obtained from the assessment can be used to develop an action plan for a hand hygiene promotion programme within the facility. The Framework is divided into five components and 27 indicators. The five components reflect the five elements of the WHO Multimodal Hand Hygiene Improvement Strategy [11]. The five components assess the following aspects.

- **System change** explores what is in place to make hand hygiene possible, easy and convenient.
- **Training and education** assesses the training provided to health workers in the facility.
- **Evaluation and feedback** refers to how the facility evaluates hand hygiene practices and gives feedback to health workers.
- **Reminders in the workplace** relates to what is used to help health workers remember what to do, how and when.
- **Institutional safety climate for hand hygiene** pertains to how facility leadership and management are committed to supporting hand hygiene improvement activities.

The results for TMH are presented below.

<table>
<thead>
<tr>
<th>Component</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>System change</td>
<td>25/100</td>
</tr>
<tr>
<td>Training and education</td>
<td>25/100</td>
</tr>
<tr>
<td>Evaluation and feedback</td>
<td>10/100</td>
</tr>
<tr>
<td>Reminders in the workplace</td>
<td>40/100</td>
</tr>
<tr>
<td>Institutional safety climate for hand hygiene</td>
<td>30/100</td>
</tr>
<tr>
<td>Total score*</td>
<td>130/500 (26%)</td>
</tr>
</tbody>
</table>

The overall assessment places the hospital’s hand hygiene performance level at basic. A basic score means some measures are in place, but not to a satisfactory standard. Further improvement is required.

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Focus group interviews with patient and community members revealed that the limited amount of inputs (equipment, drugs and staff) and maintenance of equipment at TMH has led to increased waiting times, particularly in the outpatient department. Maintenance and upgrade of infrastructure, such as laboratory, radiology, dentistry, as well as the limited energy and water supply (water pumps need electrical power), has a direct influence on the quality of service being provided. Equally important, the group highlighted that the lack of specialists, particularly in the areas of sexual and gender-based violence (SGBV) and orthopaedics, was affecting the level of care that could be offered at TMH. The lack of patient/community representation on the QMT was also emphasized.

Given TMH’s proximity to its French-speaking neighbour of Guinea and the variety of ethical tribes co-existing in northern Liberia, language was noted as barrier during patient consultations. However, a step taken to address this barrier, namely the involvement of additional health workers at TMH who are able to act as interpreters during consultations.

Regarding community engagement, TMH holds a weekly radio talk show on Fridays to raise awareness and promote healthy behaviour change in the community. Additionally, close coordination with traditional service delivery actors such as the trained traditional midwife (TTM) was highlighted.

Leadership and governance
The Lofa County health team (CHT) functions under the authority of the County Health Officer (CHO). The CHT oversees the functions of the surrounding health districts and hospitals but, due to a strong centralized system, the CHT only has limited authority over the facilities. The CHT is responsible for human resources recruitment, has limited management oversight and responsibility over some drug supplies. With regards to human resources, absenteeism by key personnel at the facility is an issue that is currently being addressed by the CHO.

Similar to the case at TMH, the majority if not all hospitals in Lofa County face a shortage of health workers, particularly of doctors and specialists. The county is recruiting additional staff and has established a transparent recruitment system. Initially staff were paid from institutional budgets before being transferred to the MOH payroll. In an effort to improve knowledge and skills along with overall management of staff training, the CHT has started a practice of keeping personnel files to monitor in-service training participation.

Within Lofa County, each level of health institution (county, district, facility, community) has its own governance oversight structure. These include the county health board (CHB), the district health boards (DHB), the TMH board of directors, the community health development committees (for local clinics and health centres). These boards and committees play an important role in engaging the community and overseeing patient satisfaction. From the assessment, the listed institutions were found to be very engaged and are knowledgeable about community needs and complaints.

Lofa County health board became operational in 2013. However, the absence of clear roles and responsibilities has impeded its functionality and effectiveness. Officially, the mentioned boards are required to meet on a quarterly basis but this has
not happened. In the absence of clear procedures, the CHO, who is a member of all the health boards, has developed terms of reference (TOR). The TOR propose an inclusive and representative membership, with members from relevant government sectors, traditional leaders and representatives from the civil society, including religious groups, youth and women’s organizations. Meetings of the health boards are chaired by the County Superintendent (most senior political figure) and District Commissioners. Since the arrival of the current CHO in April 2016, the different health boards have met three times.

Board members strongly welcomed the TOR and procedures developed by the CHO which give clear guidance. A request put forth by members is an orientation and training to acquire specific competencies necessary for the defined responsibilities including those related to quality control.

The board and committees are involved in resource mobilization. Current discussions are under way to identify how best to approach organizations.

**Patient and community engagement**

In the absence of a formal patient complaint mechanism, the board and its members (with representation from the health sector, other sectors and community representatives) receive complaints from patients and the community. The TMH board of directors pay regular visits to the hospitals to discuss patient issues and staff needs. Complaints are discussed and followed up by the boards.

