

2015

AUDIT REPORT

High Risk Clinical Areas at Large Hospitals and Parish Health Centres

WESTERN REGIONAL HEALTH AUTHORITY



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EXECUTIVE SUMMARY

Introduction

This operational /clinical audit of the health facilities in the Region was conducted following a directive from the Honourable Dr. Fenton Ferguson, Minister of Health. In a letter addressed to Chairmen of the four Regional Health Authorities dated May 7, 2015 the Minister requested a review of the functioning of the major hospitals and health centres within each Region. The area of primary focus was the inventory of equipment and supplies.

The Western Regional Health Authority through its network of four hospitals and 80 health centres provides public health services to 17.6% of the Jamaican population; serving 478, 016 residents in Hanover, St James, Westmoreland and Trelawny. The Type A Cornwall Regional Hospital located in St James is the specialist and largest hospital with 417 beds. The Type B Savanna la Mar Hospital with 164 beds located in Westmoreland is the second largest offering services in the four major disciplines of medicine and Orthopaedics as a specialist service. There are four parish health centres in the region: the comprehensive Montego Bay Type V and three type IV facilities- Savanna la Mar, Falmouth and Lucea Health Centres.

There is an average¹ of 33,265 admissions per year to the hospitals with 173,545 visits annually for the last five (5) years to the Accident and Emergency Department. There has been a general decline in visits to accident and emergency but an increase in visits to the health centres with an average of 512,052 visits per year to the primary care facilities.

Methodology

The operating theatre audit was conducted in April 2015 and the audit of all other areas from May- June 2015. The Audit team was led by the Internal Audit Department in collaboration with the Regional Technical Department, Quality Assurance Committee and the Infection Control Committee. An assessment was conducted on the high risk clinical areas at Cornwall Regional Hospital (CRH) and Savanna la Mar Public General Hospital (SPGH) i.e. Maternity, Operating Theatres, Neonatology Unit, Intensive Care Unit and Accident and Emergency (MONIA) as well as all the Parish Health Centres. The audit utilized prescribed Ministry of Health audit tools extracted from the respective policy manuals as well as inventory and supplies checklists for specific areas. The tools were completed by members of the audit team through interviews and observations. Informal interviews and observation were conducted for the Laundry Department at CRH.

¹ Averages calculated on data for 2010- 2014

The audit methodology was limited due to the short time span undertaken and therefore the assessment provides a general and not in-depth review of the services audited.

Key Findings

The following is a summary of the finding from the methodology as described above:

Maternity Wards - CRH and SPGH

1. The Maternity Wards at CRH and SPGH were generally clean; there is adequate access to laboratory services, complementary services and pharmaceuticals.
2. There is a lack of some key equipment and supplies including sphygmomanometers, stethoscopes, wheelchairs and stretchers at SPGH. At CRH, there were inadequate amounts of resuscitation equipment as more laryngoscopes, infant warmers and resuscitators were needed. Additional pulse oximeters were also required and there was no ultrasound machine on the ward.
3. The general layout did not fully allow for patients' privacy and at CRH delivery beds are needed. Lighting was found to be poor in the delivery room at SPGH
4. Availability of linen was reported to be inadequate at both facilities.

Operating Theatres- CRH and SPGH

1. There is a lack of adequate supplies to carry out basic functions. This is especially true for key pieces of disposable supplies such as laryngeal masks, anaesthetic/ventilator circuits, suction tips and filters which the staff reuse after cleaning and sterilization. In the case where items are reusable they are often utilized in breach of the guidelines from the manufacturers, e.g. reused above the number of times recommended. While not a good practice, these measures have to be employed in order to save lives and assist in cost efficiency .
2. By virtue of the practice above clinicians place themselves at high risk in trying to be creative in order to ensure that care is offered to the patients. It also raised red flags in relation to the inherent risk of this practice to the patients and possible litigation risk to the institutions. It is therefore necessary to document the risk versus benefit.
3. Documentation of the supplies and issues of inventory control is inadequate or non-existent. There is no formal inventory management system instituted in high risk areas. All inventory issues are handled by the Ward/Departmental Sisters in charge. This does not allow for the recording and systematic accounting of stock, stock levels and appropriate reorder quantities or levels.

4. There were reported stock out of drugs and general supplies. It was further noted that the stock out of drugs in the OT was as a result of stock outs at the CRH pharmacy of various drug items. Appendix A5 shows a report of stock out at the CRH pharmacy for month of May 2015.
5. There is inadequate equipment in place and most are in need of replacement and/ or repairs.
6. There was no evidence of maintenance schedules for equipment in order to ensure the optimality of their operations. This suggests that patients may be placed at risk whilst undergoing treatment with the use of equipment that is not adequately serviced.
7. Routine microbiological swabbing was not conducted as prescribed. It was last completed at CRH in May 2014 and at SPGH in June 2014. Concerns were raised that in the past when tests were done stipulated recommendations were not adhered to, hence the same conditions that predisposed to the growth of microbes in the first place still existed.
8. The findings for infection control practices at CRH and SPGH operating theatre are generally good however; training and supervision of cleaning staff should be strengthened. SPGH requires improvements in general layout of the operating theatre. Restrictions are needed in the number of staff that traffic through the department at CRH. Health status of staff at both institutions requires improved monitoring.

Neonatal Unit - CRH and SPGH

1. CRH has a designated Special Care Nursery (SCN) independent of the paediatric ward equipped with three (3) ventilators. Renovations were done in 2014 to improve layout to facilitate infection control. The SCN at SPGH is within the paediatric ward and there are no ventilators in the nursery. SPGH layout is inadequate and requires renovation to improve infrastructure. This includes piped compressed air, ventilators and necessary supplies.
2. There is inadequate equipment and supplies including pulse oximeters, phototherapy lights, radiant warmers and infusion pumps at CRH. There is a list of all critical equipment and a log is kept of preventive and unscheduled maintenance at SPGH. A monthly list is not made of inoperable pieces; usually a maintenance order is written but no active follow up is done at both sites

Intensive Care Unit – CRH

1. ICU is a seven bedded unit but is currently operating four, and on occasions five beds due to equipment and staffing challenges.
2. Resource Availability
 - a. Human Resource: Not at optimal levels with inadequate medical officers and critical care nurses. A Consultant Anaesthetist is always on call and accessible.
 - b. Access to microbiology laboratory services are not at substantial levels and portable echocardiography services are minimal. MRI services are not available at the hospital
3. Structural concerns exist as the ICU is not in close proximity to the Accident and Emergency Services. ICU is air-conditioned but there are issues with optimal functioning. There are no battery powered sources for lighting although back -up generator is available. There is inadequate storage space for large equipment.
4. There are deficiencies in the tools, equipments, supplies and services for the monitoring and support of vital organs including assessing cardiac output with Pulmonary Artery/trans-thoracic Catheters and availability of intracranial pressure monitors. Pharmaceutical supplies were not available 100% of the time.
5. The absence of a microbiologist employed to the Western Region results in inadequate infection control surveillance and the expert would be required in the routine care of the patients admitted to the ICU.

Accident and Emergency

Key Findings

1. The Accident and Emergency department was found to have a generally safe and clean environment at SPGH and CRH.
2. The inventory listing of critical equipment was updated within 12 months prior to the audit at CRH and SPGH; however the maintenance schedule was not in place with no records of the last preventative maintenance and minimal recordings of corrective maintenance. Follow up on items sent for repair was also a gap identified at SPGH
3. Reception of patients of CRH and SPGH was hindered by inadequate stretchers as well as wheelchairs at SPGH. There was no portering services manual in the departments to guide

acceptable management of the sick and injured patients. This was included in the training for new staff but not done on a routine basis.

4. The triaging system utilized at CRH and SPGH did not strictly adhere to the policy manual; however the time to see critically ill patients was adhered to. The log book to capture critical and non critical patients was in use but not adequately updated. There was no system in place to record the time of arrival of the patient to the emergency room. There was difficulty assessing the time spent to triage patients as the start time is usually not documented.
5. Laboratory results were not available in the Emergency Room at SPGH; results are available to the emergency room physician at CRH but not within the standard one (1) hour, and may take up to five (5) hours . Radiology services were available within the standard time once the unit in the department at CRH is operable.
6. There was a drug supply management system in place and there were reports of difficulty obtaining essential drugs over the last fifteen (15) months at CRH and SPGH.

Parish Health Centres

1. There was inadequate space in the parish health centers especially in the waiting areas. Space was also not adequate to facilitate additional examination rooms; medical records storage and office spaces.
2. Emergency trolleys required equipment for resuscitation especially laryngoscopes. Equipment lists indicated the need for items such as industrial nebulizers, ECG machines, speculae, sphygmomanometers, foetoscopes and dental equipment. There was also the need for furnishings, public address systems, wheelchairs and computers.
3. Supplies management system was found to be inadequate.

Laundry Services

1. The Laundry department at SPGH has been closed for refurbishing since March 2015 and laundering services were being provided three days per week at CRH. CRH's laundry is only functioning at one third of its capacity for washing and drying.
2. Prior to the audit, planning meetings to address shortage of linen were held at CRH between the Operating Theatre Staff and the Administrators to establish usage patterns and generate a needs list to include a buffer stock. There was progress in meeting the needs list, however, the entire request had not yet been filled.

3. The linen management system was inadequate at both CRH and SPGH and requires restructuring to ensure there is a count by type of the linen in circulation, attrition rate (losses), replacement of losses, buffer stock management and overall monitoring.