Traditional medicine is commonly practiced in Lofa County. Collaboration with traditional healers and the Lofa CHT needs substantial improvement, particularly on issues relating to IPC. Lofa CHT is expected to start the mapping of all traditional service delivery providers in the County.

**Operational planning**

Lofa CHT, along with the six different district health teams (DHTs), TMH and the district hospitals have all started to develop their own yearly operational plans. These plans are developed in parallel as each health institution has its own budget allocation with the MOH. The CHO has little to no control over the DHT or hospital plans/budgets. Lofa CHT annual budget is around US$ 250 000. Lofa CHT is developing an operational plan for 2016-2017 fiscal year which is based on the ten-year Lofa County strategic plan 2011-2021. The CHO highlighted the need to build the planning process capacity of county health managers.

It is expected that once the Government Decentralization Act is passed, decentralization efforts will accelerate rapidly. This will increase local government autonomy and budget control. The move is expected to strengthen the role of the CHT and consequently build capacity and increase the functionality and effectiveness of boards.

**Data management**

Lofa county health institutions forward their DHIS monthly data to the Lofa CHT. This is then shared with the central level at monthly intervals, via a data push mechanism. Correspondence between the Lofa CHT and institutions are limited to data quality issues. Feedback from the central level is limited to county-level aggregated data. The CHT organizes mid-year and end-of-year reviews, though the county does not possess data disaggregated by institution to identify and analyse those health facilities performing less well and those performing strongly. The Lofa CHT and its health institutions have limited data analysis and interpretation capacities.

**Lofa County referral systems**

The referral system within the county, between the county/district hospitals, health centres and clinics, was noted as an area needing improvement. None of the institutions assessed possessed any standardized referral protocols. Clinics and health centres provide their referral outpatients with referral letters and updated paper-referral registers. The referring facilities, however, do not receive any written feedback or follow-up calls from hospitals having treated their patients.

From the perspective of the assessed district hospitals, TMH is not considered as a functional county referral hospital. In the last six months, Kolahun District Hospital (another hospital located in Lofa County) referred five patients, four due to the absence of their doctor and only one for specific care not available in Kolahun. The reasons highlighted relate to limited equipment and specialists as well as the narrow range of services provided at TMH.

Transport and communication systems for referrals were found to be dysfunctional with the majority of the ambulances broken down. The Lofa CHT 2016-2017 plan mentions provision of monthly
maintenance and fuel support to district ambulances by Lofa CHT and partners. As part of the overall aim of improving maternal health in Liberia, priority use of the ambulance service is now given to pregnant woman. Several health facilities in the county are establishing maternal waiting homes to address the difficulties to transporting pregnant women needing emergency referral and living in remote areas.

**Quality planning and control**
Several processes relevant to quality planning and control exist in Lofa County.

- Maternal death review within 48 hours of receipt of maternal death information.
- Joint integrated supportive supervision tool: MOH and partners jointly supervise primary level health facilities (outpatient services only). At the moment, the tool is not adapted for inpatient supervision.
- Performance-based financing (PBF) beneficiary satisfaction surveys: these surveys are conducted by community-based organizations using a sample selection of 10 patients from each clinic. The selection of clients is made from the clinic register by the IRC and approved by the PBF steering committee. This process is only in use at primary level clinics. The PBF project is planning to expand to include hospitals in Lofa County.
- Several clinics, health centres and hospitals have quality improvement initiatives in place supported by NGOs. Most of them have established QMTs.
- Five-year US$ 59.1 million Pact - Fixed Amount Reimbursement Agreement (FARA) – USAID is funding the roll-out of the essential package of health services (EPHS) and implementation of health systems strengthening interventions at the central and county levels, including Lofa County.

**Partner coordination**
Most of the county health institutions are supported by several partners/NGOs. Within a given institution, one might find an NGO providing the drugs, another supporting the ambulance service, a third providing quality improvement support, a fourth helping with community engagement, a fifth strengthening IPC aspects. In principle, partners should consult with health facilities and the county health team (bottom-up approach) before authorization to work is granted by the central level. However, in practice this is not often done. Often, the county is confronted by approved projects or partners without prior engagement at the sub-national level.

In order to improve coordination with the multitude of partners, the county has established two types of partner coordination meetings: a weekly coordination meeting (Partners, CHT, line ministries) and a monthly health sector meeting.

An area needing urgent improvement highlighted by both the Lofa County health board and the TMH board of directors was capacity-building – this is their main expectation from the partnership with TMH and Nagasaki University.
The following recommendations are put forward to address areas needing improvement. A detailed list of recommendations with actions for the different actors (TMH-Nagasaki partnership, TMH itself, Lofa County and Government of Liberia) is reflected in Annex 8.

Immediate priority areas in quality improvement should include:
- developing sustainable monitoring and evaluation system to monitor quality improvement;
- working with partners to train and build capacity of hospital management;
- strengthening in-service training to improve health workforce competencies and skills to deliver better health services. Focus should include equitable access to training and ensuring that training workshops are followed up with refresher courses, job aides, guidelines and checklists;
- providing guidance on quality planning, quality control and quality improvement activities to support the implementation of nationally articulated goals and improve overall health outcomes nationally. This includes, but is not limited to, the development and dissemination of guidance, protocols, standards, templates and monitoring tools;
- improving access to technical resources for addressing quality of care;
- launching a forum to exchange best practices and lessons learned between facilities in Lofa and across other counties.

Immediate priority areas concerning patient safety should include:
- to roll out patient safety and hand hygiene assessment to other key county hospitals;
- to immunize all health care workers for Hepatitis B at TMH as part of improving occupational health and safety (OHS);
- to establish a Patients’ Rights Declaration/Charter;
- to finalize national IPC programme and guidelines and implement as soon as possible;
- to finalize national OHS guidelines and implement as soon as possible;
- to establish permanent isolation capacity as soon as possible (with capacity for 1 person minimum);
- to take immediate action to improve waste management.

Medium-to long-term aims:
- ensure patient safety plan is included in NHQS.
- develop annual operational plan that includes quality and safety aspects.
- improve laboratory capacity in alignment with national laboratory strategy.
- ensure that adverse events reporting is included into NHQS and policy.
- support establishment of reporting and learning systems for patient safety adverse events.
- ensure essential surgical care programme starts to be implemented in Quarter 1, 2017.
- create a drug therapeutic committee to address medication safety issues.
- develop budget line for quality and safety.
• support research capacity on QI and PS through partnership.

Priority areas related to *hand hygiene* should include:
• Hospital to develop and implement, with support from WHO, an action plan to improve hand hygiene practices and help move TMH from basic level to intermediate or advanced level;
• ABHR sample to be sent for external quality efficacy assurance, with WHO assistance

Priority areas concerning *patient and community engagement* should include:
• establishing patient safety and quality of care champions;
• initiating health worker training on patient and community engagement.

Immediate priority areas for the *County level* should include:
• to train the TMH board of directors and Lofa County health board on different management, oversight governance and quality control procedures, as laid out in the new draft TOR and manuals;
• to identify county- and district-level stakeholders and verify existing manuals, procedures and protocols;
• to develop and pilot standardized referral protocol for TMH and stakeholder institutions (referral register, feedback mechanism) for Lofa County and beyond;
• to develop, validate and implement manuals for health boards and the community health development committees;
• to develop a referral transport management system;
• to build data analysis and performance monitoring capacity (including the development of dashboards).

Medium- to long-term areas:
• develop formal complaint mechanism for patients/community and pilot it at TMH.
• launch TMH website for sharing information on projects, performance and challenges/needs and resource mobilization.
• develop business plan for the county.
• disaggregate feedback reporting on health facilities for counties and districts allowing disaggregated performance reviewing, including league tables.
• implement a joint integrated supportive supervision (JISS)-type tool for hospital and health centres.

• consider including county-level partner coordination among the coordination mechanisms specified in the Liberian IHP+ compact under development.
• Engage county teams in “Agreements with Partners” in their counties and empower them to monitor the implementation of partner projects.
Annex 1. National quality management organization

National Quality Management Organization

QA Board
- Chair: Director, Institutional Care
- Secretary: National Quality Manager
- Members: All Directors (Pharmacy, County Health Service, NCDs/CDs, Labs, Diagnostics, Program heads, Quality Partners, PBF, 2 Community, Reps)
- LMDC Representatives

Minister of Health

Chief Medical Officer

Quality Advisory Board

National Quality Manager

County Quality Manager

National QM Team
- IPC
- Diagnostics
- Service Delivery
- Pharmacy
- HMIS
- Community Rep
- Administrator

County QM Team
- IPC Focal
- Person
- RH Supervisor
- Child Survival
- FP
- CHSS
- M&E Office
- County Health
- Board Rep.

Hospital: Medical Director

District Health Officer

QM Team Leader

District Data Clerk (QM Focal Person)

Hospital QM Team
- Facility-based QM Team
- Community Rep
- Health Dev. Committee

District QM Team
- District Health Team
- Community Health Development Committee Rep.
Annex 2. Semi-structured quality improvement questionnaire (long form)

A shorter version of this questionnaire was derived from this long form for different health worker cohorts (clinical, non-clinical & hospital management)

1. Quality initiatives
   • What QI initiatives are currently under way at the facility level? Areas to probe: accreditation, collaboratives, hospital partnerships, mentoring, supervision.
   • What were the improvement aims, objectives and intended outcomes of these projects at the facility?
   • Have there been any past successes or failures in implementing quality improvement initiatives? Why were these successes or failures?
   • Has the hospital participated in any quality planning, quality control and quality improvement?