Recommendations

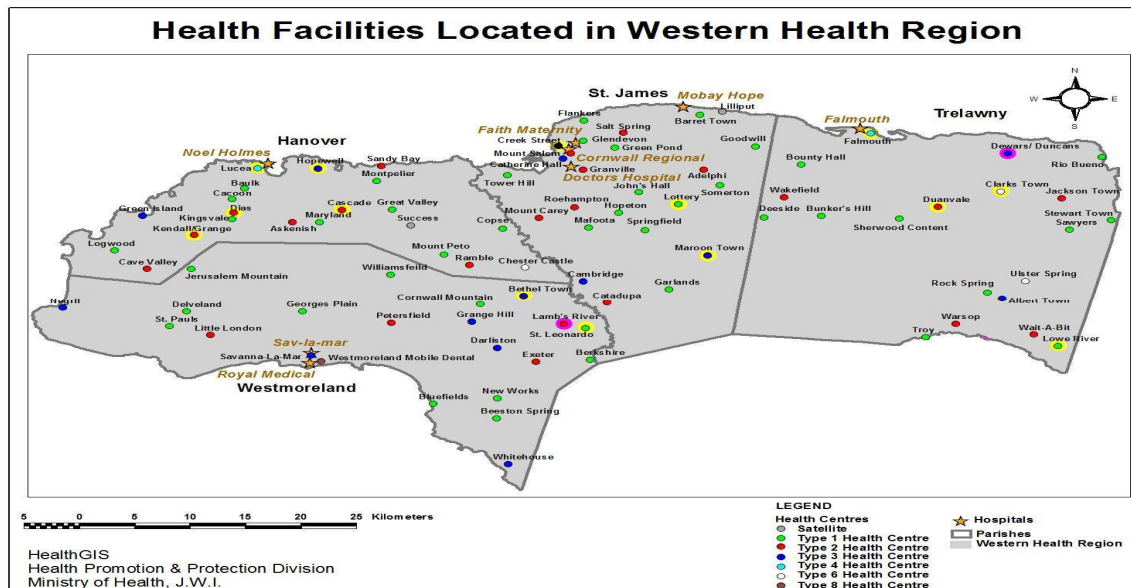
1. Source and procure adequate equipment and supplies to ensure appropriate use in keeping with manufacturers' recommendations and standard infection control practices. Disposables should be procured to include a buffer stock of at least month. Recommended immediate purchases are listed in the Appendix B 1
2. Linen management system needs to be strengthened in each hospital. Laundry Departments require immediate investments to improve optimal functioning. SPGH rehabilitation of laundry to be completed as this project is currently in progress. CRH laundry needs to be improved with the repair/replacement of the non functional washers and dryers.
3. Clinicians should appropriately document high risk practices resulting from inadequate equipment and supplies. The institutions will need to implement appropriate mechanisms to detect these situations and document risk of practice versus benefit. The risk registers may be an important tool to assist with this aspect.
4. Employ a supplies/inventory manager and implement an inventory management system for operating theatre and high risk areas.
5. Maintenance schedule for all critical equipment in the clinical high risk areas is required and quarterly reports generated on the maintenance activities in the MONIA areas.
6. Improvements are needed in microbial swabbing to attain and maintain the standard.
7. Training and supervision is required for cleaning staff and restrictions implemented to improve trafficking in operating theatre. The procurement of appropriate supplies and equipment to support infection control.
8. Review and implementation of adequate equipment, supplies and staffing are needed to fully maximize the use of the ICU.
9. The employment of a Microbiologist at CRH is recommended to meet the standards required for the operations of the ICU.

10. To ensure the necessary action plan for Parish Health Centres infrastructure expansions are implemented to improve capacity to provide services commensurate with the demand.
11. Nonfunctioning equipment in health centres to be repaired and replaced where needed.
Procurement of the basic equipment is needed to improve the capacity to deliver services
12. Pharmacy services should be available daily in all parish health centres. Establishment of services at the Lucea and Savanna la Mar Health Centres is urgently recommended as well as ensuring daily services at Falmouth Health Centre.

BACKGROUND

The Western Regional Health Authority through its network of hospitals and health centres provides public health services to 17.6% of the Jamaican population; serving 478, 016 residents in Hanover, St James, Westmoreland and Trelawny.

Figure 1. Network of public health facilities



Services are offered from 82 health centres and four public hospitals. All of the parish hospitals offer surgical services except for the Noel Holmes Hospital where the Operating Theatre has been closed for more than ten years. The facility does have a minor operating room where minor surgical procedures are performed. Table 1 below gives a breakdown of the hospital type, bed complement/occupancy rate and number of major operating rooms available.

Table 1.1: Operating Theatre Facilities in Western Regional Health Authority

Parish	Hospital	Type	Bed Complement	Occupancy Rate 2013/2014	Major operating rooms (#)
St James	Cornwall Regional Hospital (CRH)	A	417	87.8%	4
Westmoreland	Savanna la Mar Hospital (SPGH)	B	164	102.9%	2
Trelawny	Falmouth Public General Hospital (FPGH)	C	111	107%	2
Hanover	Noel Holmes Hospital	C	38	63.4%	0

Source: HMSR

Operating Theatre Services

At the Cornwall Regional Hospital surgeries are performed in all the major disciplines while at the Savanna- La Mar Public General and the Falmouth Public General Hospitals services are offered in the areas of General Surgery, Obstetrics & Gynaecology, Urology and Orthopaedics.

As shown in table 2, over 9000 minor and major surgical procedures are performed annually. The slight reduction in the numbers in 2014 was due to the closure of the operating theatre at the Savanna- La Mar Public General Hospital in early 2014 to facilitate rehabilitative work. Table 3 further highlights the number of major operations done at CRH and SPGH

Table 1.2: Total Number of Surgeries Performed in the Western Region 2013/14

Hospital	2014	2013
CRH	6377	6233
SPGH	1913	2395
FH	965	945
Total	9255	9573

Table 3: Total Number of Major Surgeries Performed at CRH and SPGH 2010- 2014+

Surgeries	2010	2011	2012	2013	2014
Cornwall Regional Hospital	4761	4179	4257	4288	4566
Savanna La Mar	1481	1232	1379	1556	1288

Intensive Care Services

The Intensive Care Unit at the Cornwall Regional Hospital is a seven bedded unit and is the only unit in the Western Region. Currently only four beds are in use due to inadequate equipment and staffing. The standard is that 1-2% of acute bed complement in a hospital is recommended for Intensive Care. The unit provides care for the critically ill patient who requires continuous observation and monitoring. Over the 3 year period 2012-2014 an average of 159 admissions were made per year to the ICU.

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Maternity Services

The Maternity Services in the Western Region hospitals provide antenatal services, delivery services and puerperal care. An average of 11, 966 maternal admissions are made to maternity wards per year. Of these admissions, 87.7% are made to CRH and SPGH (Table 1.4).

Table 1.4: Maternity Admissions by Facility in WRHA 2010-2014

Facility	2010	2011	2012	2013	2014	Average
Cornwall Regional Hospital	7168	7157	7509	7402	6740	7195
Savanna La Mar	3550	3599	2988	3162	3173	3294
Falmouth	706	816	790	956	1069	867
Noel Holmes	588	611	712	569	567	609
WRHA	12012	12183	11999	12089	11549	11966

There are approximately 7431 deliveries per year in the WRHA with 86% of the deliveries occurring at the two larger hospitals.

Table 1.4: Deliveries by Facility in WRHA 2010-2014

Facility	2010	2011	2012	2013	2014	Average
Cornwall Regional Hospital	4299	4185	4306	4218	3978	4197
Savanna La Mar	2273	2308	2136	2186	2191	2219
Falmouth	536	650	612	676	653	625

Facility	2010	2011	2012	2013	2014	Average
Noel Holmes	382	399	440	376	353	390
WRHA	7490	7542	7494	7456	7175	7431

209.7/100,000 live births (15 maternal deaths; 7154 live births)

There were 15 maternal deaths in the region in 2014 resulting in a maternal mortality rate of 209.7/100,000 live births.

Nursery and Neonatal Services

The Special Care Nursery is a standalone unit at the CRH which has been renovated in 2014 to improve the layout and facilitate better flow of patients and infection control. It currently has the three (3) ventilators and an additional capacity to provide neonatal care to twenty two (22) other infants. Despite the limited bed space demand has resulted in overcrowding of the nursery resulting in on average of 777 admissions annually in the last five years. The Nursery has had outbreaks of bacterial infections during the last five years associated with inadequate space, equipment, staffing and housekeeping practices

Table 1.5 Special Care Nursery admissions at CRH

Special Care Nursery Admissions	2010	2011	2012	2013	2014
Cornwall Regional Hospital	762	804	813	772	735

SPGH does not have a standalone unit but a space on the paediatric ward rehabilitated such that it is self contained and houses approximately 12 infants. There were 241 neonatal admissions to the nursery in 2014. The crude neonatal mortality rate was 10.25 per 1000 live births in 2014. The nursery area does not have ventilators and lacks infrastructure such as piped compressed air and oxygen. There have been bacterial infections associated with inadequate infrastructure, equipment and staffing.

Accident and Emergency Department

Visits to accident and emergency department have been declining over the last five years to SPGH and overall in the region as shown in the table below. 70% of the visits to the accident and emergency department are to the CRH A&E.

Table 1.6: Visits to Accident and Emergency –WRHA 2010-2014

	2010	2011	2012	2013	2014	5 year averages
Total visits A&E CRH	65,642	65,920	75,212	73,739	74,504	71,003
Total Visits A&E SPGH	58,875	51,882	52,830	49,560	43,131	51,256
Total Visits A&E WRHA	180,250	168,343	181,227	171,204	166,699	173,545

Parish Health Centres

The parish health centres provide the widest range of ambulatory primary care services in the parishes serving populations greater than 60,000. All are located within close proximity to the hospital; Type V is the only parish health centre not in the same compound as the hospital. The services include full time medical services. Type V has full time dental and specialist services including sexually transmitted infections clinic and HIV treatment. The other parish health centres have part time dental services. All the facilities provide maternal and child health care including immunization and family planning, health promotion, environmental services and laboratory services (STI testing and phlebotomy). Pharmacy services are only available at the parish health centres in St James and Trelawny.

Visits to the health centres are outlined in Table 1.7 with average annual visits ranging from 19,863- 29,667. Visits have fluctuated over the last five years and are influenced by availability of staff and the service demand. There is difficulty attracting and retaining staff in primary care especially in areas outside of St James. There is also a lack of equipment.

Table 1.7: Visits to Parish Health Centres –WRHA 2010-2014

	2,010	2,011	2,012	2,013	2,014	5 year averages
Total visits to all health centres WRHA	376,257	416,705	325,850	320,753	356,344	359,182
Total visits to Type V	25,264	29,241	29,469	31,169	33,194	29,667
Total Visits to Lucea	19,724	19,721	18,831	20,624	20,416	19,863
Total Visits to Sav la Mar HC	21,209	31,422	18,042	17,382	18,188	21,249
Total Visits to Falmouth health centre	23,038	21,435	19,098	17,434	18,523	19,906

Staffing:

Health care service is provided by over 3000 trained technical and support staff. In an effort to improve the quality of services in-house training for the staff is facilitated by the Region. Members of staff are also granted study leave to undertake varying post basic programmes.

Funding:

Funding is primarily through subventions from the Ministry of Health's yearly budget and revenue from select gazetted services.

RATIONALE

This operational/clinical audit of the health facilities in the Region was conducted following a directive from the Honourable Dr. Fenton Ferguson, Minister of Health. In a letter addressed to Chairmen of the four Regional Health Authorities dated May 7, 2015 (Appendix 1), the Minister requested a review of the functioning of the major hospitals and health centres within each Region. The area of primary focus was to ascertain the current status of crucial equipment and supplies in the health facilities and its impact on patient care delivery.

Objectives:

The following objectives were developed:

- Assess the current level of supplies and equipment in relation to patient demand
- Determine if there were any shortages or critical needs related to equipment, pharmaceuticals and general supplies within the health care system in the high risk areas in hospitals and in the main parish health centres.
- Assess the institutions' inventory management system to include adequacy of receivables, reorder levels and the monitoring of inventory.
- Assess the system for the acquisition and maintenance of critical equipment.
- Assess the standards and practices that impact infection control.

METHODOLOGY

The audit was conducted May 28 ó June 2015 in the high risk areas as well as other select areas identified below at the Cornwall Regional Hospital and Savanna La Mar Hospitals and in select health centres as follows:

High Risk/ Critical Areas	Savanna La Mar Hospital	Cornwall Regional Hospital
Maternity	X	X
Operating Theatre	X	X
Nursery	X	X
Intensive Care Unit		X
Accident and Emergency	X	X
Pharmacy	X	X
Imaging Services	X	X
Laboratory	X	X

The tools used included the prescribed audit tools in the manuals for the high risk clinical areas (Appendix 2) as well as audit inventory tools developed from the manuals and key informant inputs (Appendix 3). The audit focused on reviewing and analyzing relevant data mainly non-financial, pertaining to the operations of the inventory systems of the health facilities mentioned. Data were gathered through direct observation and interviews conducted with key members of the staff.

The phase began at the Cornwall Regional and Savanna-la-mar Hospitals May 28, 2015. A multidisciplinary audit team was selected to undergo this assignment (Appendix 4). The Audit team was led by the Internal Audit Department in collaboration with the Regional Technical Department, Quality Assurance Committee and Infection Control Committee. In addition to the areas highlighted above, parish health centres were also audited.

Prior to the equipment and supplies audit an infection control audit was carried out in the operating theatres for both the Cornwall Regional and Savanna-la-mar Hospitals. The Audit was conducted during the period January 19 - March 15, 2015. The audit team comprised of members of the Regional Quality Assurance Committee. The instrument used was the Ministry of Health's Audit Instrument for the Infection Control Programme in Operating Theatre Department. The tool consisted of 24 items which looked at two broad areas, namely, the condition of the physical

structure and infection control. Data were gathered through direct observation and interviews with key members of the theatre staff. It was felt that the findings were prudent to this audit and as such was included in this report.

FINDINGS - CORNWALL REGIONAL HOSPITAL

1. OPERATING THEATRE:

Findings were predicated on the basis that Cornwall Regional Hospital did an average of 25 surgeries on a daily basis per week.

1.1 General Supplies:

It was ascertained that the general supplies needed were normally supplied in adequate amounts. Disruption in supplies would occur from time to time when the steamer goes down. It was noted as well that if supplies went to a critical level in the nights, the chances of getting adequate supplies would be hampered as sterilization was not done after 10p.m. This has a direct impact on the ideal/critical level of stock for such items. Disposable scrub packs have not been purchased in recent times and were usually received as gifts. In the event of a stock out the staff would have to resort to creative means such as the use of garbage bags over clothing when there is an infectious case.

The table below highlights some of these supplies and the usage patterns on a daily basis. An actual stock count was done on the day of the visit.

Table 4: Daily supply and usage pattern of supplies

NAME OF ITEM	IDEAL/CRITICAL LEVEL	USAGE PATTERN	IN STOCK
Scrub packs (3gown)	80	40	Nil - delivered twice daily
Disposable scrub packs	150 (single use)		Nil
Laparotomy packs:			Nil- as supplied by laundry
Major	6	3	
Minor	7	3	
OT staff scrubs	120	250	Nil - delivered 3 times daily
Bed linen			Two were seen on shelf which is kept for dire emergencies. Frequent disruptions in supply.

1.2 Surgical Supplies:

During the interview process it was reported that some surgical supplies were not adequately provided, creating the need for clinicians to be creative. One such practice is the donning of a pair of latex free non sterile gloves under a pair of sterile latex gloves for the persons with latex allergy. At the time of the audit it was verified that there were no sterile latex free gloves in stock.

Table 5: Part Results of Surgical Supplies

Name of Item	Ideal/Critical level	Usage pattern	In stock
Gloves-varied sizes- Latex Sterile	Not identified	Approximately 300 pairs per day	
Latex free-sterile	30	30 pairs p/day	Nil ó not provided by hospital
Caps		150	700
Overshoes		75 p/day	nil
Aprons		50	600
Goggles		20	Niló reused and in circulation; no new stock
Face Shield		20 p/day	Nil - not adequately supplied

During the audit some system gaps were identified as follows:

1. The absence of an established reorder level for supplies which may have contributed to some of the nil balances found.
2. The absence of a structured stock monitoring system such as the use of bin cards.
3. The absence of a dedicated officer to manage the stock. This is currently carried out by the Ward/Departmental Sister in charge whose technical duties does not allow for adequate control of the stock.

1.3 Tools & Equipment:

Whilst for the most part the requisite equipment for optimal functioning is available, there is a failure on the part of the Region to conduct regular preventive maintenance and to effect repairs or replacement in a timely manner. There is no documentation of prior assessments from which to benchmark future plan of action for replacements when necessary.

The status of current tools and equipment are highlighted in table 6 below.

Table 6: Status of Tools and Equipment

Anaesthetic machines	<p>Existing:-7: Status- 5 functioning 2 non-functioning includes -1 new which needs replacing /repaired. (Team was informed that the new machine was utilized without commissioning. It was a loaner from a project, its use was recommended by the supplier so as not to cause it to malfunction.)</p> <p>Status of the 5 : 1 defective ventilator, 1 leaking</p> <p>-Equipments with external contracts are regularly serviced. -No scheduled in house maintenance.</p> <p>Projected requirement ó 8: 7+1 specialized</p>
Operating beds	<p>Existing: 6 beds</p> <p>Status: 5 need repairs/replacing, no adjustment, no breaking of neck, cannot adjust for back adjustments, risk of patient injury,</p> <p>1 special orthopaedic (the only one that works properly)</p> <p>Projected requirement: 7</p> <p>-No scheduled in house maintenance</p>
Operating theatre lights	<p>Existing: 5</p> <p>Status: Functioning optimally: 1 in Theatre 2</p> <p>Theatre 1 & 4 new but not functioning</p> <p>Theatre 3 & side room need replacing</p> <p>Projected requirement ó 6, recommended 1 to be portable for standby.</p> <p>Service & Repairs: Need/crisis basis - no regular servicing conducted.</p>
Vital Signs	<p>Existing: 9</p> <p>Status: 5 need repairs</p>

Monitors	<p>Projected Requirement: 13</p> <p>Scheduled Maintenance none, Repairs: crisis basis.</p>
Recovery beds	<p>Existing : 4</p> <p>Projected requirement: 10: 8 Adults, 2 Paediatrics</p> <p>Need Additional: 4+1 Paediatrics</p> <p>Status: 4 Adults, 1 Paediatrics. O/T stretchers used as recovery beds, this lessens the numbers of stretchers in use, which impacts the timeliness of getting clients to OT for surgery. Recommended that purchase of stretchers as recovery beds, but those of better quality than current.</p> <p>All stretchers currently in use need repairs/replacement</p> <p>Need for bumper on beds to prevent injury to patients.</p> <p>No regular servicing/repairs. This is done on a needs basis.</p>
A/C units	<p>Current split unit A/Cs ó No regular servicing, no servicing on deep cleaning days. Maintenance Service schedule non-existent</p> <p>Central A/C with thermostat control for each room is recommended; to allow for adequate response for clients who may be hypothermic.</p>
Autoclaves ó table top	<p>Existing: 2</p> <p>Projected requirement : 3</p> <p>Need additional : 1</p> <p>Maintenance servicing: crisis/needs basis.</p>
Other (Suction)	<p>Existing: 8</p> <p>Projected requirement: 9</p> <p>Needs Additional: 1 portable for standby</p>

During the audit it was noted that several items intended for single or double use had to be sterilized and reused on many occasions due to the failure of the Region to procure such items. These items are not normally purchased and as such if gifts are not received the items continue to be recycled until they are worn out. Some of these items include:

- Corrugated Tubes,
- Endo tracheal tubes (especially in sizes of most demand (size 7.5 and 8),
- Laryngeal masks and
- Paediatric circuits.

Not only is this practice putting the clients at risk for nosocomial infections which can prove fatal, it is also placing the institutions at risk for litigations. In the case of the paediatric and anaesthetic circuits it was pointed out that the simple provision of filters would significantly reduce the incidence of reuse.

Pharmaceutical Supplies

The pharmaceutical supply for the operating theatre is generally good. The occasional stock out of some items would occur from time to time. In instances where this occur it was due to a shortage at the Pharmacy. At the time the audit was being conducted, there were several items that were out of stock at the Pharmacy. This impacted the supplies to all clinical areas including the MONIA areas.

Table 7: List of most commonly used drugs that were reported out of stock at time of audit

CATEGORY	EXAMPLES OF DRUGS COMMONLY USED
Anaesthetics	Neostigmine, inhalation agents, Marcaine .25%,
CentralNervous System	IV Midazolium (Zormicain), Oral Midazolium 7.5 Tab 6 Out of stock
Analgesics	Baralgin, Tramadol, Panadol suppositories, Cataflam Suppositories- Out of Stock
Antibiotics	Zinacef (cefuroxine), Antibiotic Ointments(tetracycline),
Endrocine	Hydrocortisone, Depomedrol
Other	Sodium Bicarbonate 8.4% , 50% Dextrose Water
IV Fluids	Sterile Water for irrigation -1 litre Sterile water for injection-500ml

There needs to be adequate control of the dispensing of drugs. Of note there is no assigned person with responsibility for dispensing drugs from the cabinet when needed. The officer prescribing the drug would take it or ask that it be retrieved from storage, administer it and then

write it up in the designated folder at the end of the surgery or at a later date when the remaining stock is called into question.

This practice may lead to challenges procuring drugs from the pharmacy in a timely manner if just the book balance is checked.

It is recommended that a greater level of accountability be taken by the Ward Sister or her designate similar to the handling of dangerous drugs on the ward areas.

1.5 Infection Control

For the most part the findings were favorable and commendations should be given in this regard. The comprehensive report is attached for your perusal; however, the major gaps/challenges identified are highlighted below, with specific recommendations for corrective measures as follows:

1.5.1 Traffic control:

During the period under review it was noted that some officers who were observing a surgery in an operating room kept going in and out of the room. When the possible reason was explored with the Ward Manager she highlighted that traffic control had become a problem in recent times as there had been an influx of medical students placed in the operating theatre to gain experience in doing the surgical scrub and the donning of surgical gowns; a matter that was previously undertaken by the University of the West Indies.

Recommendation:

As a teaching hospital, it is acknowledged that situations like these would be encountered; however, it is recommended that students be rostered for this experience and to ensure that strict monitoring of the process be done.