2. Leadership
   • Is there a long-term strategic plan?
   • Is there an annual plan?
   • Is quality improvement integrated in the hospital plan or strategy? [Yes or No]
   • Are you aware of the national goals aimed at improving quality of care? [Yes or No]
   • What evidence and documentation are you using to develop your plan?
   • How is the plan validated?
   • Are health workers empowered to bring issues to your attention?

3. Clinical priority areas identified by the hospital
   • Based on your experience, do you think quality of care is prioritized at Tellewayan? [yes or no]
   • If yes, why... can you explain?
   • In your role, what do you need in order to improve the quality of care you are providing at Tellewayan?
   • What is working to improve quality?
   • Are you aware of clinical improvement priorities at the hospital?
   • Are these improvement priorities in line with what you would like to see?

4. Workload
   • Are you aware of your roles and responsibilities (TOR)? [yes or no]
   • Are these roles and responsibilities available on paper? Can I see it?
   • On average, how many patients do you see per day? (inpatient vs outpatient)
   • In your opinion, does this affect the quality of care delivery?

5. Tools & resources
   • What technical resources do you use to improve quality of care. Areas to probe: hospital vision/strategy for improvement, training resources, guidelines, standards, infrastructure, checklists, reminders, etc.
   • Do you have in-service training in your hospital?

6. Coordination and communication
   • What is the level of communication:
     – between hospital management and health workers
     – between wards
     – among health care workers in your department
     – between the hospital and other health facilities (health centre, district hospital, clinic)
     – between the hospital board and the hospital management team
     – between health care workers and patients/family
     – between your department and the county health team
     – between the hospital and the county health team
     – between the hospital and the wider community.
   • In your opinion, in which area does the hospital need to improve communication?
   • Is there a quality team (or a similar mechanism) established at the hospital? [Yes or No]
   • If so, is this team multi-disciplinary?
   • Who is involved?
   • If yes:
     – What is its objective?
     – How often do they meet?
     – What are its mechanisms for sharing best practices?

7. Measurement and reporting on quality initiatives
   • What monitoring systems are currently in place to track improvements in your department? Areas to probe: how is reporting on quality of care undertaken, IPC reporting (how is this working and how is the information being used, participation in performance based-financing initiatives, etc.)
   • If yes, how does information flow to facilitate analysis, decision-making and delivery of improved care?
   • What systems are in place to evaluate health worker performance?
   • Are they rewarded?
   • When you evaluate health worker performance, do you send this data to the County?
• If you provide in-service training, do you send this data to the County?

8. Management, governance and financing
• Do you have a budget for quality improvement? [Yes or No]
• If yes, how do you allocate this budget?
• Are there other additional financial and/or in-kind resources (from the Ministry and/or partners) being contributed towards quality improvement?

9. Others
• Do you think the work you are doing helps improve quality?
• If yes, how does your role help improve quality?
• Is there any area you think we have not raised?

Patient and family questionnaire guide:
Information: The last time you needed health care:
1. Where did you go first?
2. What was your experience?
3. What went well?
4. What could have been done differently?
5. Do you think the current referral system is appropriate to your needs?
6. What does quality of care mean to you?
7. To which extent, as a patient representative, are you involved in the quality team at the hospital?
8. If you are, is your voice heard and taken into account?
9. What are the most pressing concerns and needs in relation to quality of care?
10. What can be done to improve quality of care at Tellewoyan?
11. Do you feel engaged and empowered during the provision of care?

Community perspective
1. How have existing community structures and networks been engaged in the planning, decision-making and implementation of quality improvement activities at TMH?
2. What has the community engagement been in relation to the provision of better quality services in health care facilities?
3. What should the role of the community be in achieving this?
4. In relation to quality of care, what are the most pressing concerns and needs of the community?
5. What can health professionals do to better engage the community?
1. Leadership and management
• What is the structure of the County level? (include visual of organigram) Areas to probe: level of autonomy, team composition, mandate of CHMT, number of facilities in County (stratified).
• Discuss decentralization and autonomy situation. Allocation, planning and use of budget and HR (recruitment, performance review, sanctions).
• Does the CHT lead the quality improvement efforts (planning, implementation, monitoring/control, resource mobilization) in the County? If so, how does the County do this?
• What should the role of the different players be?

2. Management and governance
• What is the structure of the County? (include visual of organigram) Areas to probe: level of autonomy, composition of team, mandate of CHMT, number of facilities in County (stratified).
• What are the terms of reference of the CHT? Are the required competencies present? If not, how can their development be ensured?
• Discuss decentralization and the autonomy situation. Allocation, planning and use of budget and HR (recruitment, performance review, sanctions).

3. Operational planning
• Does an annual operational plan and/or long-term strategic plan exist?
• Explain the process for developing annual operational planning at the County level?
• Does the County’s annual operational plan cover all County structures and facilities?
• Are there any linkages with quality of care?
• How have existing community structures and networks been engaged in the planning, decision-making and implementation of quality improvement activities?
• How are resources allocated to health facilities?
• What accountability mechanisms are in place for the improvement of health outcomes? How is accountability achieved? Does the public contribute to this, are they involved in any way? What are the success factors and how are failures addressed?

4. Quality initiatives and the CHT
• Do you have a County QI team?
• Do you have a County QI focal person?
• Any quality-specific County document?
• Describe your roles and responsibilities? Areas to probe: mentorship, coaching, supportive supervision, monitoring etc. Are these roles and responsibilities defined on paper and readily available?
• What mechanisms are in place to support in-service training to improve quality of care?
• Are there any past QI initiatives or any currently under way? Areas to probe: improvement collaboratives, hospital partnerships, mentoring, supervision, JISSP, County QI team training, mortality audits, medical case presentations, adherence to clinical guidelines, ...
• What improvement projects have been initiated in the County, if any? Areas to probe: nature of improvement, aim of improvement. Which partners?
• Have there been any past successes or failures in implementing quality improvement initiatives? Why were these successes or failures? (Useful information for planning future activities).
• What resources/tools has the County developed to improve quality of care. Areas to probe: hospital vision/strategy for improvement, guidelines, standards, etc.

5. National level commitment and support
• What support do you get from the national level with regards to quality of care?
• Are staff aware of the establishment of the QMU and priorities articulated in the national quality strategy?
• Are staff aware of the national and County articulated goals aimed at improving quality of care.
  – Establishment of the QMU [yes or no]
  – Priorities articulated in the investment plans for building a resilient health system [yes or no]
  – National quality strategy [yes or no]
  – Existence of policies related to quality in the County
• Is there a shared understanding on core beliefs, values and styles of communication with other health workers?
• What is the level of interaction between the CHMT and the central level MOH?

6. Financing
• What resources (financial and technical) has the County committed to to improve quality of care? Do gaps exist and what are the critical gaps that should be addressed? Probe: FARA initiative investigation.
7. County health board
- What are the functions of the County health board?
- What are the responsibilities of the CHB?
- What is the autonomy of the CHB?
- Any community and patient representation?
- Does the County health board look at complaint mechanisms and findings?

8. HR management
- Does staff capacity development and needs assessment exist?
- How is health workforce capacity-building needs assessment conducted?
- What are quality improvement-related capacities required at your level?
- Does personnel files of County health staff with information on capacity-building status exist?

9. Communication, engagement and coordination
- What is the level of interaction between hospital management/clinicians and the CHMTs?
- Does supportive supervision exist between the CHMT and hospital staff?
- What mechanisms are in place to help facilities problem-solve?
- What would be most helpful to support quality engagement between service providers and service users?
- If you could change anything in the MOH/County level to improve the quality of care, what would it be?
- Are there any mechanisms to share best practices within the County or across the country?

10. Partner support and coordination
- How many partners are involved in quality improvement activities in Lofa County? Areas to probe: quality improvement collaborative in Lofa County, FARA project (fixed amount reimbursement agreement) with USAID.
- How many collaborative improvement activities are under way in Lofa? Areas to probe: improvement aim of each collaborative and how does this link with the national quality of care goals.
- How is partner support coordinated in the County?

11. Clinical guidelines and adherence
- What mechanisms are in place to support the implementation of clinical guidelines/standards?
- What mechanisms are in place to help apply these guidelines/standards?

12. Measurement and reporting with a focus on quality
- What accountability mechanisms are in place for the improvement of health outcomes? How is accountability accomplished? Does the public contribute to this or are they involved in any way? What are the success factors and how are failures addressed?
- What is the role of the Country health management team in supporting the monitoring of improvement activities? What monitoring systems are in place to track improvements in clinical outcomes at the County level? Does this data feed into national information systems? Areas to probe: how is reporting on quality of care undertaken, indicators for improvements, IPC reporting (how does this work and how is the information being used?)
- How often are facility-level visits conducted? Areas to probe: purpose of such visits, how are problems identified and solved? Discuss integrated supportive supervision system and functioning in the County.
- How often are facility-level assessments undertaken? Probe: what steps are taken if deficiencies are identified at the facilities, to improve quality of care?
- What is the role of the CHMT in accreditation, licensing and assessment? Probe: how does the accreditation of facilities work? Who does it? What are the standards? Does this extend to the private sector?
- Does the data collected lead to quality improvement initiatives and lead to informed decision-making? Does it contribute to annual planning?
- Does the CHMT engage with any accreditation bodies?

13. Patient and Family engagement
- Are individual users and their families appropriately involved with making shared decisions about their care, and are users and their families helped to make informed decisions? Areas to probe: How are they engaged?
Annex 4.
Semi-structured interview guide for the County, District and Hospital boards

1. County Hospital Board
   - How does the health board (CHB) function?
   - What are the responsibilities of the board?
   - What autonomy does the CHB have? Areas to probe: what can the CHB do?
   - Any community and patient representation?
   - Does the County health board look at complaint mechanisms and findings?