1.5.2 Wearing of jewelry/nail polish to surgery:

On the day of this assessment, none of the surgeons were identified wearing rings or nail polish. When we enquired of the Ward Manager we were told that a few wear nail polish and or fail to remove rings prior to scrubbing for surgery. The argument postulated was that studies done internationally have not found where the use of nail polish or rings increase the risk of spread of infection.

Recommendations:

While science is evolving and we embrace evidence based practices, it should be reinforced that staff be compliant with the standard operating procedures set out by the Ministry of Health. It would also be useful if studies were done to validate the data locally and recommendations made to the Ministry of Health.

1.5.3 Health status of staff members:

Information gleaned from the Ward Manager is that ill members of staff, particularly those with respiratory conditions who are not -feeling too sickøare allowed to work. They are however not placed in the operating rooms. For those who had to be absent from work because of illness there is no medical certificate of fitness to prove that they are ready to return to work. Additionally, there was no structured system in place to ensure that both new and existing staff received stipulated vaccines. Infection control sessions were not routinely held with the staff.

Recommendations:

Droplet infections have the ability to be passed not only to the clients but to other staff members as well. Notwithstanding that specialized skill is needed in this area, the health of other staff and clients alike should not be compromised. Staff members with respiratory and other such infectious illnesses should be encouraged to stay out of the area until they are well irrespective of the severity of their illness. A systematic process of assessing the immunization status of staff and ensuring compliance should be instituted. Regular training of all staff in infection control should be implemented.

2 MATERNITY WARD

2.1 Access To Adequate Laboratory Service

There is adequate access to laboratory services including full blood count, coagulation profile, blood group and cross match. Serum electrolyte, urea and creatinine, bilirubin, blood glucose, urinalysis and HIV. Testing for Sickle Cell Disease was available but the turnaround time was reported as taking two weeks. There was an inadequate supply of urine pregnancy tests.

2.2 Access To Essential Complementary Services

There is adequate access to complementary services including internal medicine, psychiatric specialist, anaesthetic service, imaging and neonatal support services. There is a severe shortage of social workers in the system. The ones assigned to the HIV programme are called upon when needed.

2.3 Adequate Equipment And Supplies

There were adequate sphygmomanometers, scales, blood testing machines, foetoscopes and thermometers. It was reported that foetal heart monitor (hand held dopplers) and stethoscopes were available in minimal amounts with personal stethoscopes being used by staff. There were inadequate amounts of resuscitation equipment as more laryngoscopes, infant warmers and Resuscitaire are needed. Additional pulse oximeters and wheelchairs were also required. There is no ultrasound machine on the ward, however, one can be accessed on the same floor.

2.4 Pharmaceuticals

Pharmaceuticals were generally available except Hydrallazine and Erythromycin eye drops. The antibiotics and analgesics, except Paracetamol were not generally stocked on the ward and became available when ordered.

Other essential supplies were generally available including crystalloid intravenous fluids, antiseptics, needles, syringes, sterilized gauze, cotton, gloves and oxygen supply. Colloids and suture materials were not in adequate supply and clean linen was listed as minimal. Linen was generally delivered in small quantities throughout the day. Majority of the medications needed for the delivery unit are available.

2.5 Physical layout

The physical layout of labour and delivery (temporary location) did not fully allow for patients' privacy. There were eight beds but none listed as delivery beds with adjustable functioning and stirrups and no isolation room was identified. Adequate water closet facilities were present.

The delivery room is adequately equipped with an instrument trolley and appropriate items such as IV giving sets, branulae, syringes of various sizes, intravenous fluids, alcohol and small instruments.

Lighting is adequate as well as emergency equipment and medication. There was linen for receiving the infant but these are not warmed. Adequate resources are available for resuscitation of the infant. A needs list was generated and is outlined in the table below:

Table 8.

EQUIPMENT	**NEEDS COLUMN	CURRENT ON WARD	STATUS	COMMENTS
BP MACHINES	3	3		
CTG MACHINE	4	1		
DOPPLERS	4	1		
RADIANT WARMERS	2	3		
PULSE OXIMETER - SPO ²	2	2		
SCALES	1	2		1 Paediatric, 1 adult None for placenta
VITAL SIGNS MONITOR	2	1		
BASSINETTES	6	5		
DINAMAP BP MACHINE	1	0		
WALL SUCTION	Nil	Nil		
PORTABLE SUCTION	2	4		
DELIVERY BEDS	8	None		

3. NEONATAL UNIT (SPECIAL CARE NURSERY)

3.1 Implementation of infection control practices

There is an infection control manual on the unit. Monitoring of infection control processes is done by the Ward Sister but the dates and findings are not always documented. There is an adequacy of supplies for hand washing as well as the ratio of hand wash stations to cots. Hand washing rules with regards to removal of jewellery, short finger nails without polish and washing of hands and arms up to elbows are not always adhered to particularly at the beginning of the shift.

Hand washing before the donning of gowns is practiced. When aseptic procedures are carried out surgical gloves are worn, masks are sometimes worn, however, sterile gowns are never worn.

3.1 General cleaning

There is an existing cleaning schedule which is adhered to by the staff. Monthly intensive cleaning of the unit is recommended, however this is done bi-weekly, which is commendable. Housekeeping staff is appropriately attired during cleaning. Cleaning and decontamination of instruments /furniture is done using the appropriate cleaning solution.

3.2 Care of infectious cases

There are dedicated isolation and observation rooms on the unit. Contrary to recommendation nursing staff assigned to infectious cases are sometimes required to nurse non infectious cases due to staffing challenges.

3.3 Monitoring of health status of staff

All new staff assigned to the unit are required to be medically fit and to do a nasopharyngeal swab. Routine swabbing for all staff is done every three months. The annual physical exam stipulated for all staff is not done, however, officers with infectious diseases or open lesions are asked to stay off the unit until problems are resolved. There are some gaps where the monitoring of staff immunization is concerned.

Table 9. Equipment

EQUIPMENT	CURRENT NEEDS	CURRENTLY ON WARD	STATUS
BP machines	-	-	Attached to vital signs monitor but needs cuff
Incubators	-	10	2 not working
Nebulizers		Nil	
Pulse Oximeters	5	1	
Infusion pumps	4	2	No tubing available to use existing ones
Phototherapy lights	10	6	1 not working
Radiant warmers	5	6	1 not working
Ventilators	6	3	
Suction: Wall Portable	12 outlets	4	
Scales	3	3	
Cots	10	23	9 has no basinettes
Vital signs monitors	10	7	2 not working

4. INTENSIVE CARE UNIT

The Intensive Care Unit at the Cornwall Regional Hospital is a seven bedded unit but is currently operating four, and on occasions five beds due to equipment and staffing challenges. Anaesthetic staff is readily available. The nursing staff consists of 13 ICU trained nurses, with one due later this month and five Registered General Nurses. There are an additional three ICU trained nurses who are assigned as Ward Sisters. Three nurses are generally assigned to nurse four patients. There is access to specialists in all medical disciplines except cardiothoracic surgery.

4.1 Physical layout:

Appropriate ICU beds are available. The unit is in close proximity to the operating theatre but not the Accident & Emergency Unit. It is connected to the standby generator. There is battery power source for monitors but not lights. Each cubicle has outlets for medical gases but a 7:1 electrical outlet sockets instead of the recommended 3:1. There is inadequate storage space for equipment.

4.2 Access to services:

Access to services necessary to support patient care is generally good. Laboratory services are available except for timely microbiology services which pose a problem. There is no blood gas machine or portable Echocardiogram at present. No MRI services are available within the hospital.

4.3 Tools for monitoring and support:

The unit is currently lacking tools to assess cardiac output and monitor intracranial pressure. There is also a challenge with the timeliness of blood chemistry analysis results.

4.4 Effective networking (LAN) to enhance care

There is currently access to laboratory services but not for X-ray or medical records.

4.5 Infection control:

There is an Infection control manual available and the staff adhere to the guidelines.

SAVANNA- LA MAR PUBLIC GENERAL HOSPITAL

2. OPERATING THEATRE

2.1 General Supplies

Overall there is a general shortage of supplies. Laundry services at the facility have been down since March 2015 resulting in a dependence on Cornwall Regional Hospital for this service. The timeliness of getting these supplies is oftentimes compromised due to transport and other logistic issues. This has resulted in delays and cancellation of surgeries. Despite a functional Central Sterilization Unit, on a number of occasions surgical sets and other items requiring sterilization for use cannot be sterilized due the absence of the wrapping materials that is needed to be laundered. Similar to the experience at Cornwall Regional Hospital, a number of items were not purchased by the hospital thus a high dependence on gifts.

The table below highlights some of balances of items that were checked. Some items were out of stock or at very low levels.

Table 10: Part results of general supplies checked at SPGH

NAMES OF ITEMS	MINIMUM/ CRITICAL LEVEL	# IN STOCK	LAST ORDER DATE	LAST RECEIVED	
Laparotomy	5				
Chest Tube	10	0	13.01.15	12	Had bal of 10
C/Section	4				
Patient Gowns	100				Received from Food for Poor
Bed Linens	50				Not adequate. At times have to use the wrapper on the gown packs to wrap patients in to move to recovery or to drape beds in case of heavy soiling.

2.1 Surgical supplies

There is a chronic shortage or repeated stock-out of several items resulting in clinicians having to improvise, for example, the use of hazard bags is common place as a substitute for aprons. There is also the absence of latex free surgical gloves as these are not purchased by the institution.

Figure 11: Part Results of Surgical Supplies Checked at SPGH

Names of Items	Minimum/critical level	#In stock	Last order date	Last received	
Gloves-sterile	4000				Adequate except for latex free
Disposables	50				800 was received 2/52 ago
Aprons	300	0			Hazard bags used
Goggles	40	4			
Face Shields	40	7			Mainly supplied as gifts

2.2 Tools and equipment

There are two major operating rooms; however, only one is optimally equipped. Although present, a number of equipment and furniture are either malfunctioning or out of use. It was observed that preventive maintenance was woefully lacking except in cases where it is done by the supplier as stipulated by the terms and conditions of the contract.