2. Leadership
   - How decentralized and autonomous is the board? Areas to probe: allocation, planning, budget and HR (recruitment, performance review, sanctions).
   - Does the board lead quality improvement efforts (planning, implementation, monitoring/control, resource mobilization) in the County?
   - If so, how should the CHT do this?
   - What should the role of different players be?

3. Management and governance
   - What is the structure of the board? (include visual of organigram) Areas to probe: level of autonomy, team composition, mandate of CHMT, number of facilities in County (stratified).
   - Are there some terms of reference for the board? Are the required competencies present in its staff? If not, how can their development be ensured?
   - Discuss decentralization and autonomy. Areas to probe: allocation, planning, budget and HR (recruitment, performance review, sanctions).

4. Operational planning
   - Does an annual operational plan and/or long-term strategic plan exist for the County?
   - Explain the process for developing annual operational planning at the County level?
   - Are there any linkages with quality of care?
   - How have existing community structures and networks been engaged in the planning, decision-making and implementation of quality improvement activities?
   - How are resources allocated to health facilities?

5. Quality initiatives and the County Hospital Board
   - Do you have a Hospital QI team?
   - Do you have a Hospital QI focal person?
   - Any quality-specific hospital document?
   - Describe your roles and responsibilities?
   - Have there been any QI initiatives at the hospital in the past, or some currently under way? Areas to probe: collaborative, hospital partnerships, mentoring, supervision, JISSP, County QI team training, mortality audits, medical case presentations, adherence to clinical guidelines, ...
   - Have there been any past successes or failures in implementing quality improvement initiatives? Why were these successes or failures? (Useful information for planning future activities).
   - What resources/tools has the County developed to improve quality of care? Areas to probe: hospital vision/strategy for improvement, guidelines, standards, etc...

6. National level commitment and support
   - What support do you get from the national level regarding quality of care?
   - Are staff aware of the establishment of the QMU and priorities articulated in the national quality strategy?

7. Financing
   - What resources (financial and technical) has the County committed to to improve quality of care? Do gaps exist and what are the critical gaps that should be addressed? Probe: FARA initiative investigation.

8. HR management
   - What is the role of the board in staff capacity development?
   - What is the role of the board in staff management (disciplinary committee)?

9. Communication, engagement and coordination
   - What is the level of interaction between the hospital management/clinicians with the CHMTs?
   - Does supportive supervision exist?
   - What mechanisms are in place to help facilities problem-solve?
   - If you could change anything in the MOH/county/hospital level to improve quality of care, what would it be?

10. Partner support and coordination
    - How many partners are involved in quality improvement activities in Lofa County? Areas to probe: quality improvement collaborative in Lofa County
    - How is partner support coordinated for the hospital?
11. Measurement and reporting with focus on quality

- What accountability mechanisms are in place for the improvement of health outcomes?
- Are there any hospital annual reports?
- If so, are these reports validated by the hospital board?
- Is there any other form of reporting to the hospital board by hospital management?
- Does the board organize inspection visits to the hospital?

12. Patient and family engagement

- Are there any community and/or patient representatives on the board?
- How is feedback provided to the community?
## Annex 5. Situational assessment schedule and individuals interviewed

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 12</td>
<td>Travel to Liberia</td>
<td></td>
</tr>
<tr>
<td>Oct 13-14</td>
<td>Participate in validation meeting of national quality strategy</td>
<td>• Provide insights into validation workshop for national quality strategy</td>
</tr>
<tr>
<td>Oct 15</td>
<td>Preliminary meeting of mission team at WHO Country Office</td>
<td>• In-depth review of mission tool and quality improvement/safety handbook at WCO</td>
</tr>
<tr>
<td>Oct 16</td>
<td>Mission team from three WHO levels travel to Lofa County</td>
<td></td>
</tr>
<tr>
<td>Oct 17-20</td>
<td>Half-day exercise with clinical staff, CHMT at Tellewoyan Hospital</td>
<td>• Provide briefing on scope of mission</td>
</tr>
<tr>
<td></td>
<td>Horizontal scan for quality improvement/patient safety at the County level</td>
<td>• Gain shared understanding on quality of care and quality improvement in health facilities before individual interviews</td>
</tr>
<tr>
<td>Oct 21</td>
<td>Travel to Monrovia</td>
<td></td>
</tr>
<tr>
<td>Oct 22</td>
<td>Presentation of preliminary results and recommendations</td>
<td>Presentation of key findings and recommendations to WCO &amp; JICA</td>
</tr>
<tr>
<td>Oct 23</td>
<td>Develop package of initial findings and recommendations for MOH briefing</td>
<td>Refine presentation for Ministry of Health, Liberia meeting on Oct 24</td>
</tr>
<tr>
<td>Oct 24</td>
<td>Presentation of preliminary results and recommendations</td>
<td>Presentation of key findings and recommendations to Ministry of Health, Liberia</td>
</tr>
</tbody>
</table>
Composition of individuals interviewed