Table 12: Tools and Equipment Status at Savanna-la-mar Public General Hospital

Anaesthetic machines	Existing: 3 Status- 1 functioning optimally. This limits the number of cases that can be done for persons requiring ventilatory support. Needs: 2 New machines
Operating beds	Existing: 2 Complete, functioning. One without mattress in minor ops. Stretcher mattress being used. Need- New mattress
Operating theatre lights	Existing: 3 Status: Functioning optimally: 2 in Theatre 2 Only 1 in Theatre 1 Maintenance is aware
Vital Signs Monitors	Existing: 5 Status: 3 not functioning Projected Requirement: 4 new needed
Recovery beds	Existing : 3 Status: 1 need to be removed, defective cannot be adjusted
A/C units	4 Split Units and 1 central. Only OT 2 functions effectively. Recommend A/C central unit with laminar flow
Autoclaves 6 table top	none

2.4 Infection control

Majority of the findings indicate that the standards/actions required in the OT for infection control were present and consistently done. The following document the major findings and specific recommendations that can cause breaches in infection control

2.4.1 Layout and Infrastructure:

The operating theatre generally requires infrastructure works to improve the flow of patients and ensure greater infection control. The use of the current space however is optimal. The walls were clean; however a few minor crevices and cracks were noted

Recommendations:

Proposal for expansion of Operating Theatre required ensuring that the infrastructure is needed. Consistent preventative maintenance schedule needed to inspect infrastructure and conduct remedial works regularly (e.g. repair cracks,).

2.4.2 Cleaning Procedures

Monitoring of the cleaning in the theatre was not documented and there were no checklist used to record the various areas that are supervised. The procedures during cleaning require monitoring to ensure that staff follow the required procedures, wear the appropriate protective equipment and that appropriate labels with concentrations are placed on all stock cleaning agents. An in-service training schedule is needed for ancillary staff to ensure that techniques are reinforced and maintained.

Recommendations:

While cleaning observed was appropriately conducted, documentation to record monitoring was not available. Cleaning checklists that itemize the areas and actions during the cleaning process should be implemented to facilitate documentation of the monitoring of cleaning. In- service training is to be scheduled and conducted. Ancillary staff must wear appropriate Personal Protective Equipment and labels to be applied to all stock cleaning agents.

2.4.3 Wearing Of Jewellery/Nail Polish To Surgery:

On the day of this assessment, it was reported that the practice of removing jewellery is not strictly adhered to.

Recommendations:

While science is evolving and we embrace evidence based practice it should be reinforced that staff be compliant with the standard operating procedures set out by the Ministry of Health. It would also be useful if studies were done to validate the data locally and recommendations made to the Ministry of Health.

2.4.4 Health Status Of Staff Members:

Information gleaned from the Ward Manager is that ill members of staff, particularly those with respiratory conditions who are not -feeling too sickøare allowed to work. They are however not placed in the operating rooms. For those who had to be absent from work because of illness there is no medical certificate of fitness to prove that they are ready to return to work. Additionally, there was no structured system in place to ensure that both new and existing staff received stipulated vaccines. Infection control sessions were not routinely held with the staff.

Recommendations:

Droplet infections have the ability to be passed not only to the clients but to other staff members as well. Notwithstanding that specialized skill is needed in this area the health of other staff and

clients alike should not be compromised. Staff members with respiratory and other such infectious illnesses should be encouraged to stay out of the area until they are well irrespective of the severity of their illness. A systematic process of assessing the immunization status of staff and ensuring compliance should be instituted. Regular training of all staff in infection control should be implemented.

2.4.5 . Documentation:

- Surgeons placed a signature at the line stipulated for name
- Consent forms for clients were not found in a few instances
- Discrepancies with medical records numbers were noted on a few occasions

Recommendations:

Once the care is given it is imperative that the proper documentation be done. This does not only lend itself for continuity of care but also to safeguard against litigations. Surgeons should be reminded of their responsibility with regards to proper documentation on a regular basis. This should be followed up by frequent internal audits.

General Pharmaceutical Supplies : CRH &SPGH

There is a general shortage of pharmaceuticals from time to time but there is always a substitute available even though this may not be the ideal.

It was noted that the drug stock is not properly managed in terms of distribution. This is due to the failure to provide a pharmacy intern or officer at similar appropriate level to oversee this function. The clinicians when needed would assist themselves to the stock. There is limited accountability for these items except for what is recorded in dockets as drugs administered to patients.

1. Infection Control /Occupational Safety Supplies

Both hospitals have reported the adequacy of supplies in this area, especially as it applies to clinical waste bags and regular waste bags, sharps dispensers.

It was noted however that for CRH there is no OT counting board available, however counting is conducted, using improvised measures.

Basic items for hand washing were seemingly lacking in completeness and as it relates to the international standards. There is a need to replace screw on tops to hand operated or elbow operated in CRH.

Both CRH and SPGH are in need of low risk/no risk soap dispensers

SPECIAL CARE NURSERY

Physical Environment:

The Special Care Nursery presents a clean appearance throughout. The staff adheres to the principles and practices of hand washing and general cleaning.

Organization and Management

Staff:

All new members of staff are oriented but same is not documented. Orientation plan is only available for nursing staff. Clinical and general staff meetings are held regularly.

Equipment and Supplies:

Equipment are properly inventorized. There is a list of all critical equipment and a log is kept of preventive and unscheduled maintenance. A monthly list is not made of inoperable pieces; usually a maintenance order is written but no active follow up is done. There is an efficient supplies management system but from time to time there is a shortage of some supplies.

Patient care:

Patients are assessed and seen in appropriate time congruent with policy manual. Emergency radiological and clinical laboratory services are accessible. There is a complaints mechanism in place. In terms of reviewing care, a death conference is held monthly but there is no quarterly internal audit of case records. There is no Quality Assurance (QA) team on the unit but members are a part of the hospital's QA team. Meetings are however held ad hoc.

Table 13. Equipment list for SCN

EQUIPMENT	**NEEDS COLUMN	CURRENT ON WARD	COMMENTS
BP Machine	2	2	1 partially functioning
Incubators	1	2	1 malfunctioning
Nebulizers	2	0	
Pulse Oximeters Spo ²	3	1	
Infusion Pumps	2	0	
Phototherapy Lights	2	3	1 partially functioning
Radiant Warmers	1	2	Temporarily out of use as swabbed revealed infectious organism
Ventilators	1	0	
Suction	2	3	2 out of use and 1 partially functioning
Scales	1	3	
Wall Outlets	5	0	
Bassinets	10	11	

ACCIDENT AND EMERGENCY UNIT

Physical Environment:

The Accident and Emergency Unit presents a clean appearance throughout. The staff adheres to the principles and practices of hand washing and general cleaning. An infection control manual is in place.

Organization and Management:

Staff:

All new members of staff are oriented but an orientation plan is only available for nursing staff. Clinical staff meetings are not held monthly. There is no mass casualty plan but an in house simulation exercise is done annually.

Equipment and Supplies:

Equipment was properly inventorized. A log of critical equipment is not kept and there were some gaps with regards to documentation of maintenance visits as well as the follow up on items sent for repairs. There is a shortage of wheelchairs and stretchers in the unit. There is an efficient supplies management system but from time to time there is a shortage of some supplies.

Patient care:

The more acutely ill (Grade I and II) clients are seen in the time allotted however the Grade III clients are seen in a much longer time. There is access to emergency radiological and clinical laboratory services. There is a complaints mechanism in place. There is no Quality Assurance (QA) committee however, members are a part of the hospital's QA team. Meetings are however held ad hoc.

Table 14. Equipment list for Accident & Emergency Unit

EQUIPMENT	**NEEDS COLUMN	CURRENT ON WARD	COMMENTS
Blood Pressure	3	2	
Cardiac Monitors	2	1	Probe broken
ECG		2	
Defribillator	2	1	Serves entire hospital
Flow Meters	4	0	
Nebulizers	5	1	
Spo ² -Pulse Oxygen	4	1	
Suction Machines	1	2	Need battery operated
Suction Regulators	2	0	
Examination Lights	6	0	Urgently needed
Scales	1	4	2 scales in dept are paediatric
Portable Oxygen	4	2	
Beds With Rails	10	4	
Stretchers With Rails	12	4	
Vital Signs Monitor	4	1	the one in department malfunctions

OBSTETRICS DEPARTMENT/MATERNITY WARD

Physical Environment:

The units present a clean appearance throughout. The staff adheres to the principles and practices of hand washing and general cleaning. An infection control manual is in place. There is appropriate hand washing stations and supplies.

Organization and Management

Staff:

All new members of staff are oriented but an orientation plan is only available for nursing staff. Clinical staff meetings are not held monthly. There is trained technical and support staff, however there is the need for more midwives and a maternity ward clerk. The social worker serves the entire hospital.

Pharmaceuticals, Equipment and Supplies:

There is a shortage of BP machines, wheelchairs and stretchers. Individual officers provide their own stethoscopes. The essential drugs are available; however, antibiotics are dispensed per client as they are ordered. Essential supplies such as intravenous fluid, suture materials, needles and syringes are available. There were no goggles available and postpartum clients provide their own maternity pads.

Except for poor lighting and the lack of a stretcher, the facilities for labour and delivery are adequate. There is no warm linen for receiving newborns; they are wrapped in the towel from the delivery pack and transferred to the radiant warmer. There is access to adequate laboratory and complementary services. Resuscitation drills are not held.

Patient care:

All high risk clients are managed by an Obstetrician. Blood works are requested for all pregnant women on a first contact basis. There are still a few cases where women do not book in the first trimester or do not adhere to visit schedule which has an impact on our maternal mortality rate. Patients that are admitted to the ward are weighed primarily if they are going to the operating theatre. The partograph is not used to monitor women in labour. The postpartum clients that are feeling weak are pushed in a wheelchair otherwise the clients walk from the delivery room.

Table 15. Equipment list for Maternity/Delivery wards

EQUIPMENT	**NEEDS COLUMN	CURRENT ON WARD	STATUS	COMMENTS
BP MACHINES	4	1		
CTG MACHINE	2	1		
DOPPLERS	3	1		
RADIANT WARMERS	0	2		
PULSE OXIMETER - SPO ²	3	0		
SCALES	1	3		1 out of use
VITAL SIGNS MONITOR	3	1		
BASSINETTES	10	5		
DINAMAP BP MACHINE	2	0		
WALL SUCTION		Nil		
PORTABLE SUCTION	3	2		Need one for neonate
DELIVERY BEDS				

PARISH HEALTH CENTRES

Montego Bay Type V (Comprehensive Health Centre)

Staffing

Staffing of the facility is fairly adequate; however nursing staff are sometimes asked to provide coverage at other facilities. Training in BLS and ACLS for clinicians at the facility is limited.

Infrastructure

The existing building has exceeded the required capacity and there is current need for expansion of Medical Records, dressing room, waiting areas, Conference Room and additional office spaces. There is poor ventilation, repeatedly malfunctioning air conditioning units, malodour from dressing room, pest infestation, and leaking roof which make the work environment uncomfortable. The absence of a PA system to be used at the Registration Desk also poses a challenge.

Pharmaceuticals, sundries & Supplies

There has been a challenge with obtaining goods ordered from NHF. Instructions were received to increase orders as budgetary allocation had been increased. Despite this, there continues to be a shortfall in supplies.

The last order submitted June 5 was received June 17 as per routine; however 46% of orders submitted were not filled. Critical items such as certain antipsychotics, antihypertensive and vascular drugs were not supplied. Some items were only supplied in one strength e.g. Enalapril

20mg, Diclofenac sodium 75mg and Metformin 500mg, making it sometimes difficult for the patients on lower doses as in some cases the tablets are not scored so the correct dose cannot be guaranteed when they are cut by the patients.

The Emergency Trolley was stocked with most items and checked daily. It was observed however that the batteries for the laryngoscope were kept in the Sister's Office and were noted to be non functional. There were also some items that were checked but were not available on the trolley. Some critical items such as Naloxone, Hypnovel and large bore canulae were either not available or in insufficient quantities. There was adequate supply of oxygen cylinders, masks, airways, sutures and other emergency drugs however there was no peak flow meter available. There was available suction, nebulisers, glucometers and blood pressure machines (though in inadequate quantities).

Clinical services

The Complaints Mechanism and Supply management system needs to be strengthened. Improvement in documentation in medical records (physical examination, doctor's name) is required. No home visits are done for Rheumatic Fever Clients (phone calls are done for follow up visits), MMR for adult females is only given at Postnatal Clinic, (not at Family Planning Clinic).

Antenatal, Postnatal and Family Planning Clinics in general follow the protocol, however adolescents presenting for family planning must be accompanied by a parent/guardian and even then, the minors may not be given contraceptives. At least two midwives expressed reservation about providing minors with contraceptive. Postnatal (emancipated) minors are given family planning services. There is insufficient evidence that there is consistent reporting to the Office of Children's Registry in cases when minors request family planning services. Pregnant minors are however reported.

Equipment needs:

Critical needs are emergency trolley, ECG machine, disposable speculae, stainless steel buckets, stainless steel trays, vaccine carriers, sphygmomanometers, bassinets (only one cot present), patient dressing stool, step on stools (to assist patients to get on couch) industrial washer and dryer, laptop, projector (especially for environmental health), desktop computer (dental unit),

Table 16. Equipment Needs for Type V Montego Bay

Description	Standard	Make/ Model	Remarks	Quantity Present	Needs
Wheelchair	>2			3	2
Medical Trolley	10		One per clinical room	1	9
Digital Thermometers	12			2	10
Examination lamp	1 per couch		Shielded bulb/Flexible neck/white light/adjustable	5	3
18 cu. Ft Refrig. Pharmacy	1		Two doors		
Microwave	1		Not functioning well	1/2	2
Kettle	1		Electric or for stove; needed for CDD prog.		
12 cu. Ft Refrig. Staff Lunch Room	1		two doors; to avoid staff using Medication fridge		
9 Cu. Ft Treatment Room	1		Two doors		
10 cu foot vaccine refrigerator	1		two doors		
Autoclave	>2		1 large ; 1 small	2	3
Index Filing Cabinets	3		Medical Records		
Filing Cabinets	10				
Stationery Cupboards	6		Curative/Family Health /Dental/Pharmacy/Administration		
Examination beds	10		1 per clinical area	7	
Portable Patient Privacy Screens	10		Ideally should be wall mounted	0	3

Description	Standard	Make/Model	Remarks	Quantity Present	Needs
X-ray View Box	3		per MO clinical room	0	1
ECG Machine with ample supplies	1			0	1

Falmouth Health Centre (Type IV/Parish Health Centre)

Environment

The facility was assessed as having a partially good environment. There was inadequate space especially in waiting area, medical records, cleaning and sterilization room and consultation rooms. There was also inadequate office space for clerical staff. Pharmacy lacks confidential area/window and there is no dedicated dressing room in the facility.

The facility was clean and running water with alternate water storage capacity available. There is a standby generator, but not all areas are served when in use due to its inadequate capacity.

Emergency trolley, equipment and supplies:

The facility had an emergency trolley which is stocked except for a functioning laryngoscope. Expired drugs were found on the trolley. There were inadequate amount of airways, and the absence of some medications i.e. Valium, Largactil, Haloperidol, Ardiun, Nalaxone and Verapamil. Adequate oxygen supply was available.

IT support in terms of computer systems was limited. Health Records (Registration) Department, Nursing, Public Health Inspection, and Health Promotion & Education offices urgently need computers.

Human Resource and Facilities Management:

There is a system in place to ensure orientation of staff however documentation is lacking for dates of orientation. Staff meetings are not held routinely but when held they are well attended and minuted. Issues that cannot be addressed at the facility are referred to senior staff for resolution.

The facility does not have a receptionist /customer service representative. This service is provided by the Medical records personnel who does so in a courteous manner. There are inadequate wheelchairs available for the transportation of patients. Patients are prioritized according to the severity of their condition and seriously ill patients are seen within 30 minutes. Radiology and Laboratory services are accessed at the Falmouth Hospital which is on the same compound. Pharmacy services are only available twice weekly.

There is an efficient supplies management system in place however, there is inadequate storage facilities for essential equipment and supplies.

There is inadequate equipment for the management of asthma with a nonfunctioning nebulizer and no peak flow meters. Equipment is adequate for weighing adults and children but there is no process in place for regular calibration of the scales. There is adequate equipment for cold chain management for vaccines and other pharmaceuticals.

Lucea Health Centre (Type IV/Parish Health Centre)

The Lucea Health Centre did not have the health department on the same compound as the health department was destroyed by fire in 2014. There is an approved project to be implemented to rebuild the department.

Environment:

The facility was assessed as having a partially good environment. There was inadequate space. The facility was clean and running water with alternate water storage facility available. There is no standby generator and the facility is plagued by frequent power outage.

Emergency trolley, equipment and supplies:

Except for the absence of certain sizes of airway tubes and an adult laryngoscope which was loaned to the Noel Holmes Hospital, the emergency trolley was well stocked. There was an absence of some medications i.e. Ardiurn, Nalaxone and Verapamil. Only a small mobile cylinder of oxygen was available. The 100 lb cylinder required was pending procurement.

Computer systems are very few in the Health Centre. Health Records (Registration), Nursing, Public Health Inspection, and Health Promotion & Education offices urgently need computers.

Human Resource and Facilities Management:

There is a system in place to ensure orientation of staff however documentation is lacking for dates of orientation. Staff meetings are not held routinely but when held they are attended by differing categories of staff and documentation of minutes are done with issues that cannot be addressed at the facility being referred to senior staff for resolution.

The facility does not have a receptionist/customer service representative. This service is provided by the Medical records personnel who does so in a courteous manner. There are inadequate wheelchairs available for the transportation of patients. Patients are prioritized according to the severity of their condition and seriously ill patients are seen within 30 minutes. Radiology and Laboratory services are accessed at the Noel Holmes Hospital which is on the same compound.

There is an efficient supplies management system in place however; there is inadequate storage facilities for essential equipment and supplies.

Some improvement is needed for the management of asthma. Although there is a nebulizer, it is not the recommended industrial type; tubings and face masks were also inadequate. Equipment is adequate for weighing adults and children in the health centre but there is no process in place for regular calibration of the scales. There is need for portable scales to facilitate weighing of infants in the community. There is adequate equipment for cold chain management for vaccines and other pharmaceuticals.

Table 17. Equipment list for Lucea Health Centre

EQUIPMENT	**NEEDS COLUMN	CURRENT IN CLINIC	STATUS	COMMENTS
Autoclave	1	1		
Bassinet/Infant cot	1	1		
Defibrillator	1	0		
Cavitron Unit	1	2		
Dental Chair	1	3	1 need repair	
Dental stool	6	0		
Dental hand pieces - High Speed	12	18	> 12 not functioning	
Dental hand pieces - Slow speed	6	12	> 6 not functioning	
Dental suction machine	1	1		
Dental Xray	0	1		not in function presently
Diagnostic Sets - wall mounted	3	0		
Dressing Sets	10	10		
ECG machine	1	0		
Emergency Trolley/Tray	1	1	A few drugs have expired	Pharmacist advice to use same x6mths
Examination Light	7	0		
Foetosopes	2	5		
Forceps	20	>20	a few in disrepair	artery forceps needed for dressings

EQUIPMENT	**NEEDS COLUMN	CURRENT IN CLINIC	STATUS	COMMENTS
Laryngoscopes - Adult	0	1		loan to NHH
Laryngoscopes ó Paed	1	0		
Length Board	1	1		
Light cure unit				
Nebulizers- Industrial	2	0		
Nebulizers- Home use	0	1		Inadequate
oxygen cylinder	1	0		
oxygen cylinder ó portable	0	1		
Peak Flow meter	1	0		
Refrigerator ó drugs	1	0		
Sphygmomanometer	1	7		
Suction machine	1	0		
Vital sign monitor	1	0		
X-ray Viewing Box	1	0		

Savanna la Mar Health Centre (Type IV/Parish Health Centre)

Environment:

The Savanna la Mar Health Centre was undergoing expansion work during the time of the audit. There was inadequate space especially in the waiting area. The toilets were assessed as partially clean and functioning for staff and patients. There is no standby generator to provide alternate supply of electricity.

Emergency trolley, equipment and supplies:

The facility had an emergency trolley stocked with a functioning laryngoscope. There was an inadequate amount of airways, and the absence of some medications such as Haloperidol, Ardiur, Nalaxone and Verapamil. Adequate oxygen supply was available.

Human Resource and Facilities Management:

There is a system in place to ensure orientation of staff however documentation is lacking for dates of orientation. Staff meetings are not held routinely but when held they are well attended and minuted. Issues that cannot be addressed at the facility are referred to senior staff for resolution.

There are inadequate wheelchairs available for the transportation of patients. Patients are prioritized according to the severity of their condition and seriously ill patients are seen within 30 minutes. Radiology and Laboratory services are accessed at the Savanna la Mar Hospital which is on the same compound. There are no pharmacy services available at the Savanna la Mar Health Centre.

There is an efficient supplies management system in place however; there is inadequate storage facilities for essential equipment and supplies.

There is adequate and appropriate equipment for the management of asthma except for peak flow meters. Equipment is adequate for weighing adults and children but there is no process in place for regular calibration of the scales. There is adequate equipment for cold chain management for vaccines but a refrigerator is needed for pharmaceuticals.