Tellewoyan Memorial Hospital
- Health worker cadres: Medical Director, Doctor, Physician Assistant, Nurses, Nurses’ Aides, Cleaners, Midwives, Pharmacist, Pharmacist Aides, Laboratory Technician, Maintenance Staff (Electrician, Plumber, Mechanic)
- Hospital management
- Patient and community representatives
- Partners (ACCEL, CSH, MSCP)

County health system
- Health Boards (CHB, TMB Board of Directors, Kolahun DHB, Barkadu CHDC)
- Management teams (County, TMH, Kolahun, Bolahun, Barkadu)
- Health structure directors (CHO, TMH Director)
- County Superintendent, district commissioners, traditional chiefs
- County PBF steering committee and partners
Annex 6. Current understanding of quality in Lofa County and TMH

Quality enables and blockers

- Motivated & committed health workers
- Appropriate knowledge and skills
- Community involvement
- Patient engagement
- Patient-provider relationship
- Enabling environment
- Training (pre-service, in-service, specialized etc.)

- Inadequate equipment, supplies and maintenance
- Poor management at all levels
- WASH and Energy
- Shortage and demotivation of health workers
- Lack of standards, guidelines and job aids
- Poor roads and transportation
- Lack of autonomy for patients and staff
- Context (cultural and religious beliefs)
- Ethical issues (e.g. non-confidentiality)
- Language barriers
- Lack of internal coordination

Developed by Tellewoyan. Memorial Hospital (TMH) and Lofa Country Health Team (CHT)
Annex 7. Lofa Country Health Team Organizational Chart
## Annex 8. Detailed list of recommendations for the different levels