Table 18. Equipment list for Savanna- La- Mar Health Centre

EQUIPMENT	**NEEDS COLUMN	CURRENT IN CLINIC	STATUS	COMMENTS
Autoclave	0	2		
Bassinet/Infant cot	2	1		
Defibrillator	1	0		
Cavitron Unit	1	2		
Dental Chair	3	1		
Dental stool	2	1		
Dental hand pieces - High Speed	6			
Dental hand pieces - Slow speed	4	1		
Dental suction machine	1	1	Not functioning	
Dental Xray	1	1	Not functioning	not in function presently
Diagnostic Sets - wall mounted	2	2		
Dressing Sets	20	12		
ECG machine	0	1		
Emergency Trolley/Tray	0	1		
Examination Light	4	2		
Foetosopes	0	3		
Forceps	20	>20	a few in disrepair	artery forceps needed; dressing done daily
Laryngoscopes - Adult	0	1		

EQUIPMENT	**NEEDS COLUMN	CURRENT IN CLINIC	STATUS	COMMENTS
Laryngoscopes - Paed	0	1		
Length Board	1	1		
Light cure unit				
Nebulizers- Industrial	1	0		
Nebulizers- Home use	1	2	1 functional	
oxygen cylinder	0	1		
oxygen cylinder ó portable	0	1		
Peak Flow meter	1	0		
Refrigerator ó drugs	1	0		
Speculum	20	15		
Sphygmomanometer	1	7		
Suction machine	1	0		
Vital signs monitor	1	0		

RECOMMENDATIONS

From the audit there was a general lack of critical equipment and supplies in all the facilities assessed. This has resulted in a heavy reliance on donations and the use of these equipment and supplies contrary to their intended use. There were also gaps in the servicing of existing equipment as well as deficiencies in inventory management. The following recommendations are as follows:

1. Source and procure adequate equipment and supplies to ensure appropriate use in keeping with manufacturers' recommendations and standard infection control practices. Disposables should be procured to include a buffer stock of at least one month. Recommended immediate purchases are listed in Appendix B.
2. Linen management system needs to be strengthened in each hospital. Laundry Departments require immediate investments to improve optimal functioning. SPGH rehabilitation of laundry to be completed as this project is currently in progress. CRH laundry needs to be improved with the repair/replacement of the non functional washers and dryers.
3. Clinicians should appropriately document high risk practices resulting from inappropriate use of equipment and supplies. The institutions will need to implement appropriate mechanisms to detect these situations and document risk of practice versus benefit. The risk registers may be an important tool to assist with this aspect.
4. Employ Supplies/Inventory Managers and implement an inventory management system for operating theatres and high risk areas.
5. Maintenance schedules for all critical equipment in the clinical high risk areas is required and quarterly reports generated on the maintenance activities in the MONIA areas.
6. Improvements are needed with regards to microbial swabbing to attain the standard.
7. Training and supervision is required for cleaning staff and restrictions needed to decrease trafficking in the operating theatre. Procure and source appropriate supplies and equipment to support infection control.
8. Adequate equipment, supplies and staffing are needed to fully maximize the use of the ICU.
9. The employment of a microbiologist at CRH is recommended to meet the standards required for the operations of the ICU.
10. Parish Health Centres should have necessary infrastructure expansions to improve capacity to provide services commensurate with the demand.
11. Nonfunctioning equipment in health centres to be repaired and replaced where needed. Procurement of the basic equipment is needed to improve the capacity to deliver optimal services.
12. Pharmacy services should be available daily in all parish health centres. Establishment of services at the Lucea and Savanna la Mar Health Centres is urgently recommended as well as ensuring daily services at Falmouth Health Centre.



OFFICE OF THE MINISTER OF HEALTH

ANY REPLY OR SUBSEQUENT REFERENCE TO THIS
COMMUNICATION SHOULD BE ADDRESSED TO THE
PERMANENT SECRETARY AND THE FOLLOWING
REFERENCE QUOTED

Tele: (876) 633 8103/4

MINISTRY OF HEALTH
RKA BUILDING
10-16 GRENADA WAY
KINGSTON 5, JAMAICA W.I.

May 7, 2015

**All Board Chairmen
Regional Health Authorities
(See Distribution List)**

Dear Sirs;

Re: Inventory Audit

Further to the recent allegations made in the Press regarding the state of some facilities under your charge, I am instructing that a Comprehensive Audit be conducted of your major hospital and clinic facilities to ensure the safety and functionality of these systems. The Audit team should include your Health Facilities Maintenance personnel, Health and Safety Specialist, Infection Control personnel, Internal Audit and others as you deem fit.

Please address this matter with urgency as I expect at least a preliminary report in no longer than 30 days.

Again I thank you for the service you are providing in advancing the provision of health care in your Region.

Yours sincerely;

Fenton Ferguson DDS MP
Minister of Health

Copy: Permanent Secretary
Chief Medical Officer

APPENDIX A1

Members of the Audit Team

Multidisciplinary Health Care Team at the Region, Parish and Facility levels

- Doctors
- Nurses
- Administrators
- Auditors
- Other professionals

APPENDIX A2

Audit Tools

Area	Tool	
Maternity	Ministry of Health- Health Services Planning and Integration Audit tool for the Maternity	
Operating Theatre	Ministry of Health- Health Services Planning and Integration Audit tool for the Operating Theatre	
Neonatal Unit	Ministry of Health- Health Services Planning and Integration Audit tool for the Neonatal Nursery Care	
Intensive Care Unit	Ministry of Health- Health Services Planning and Integration Audit tool for the Intensive Care Unit	Issued 2008
Accident and Emergency	Ministry of Health- Health Services Planning and Integration Audit tool for the Accident and Emergency	
Health Centres	Ministry of Health- Health Services Planning and Integration Monitoring Tool Family Health Programme (Primary Care Facility)	Revised 2004

Appendix A3-Results -Critical Areas Checklist for CRH

	Critical levels /reorder levels/desired minimum stock levels				# of items in	Est. Duration current stock will last	Proposed Reorder date	Last reorder date	Last Reorder received date	% of last order received	Remarks ó include any problems identified, actions taken and recommendations				
GENERAL SUPPLIES: Premise 25 patients per day AVG.															
LINEN: Scrub Packs 3 gown pack Disposable (single use) Instrument Packs -Total	Ideal	U/P per day	nil		2 *day					Depends on laundry operations Received 2 times per day	Relative: I to Autoclave functioning ii. Availability of steam up to 10pm as no sterilization occurs after 10pm. Gets 2-3 times per day providing laundry is at optimum iv. # may increase when there are students observing v. Disposables are all gifts not purchased-Need to source for contingencies esp. for infectious cases				
												80	40		
												150			
-Laparotomy	Major	minor	Nil												
												I	U/P	I	U/P
												6	3	7	3

	Critical levels /reorder levels/desired minimum stock levels		# of items in	Est. Duration current stock will last	Proposed Reorder date	Last reorder date	Last Reorder received date	% of last order received	Remarks 6 include any problems identified, actions taken and recommendations
- Chest tube bottles	4		2		28/5/ 2015				Mostly done on ward /A&E. Bottles are for minor ops sets
-C/Section (for 2/7 days)	I/C	U/P			2*day				Premise that steam and auto clave is down If not enough sets re split and flushed
	10	20							
OT Staff Scrubs	I/C	U/P							Delivered 3*p/dy. Covers 3 shifts
	120	250							
Patients' Gown*	80 *40 ?	40							
Bed Linen and patient Covering	150	75							
Other Surgical Drapes	6	U/P 40 p/day							
Cleaning Chemicals									
Metricide									Order 2 gal per week
Metrizyme Enzymatic Detergent (washing instrument)									Order 4 bottles p/week -4 qrt

	Critical levels /reorder levels/desired minimum stock levels	# of items in	Est. Duration current stock will last	Proposed Reorder date	Last reorder date	Last Reorder received date	% of last order received	Remarks ó include any problems identified, actions taken and recommendations
Bleach								Order 20 gal p/week
Soap								Order 14 gal per week
SURGICAL PACKS	40 p/day							Delivered 2-3 times per day
STERILE SUNDRIES								
OTHER								
STATIONERY								
Operating and Progress notes	30	Comments: (general comments on availability, problems, actions taken and recommendations Adequate in most cases. This is because the secretary sees to it.						
FORMS*	30	Comments: (general comments on availability, problems, actions taken and recommendations) Adequate						

APPENDIX A4: -Results of Critical area checklist-SPGH

ITEMS	Critical levels /reorder levels/desired minimum stock levels	# of items in stock	Est. Duration current stock will last	Proposed Reorder date	Last reorder date	Last Reorder received date	% of last order received	Remarks ó include any problems identified, actions taken and recommendations
GENERAL SUPPLIES								
LINEN:								
Scrub Packs								
Instrument Packs								
-Total	5							
-Laparotomy	10	0				13.01.15	12	Had bal of 10
- Chest tube	4							
-C/Section	25							25 at start of day. Top up of 5-10 by early afternoon
OT Staff Scrubs								
Patients' Gown	100							50 gowns received from FFP 3/52. Additional amount available but not in circulation
Bed Linen and patient Covering	50							Patients sometimes leave unit on wrappers or mayo stand covers. Orders made Laundry but only small
Other								

								quantity received.
CLEANING CHEMICALS	Bleach Mediscrub Lysol Wipes Hand Soap							Orders made every Friday. Adequate supplies received. Lysol wipes for special bed.
SURGICAL PACKS								
STERILE SUNDRIES								
OTHER								
STATIONERY								
Operating and Progress notes		Comments: (general comments on availability, problems, actions taken and recommendations)						
FORMS*		Comments: (general comments on availability, problems, actions taken and recommendations)						
SURGICAL SUPPLIES								
GOWNS (Washables & Disposables)	50	Disposables- received some 800 from FFP 2/52. Washables- Laundry alerted when circulating stock limited. Each gown lasts an average of 2-3/12						
GLOVES	Sterile 4000 pairs Unsterile 3000 pairs **Non Latex. Limited amount.	Supplies normally adequate. Monthly order from NHF or open market. Non Latex for 3 members of staff and cases requiring same.						
CAPS	400	700						Supply more than adequate. Last order Dec 2014
OVERSHOES	200	250						Supply adequate. Received supply from FFP 2/52
APRONS	300	0						Hazard Bags used. Few members of staff have personal aprons.