<table>
<thead>
<tr>
<th>Thematic area</th>
<th>Findings</th>
<th>Recommendations</th>
<th>TPI</th>
<th>Hospital</th>
<th>County</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient safety</strong></td>
<td>1 General</td>
<td>1 Roll out patient safety and hand hygiene assessment in other key county hospitals</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>2 Patients’ Rights Declaration or Charter does not exist</td>
<td>2 Establish Patients’ Rights Declaration/ Charter</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>3 Health care workers protection measures need to be reinforced (e.g. immunizations for Hep B)</td>
<td>3 Immunize all health care workers against HBV at TMH as part of OHS</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Finalize national OHS guidelines and implement as soon as possible</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>4 No permanent isolation capacity</td>
<td>5 Establish permanent isolation capacity asap (for 1 person minimum)</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 Lack of hospital long-term strategic and annual operational plan</td>
<td>6 Develop quality and safety annual operational plan</td>
<td>x</td>
<td>x</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>6 No national or hospital patient safety policy</td>
<td>7 Ensure patient safety policy and plan is included in policy and NQSP</td>
<td></td>
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<td>x</td>
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<tr>
<td></td>
<td>7 IPC strategies and goals are not well defined and no written guidelines are available</td>
<td>8 Finalize national IPC programme and guidelines and implement as soon as possible</td>
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<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>8 Microbiology lab capacity linked to HAI is weak</td>
<td>9 Improve lab capacity in alignment with national lab strategy</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>9 No reliable recording of adverse events or system for learning from errors</td>
<td>10 Ensure that adverse events reporting is included into NHQS and policy</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>10 Waste management is a critical gap</td>
<td>11 Take immediate action to improve waste management</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11 Surgical safety needs to be strengthened</td>
<td>12 WHO Essential and emergency surgical care programme to be implemented in Q1 2017</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>12 Medication safety needs to be improved</td>
<td>13 Create a drug therapeutic committee to address medication safety issues</td>
<td>x</td>
<td>x</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>13 Patient safety and quality partnerships need to be implemented</td>
<td>14 Share best practices exchange between health facilities to learn from each other</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Thematic area</td>
<td>Findings</td>
<td>Recommendations</td>
<td>TPI</td>
<td>Hospital</td>
<td>County</td>
<td>National</td>
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</tr>
<tr>
<td>Patient safety</td>
<td>14 Patient safety funding is a challenge</td>
<td>15 Develop budget line for quality and safety</td>
<td></td>
<td></td>
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<td>x</td>
</tr>
<tr>
<td></td>
<td>15 No patient safety research and surveillance</td>
<td>16 Include national patient safety research and surveillance plan into national health research agenda</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17 Support research capacity on QI and PS through partnerships</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Hand hygiene framework assessment</td>
<td>1 130/500 (26%) - basic level of WHO hand hygiene multimodal improvement strategy tool (proxy to quality)</td>
<td>1 Hospital to implement an action plan to improve HH practices to upgrade TMH from basic to advanced level</td>
<td>x</td>
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<td></td>
<td></td>
<td>2 ABHR sample to be sent for external quality efficacy assessment, with assistance from WHO</td>
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</tr>
<tr>
<td>Patient/ community perspective</td>
<td>1 Health care workers patient communication skills need to be improved to lead to more empowered patients and improved quality care</td>
<td>1 Establish patient safety and quality of care champions</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Initiate health worker training on patient and community engagement</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality improvement</td>
<td>1 No system in place to track clinical improvements</td>
<td>1 Develop a monitoring and evaluation system for quality and safety for monitoring improvement performance at national and hospital level</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Limited management capacity</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Limited in-service staff training</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 No system in place to track HCW performance over time</td>
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<td>4 Develop and implement HCW evaluation and feedback mechanisms</td>
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<td>5 Recognize good health workforce performance through rewards</td>
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<td>5 Hospital has some quality improvement initiatives under way (quality team exists, daily meetings are occurring, working with three QI partners)</td>
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<td>6 Build on existing TMH QI and safety initiatives further, in collaboration with existing partners</td>
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<td>Thematic area</td>
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<td>Quality improvement</td>
<td>6 Insufficient equipment, supplies, health workforce and infrastructure (WASH and energy)</td>
<td>7 Ensure adequate supplies, equipment, human resources, WASH and energy</td>
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<td>Telooyan Hospital</td>
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<td></td>
<td>7 Limited technical tools (guidelines, job-aides, etc.)</td>
<td>8 Provide guidance on quality planning, control and improvement activities at all levels</td>
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<td>9 Improve access to technical resources and institute forum for best practices exchange</td>
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<td>County health systems</td>
<td>8 Poor levels of coordination and communication between TMH and other health facilities</td>
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<td></td>
<td>9 Poor levels of coordination and communication between TMH and CHT</td>
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<td>1 Membership of County boards is representative, but members are not well oriented (new ToRs being rolled out in Lofa); high political presence and strong community engagement, no formal patient complaint mechanism, boards can take resource mobilization initiatives.</td>
<td>1 Develop and validate manuals for health boards</td>
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<td>2 Train members of the TMH Board of Directors and the Lofa County BoD; develop a TMH monitoring tool for the TMH BoD</td>
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<td>3 Support the setting up of a complaint mechanism for patients and community</td>
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<td>4 Support the development of a TMH website for sharing information on projects, performance and challenges/needs and resource mobilization</td>
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<td>2 In-county health sector coordination mechanisms; several structures and regular periodic meetings in place</td>
<td>5 Map county- and district-level stakeholders and verify existing manuals, procedures and protocols</td>
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<td>County health systems</td>
<td>3 Referral system between county/district hospitals, health centres and clinics is weak. TMH is not perceived as a functional county referral hospital due to limited service package. Lack of standardized referral protocol, no feedback mechanism, inadequate transport and communication systems in place</td>
<td>6 Develop and pilot standardized referral protocol for TMH and stakeholder institutions (referral register, feedback mechanism) in Lofa County and beyond</td>
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<td>7 Develop a referral transport management system</td>
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<td>4 Weak planning capacity: County strategic plan 2011-2021 and operational plan 2016-2017 exist but they are not linked to budgets or M&amp;E frameworks.</td>
<td>8 Support TMH with the development of a business plan</td>
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<td>5 Limited data analysis capacity and use of data at sub-national levels; data for DHIS is ‘pushed’ to central level at monthly intervals and the only correspondence is related to data quality issues</td>
<td>9 Build data analysis and capacity of health workers in performance monitoring (including development of dashboards)</td>
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<td>10 Disaggregated feedback reporting on health facilities for counties and districts allowing disaggregated performance reviewing</td>
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<td>6 JISS is limited to primary care</td>
<td>11 Take forward JISS-similar tool for Hospital and health centres</td>
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<td>7 General</td>
<td>12 Support a sharing workshop of QI experiences</td>
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<td>County health systems</td>
<td>9 County leadership: CHO arrived six months ago, strong drive to improve County health system (regulations and staff discipline)</td>
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<td>10 Partner coordination: the County team should be more engaged in “Agreements with Partners” in their counties, and should be empowered to monitor the implementation of partner projects</td>
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Annex 8. Detailed list of recommendations for the different levels

- Hospital Medical Director
  - Nursing Director
    - Nurse/Supervisor
    - Logistician
    - Accountant
  - Hospital Administrator
    - Adm. Assistant/Sec.
    - Data/Record Keeper
    - Cashier
    - Dispenser
  - Physician
    - Pharmacist
    - Laboratory/x-ray
    - PA
  - Physician
    - Laboratory/x-ray
    - PA
  - Communication/Radio
    - Maintenance
    - Transport
    - General Store
    - Yard Men
    - House Keeping
  - Security
    - Laundry
    - Morgue Attendant
    - Kitchen
    - Logistical/General Store
    - Communication/Radio
    - Maintenance
    - Yard Men
    - House Keeping

2. Liberia Service Availability and Readiness Assessment and Quality of Care. [Draft Document]. Government of Liberia; October 2016