GOGGLES	40	4		3/7			
FACE SHIELD	40	7		3/7			Mainly supplied as gifts
TOOLS AND EQUIPMENT							
EQUIPMENT*	[1] Anaesthetic machines	Comments: (general comments on availability, problems , actions taken and recommendations) [1] There are 3 machines, however only one is functioning optimally. This limits the # of cases requiring ventilation that can be done. 2 New Anaesthetic Machines are needed urgently [2] 2 complete, functioning. One without mattress in minor ops. Mattress from stretcher used as needed. Mattress for op bed needs to be sourced. [3] Both lights in OT 2 work, while only 1 in OT. Maintenance is aware [4] RR has 3 machines but only one is fully functional. Op Rooms have 2 with only 1 fully functional. Need to source at least 4 new monitors urgently. [5] 3 beds in unit. One needs to be removed as it cannot be adjusted. New bed needed. [6] 4 split and 1 central. Only the unit in OT 2 functions effectively. **See Section on Physical Environment for additional info. [7] None					
Maintenance	[2] Operating beds						
Repair	[3] Operating theatre lights						
Replace	[4] Vital Signs monitors						
	[5] recovery beds						
	[6] A/C units						
	[7] Autoclaves						
	[8] Other (specify)						
INSTRUMENT*		Comments: (general comments on availability, problems , actions taken and recommendations					
Maintenance							
Replacement							
Operating Theatre Light		Comments: (general comments on availability, problems, actions taken and recommendations					
Diathermy Machine	2	Comments: (general comments on availability, problems, actions taken and recommendations Functioning					
Diathermy Leads		Comments: (general comments on availability, problems, actions taken and recommendations Leads are disposable, however, they are subject to clad sterilization and reused					
Diathermy Lead - Holher (Quiver)	Adequate supplies	Comments: (general comments on availability, problems, actions taken and recommendations					

		Normally sourced as gifts.
Diathermy Plates	300	Plates are disposable, however they are reused. Only 30 in stock.
CORROGATED TUBE CONNECTORS (Ventilator tubes)		Order placed in Dec 2014 still not received. Supplies received are usually gifts. Changed once per week. If there is an immune-compromised
SUCTION TUBES	Rigid - 300	Disposable but are reused. Limited supply
	Tips 300	Fairly adequate supply. May have a shortage in a particular size close to reorder time
ET TUBES	300 assorted	Fairly adequate supply. May have a shortage in a particular size close to reorder time
OTHER:		Comments: (general comments on availability, problems, actions taken and recommendations
DISPOSABLES		Some disposable items are reused
REUSEABLES		Comments(are all reusables being used as per manufacturers guidelines, availability, problems, actions taken and recommendations) Guidelines not always followed e.g. LMAs # times autoclaved is more that recommended.
PHARMACEUTICALS/SUNDRIES		
DRUGS		Comments: (general comments on availability, problems , actions taken and recommendations
Anaesthetic drugs		Shortages from time to time but there is always a substitute available even though this may not be the ideal
Analgesics		Occasional shortage of specific items eg. Morphine Opioids 1 amp used for multiple clients to reduce wastage.
Antibiotics		Occasional shortage of first line or more potent ones.
Anticoagulants		Heparin is usually available
Steroids		Available
Emergency trolley drugs		Some items out of stock. Reported as being checked weekly, however, Check List revealed otherwise. Last Check was the 17.05.15 and the only time this month.
Other – Na Bicarb 50% D/W		Shortage O/S
IV FLUID		

IV SUNDRIES::		
IV Administration sets	250	Adequate supplies
Blood Giving sets		This comes with the blood for transfusion from the Lab. Ideal 1 set per unit of blood but at times only one set per patient is supplied regardless of the number of units to be transfused.
Needles	Assorted 500 each	Current shortage of 22 G.
Others		
OTHERS Syringes	500	1 cc is short most of the times. Sometimes the items supplied are inappropriate
INFECTION CONTROL/OCCUPATIONAL SAFETY		
CLINICAL WASTE PLASTIC BAGS	50	2 bins, changed at least twice daily
Regular Waste bags	100	5 bins, changed at least twice daily
OT COUNTING BOARD (Dry Wipe)	2	Comments: (general comments on availability, problems , actions taken and recommendations) 2 available, one in each of the major op rooms.
SHARP DISPENSERS		Comments: (general comments on availability, problems , actions taken and recommendations) At all sites where sharps generated. Boxes supplied by housekeeping. Not always replaced in a timely manner. Recommendation: Dept. To keep stock on hand.
FOOT OPERATED SINKS/SOAP DISPENSERS		Comments: (general comments on availability, problems , actions taken and recommendations) Scrub Area ó Three sensor operated sinks with manual soap dispensers. Bathrooms ó all manual
HAND DRYERS Paper towel dispensers Other		Scrub area has dryer. Bathroom etc 3 Hand towel dispensers
HAND SANITIZERS::	NIL	Comments: (general comments on availability, problems , actions taken and recommendations)

OT Room Entrance		Comments: (general comments on availability, problems , actions taken and recommendations)
Recovery Area		Available occasionally. Unsure if appropriate alcohol content
Other Areas		
Date of Last Theatre Microbiology Swab	June 2014	Comments : Results /problems, actions taken and recommendations
OTHER Chemical sterilization	Metricide Gluterez 4 gals	Comments: (general comments on availability, problems , actions taken and recommendations) Ordered monthly from Pharmacy. Adequate supply received. Activated in OT and supplied to other areas.
PHYSICAL ENVIRONMENT		
CUSTOMER SERVICE AREA	NIL	Comments: (general comments on availability, problems , actions taken and recommendations There is a area adjoining Female Six Ward that is used for Day Case Admission and preparation.
DOORS		Comments: (general comments on availability, problems , actions taken and recommendations Major doors to unit and OT rooms don't close properly. Maintenance Dept is aware.
PATIENT FLOW		Comments: (general comments on availability, problems , actions taken and recommendations Physical space is extremely limited. Passage used as waiting area as well as pre-op area. Full recovery of Day cases takes place in the RR and often results in delays for other cases.
SIGNAGE		Comments: (general comments on availability, problems , actions taken and recommendations Proper sign needed for entrance door. OT Rooms, Change Rooms, Recovery Rooms etc also need to be labeled. Signs also needed above Garbage containers indicating the type of waste to be placed in them
AIR QUALITY		Sub-standard
A/C		Comment on type, breakdown, maintenance, change of filters, scavenging of aesthetic gases and chemical The 3 five ton units were installed some 5 years ago as a temporary measure. They are too small for the area and thus despite servicing from time to time they simply do not work well. Last service 7.5.15

		and on date of audit 27.05.15 2 Of the three were malfunctioning. Recommendation: Needed urgently a Central AC Unit with laminar flow.
OTHER Electrical		Comments: (general comments on availability, problems , actions taken and recommendations Socket in OT 1 burnt. Extension cord being used creating trip hazard.
MAINTENANCE		
Schedule for general		No evidence or report of this.
Schedule for specific equipment		Re A/c Contract for quarterly servicing is in progress
Labelling on equipment to indicate maintenance schedule ólast date works done		Rarely
Calibration of equipment- Commissio ning upkeep		
Evidence of training of users of equipment		

Appendix A5: Stock out for CRH Pharmacy May 2015 ²

CATEGORIES	DRUGS
Cardiovascular	Amlodipine Tab 10 mg
	Amlodipine Tabs 5 mg
	Frusemide Tabs 40 mg
	Enoxaparin Injection 40 mg
	Enoxaparin Injection 60 mg
	Enoxaparin Injection 80 mg
	Simvastatin Tabs 40 mg
	Atorvastatin Tabs 20 mg
	Atorvastatin Tabs 40 mg
	Daflon Tabs 500 mg
	Dapsone Tabs 100 mg
	Heparin Injection 25000 IU
	Hydralazine Injection
	Hydralazine Tabs 25 mg
	Nifedipine Tabs 10 mg
	Nifedipine Tabs 20 mg
	Nifedipine Tabs 60 mg
	Spironolactone Tabs 25 mg
	Clopidogrel Tabs 75 mg
	Methyldopa Tabs 250 mg

² Source CRH Pharmacy

CATEGORIES	DRUGS
	Hydralazine Injection 20 mg
	Warfarin Tabs 1 mg
	Warfarin Tabs 5 mg
	Verapamil Injection 2.5mg/ml
	Verapamil Tabs 80 mg
	Valsartan 80 mg + HCTZ12.5 mg / 14pck
	Adenosine Injection 3mg/ml/2ml
	Norepinephrine Injection 1mg/ml/4ml
	Carvedilol Tabs 12.5 mg
	Carvedilol Tabs 25 mg
	Propanolol Tabs 10 mg
	Propanolol Tabs 40 mg
	Digoxin Tabs 0.125 mg
Cardiovascular	Enalapril Tabs 20 mg
	Dipyridamole Tabs 25 mg
	Dipyridamole Tabs 25 mg
	Metalyse Injection 10000 U
Central Nervous System	Valproic Acid Syrup
	Valproic Acid Caps 250 mg
	Haloperidol Tabs 5 mg
	Loratidine Syrup
	Loratidine
	Midazolam 7.5 mg tab

CATEGORIES	DRUGS
	Chlorpromazine Injection
	Chlorpromazine Tabs 100 mg
	Diclofenac Injection 75 mg/3ml
	Diclofenac Gel
	Diclofenac Tabs 50 mg
	Diphenhydramine Injection 50 mg
	Olanzapine Tabs 10 mg
	Quetiapine Tabs 200 mg
	Phenytoin Suspension
	Gabapentin Caps 100 mg
	Gabapentin Caps 300 mg
	Risperidone Consta Injection 37.5 mg
	Carbamazepine CR 400 mg
	Cataflam Suspension
	Pethidine Tabs 50 mg
	Paracetamol/Codeine 500mg/8mg
	Baralgin Tabs 150 mg
	Gliclazide Tabs 60 mg
	Tramadol Caps 50 mg
	Meloxicam Tabs 15 mg
Antibiotic	Levofloxacin Injection 750 mg
	Amoxi Clav Injection 600 mg
	Amoxi Clav Suspension 228/5ml

CATEGORIES	DRUGS
	Amikacin Injection 500 mg
	Erythromycin Tabs 250 mg
	Azithromycin Suspension 200 mg/ 5ml
Fluids and Electrolytes	Calcium Gluconate Injection
	Water for Injection 500 ml
Respiratory	Ipratropium Solution
	Salmeterol/Fluticasone 250/25
	Symbicort 160/4.5
Anti-viral	Abacavir Tabs
	Lamivudine Suspension
	Triomune Tabs
Anti-bacterial	Isoniazid Tabs 100 mg
	Silver Sulphadiazine Cream
Anti- parasitic	Pyrimethamine Tabs 25 mg
Vitamin	Pabrinex IV Injection (Vitamin B & C)
	Phytomenadione Paediatric Injection 2mg/0.2 ml
Chemotherapy / Anti-neoplastic	Carboplatin Injection 150 mg
	Carboplatin Injection 450 mg
	Doxorubicin Injection 10 mg
	L Asparaginase Injection 1000 U
	Methotrexate Injection 50 mg
	Anastrozole Tabs 1 mg
	Tamoxifen Tabs 10 mg

CATEGORIES	DRUGS
	Oxaliplatin Injection 100 mg
	Ifosfamide Injection 2g
	Dacarbazine Injection 200 mg
Gastrointestinal	Liquid Paraffin
	Ranitidine Tabs 150 mg
	Ranitidine Tabs 300 mg
	Omeprazole Caps 20 mg
	Pantaprazole Tabs 40 mg
	Odansetron Tabs 8 mg
	Odansetron Injection 100 mg
Dermatology	Salicylic Acid
	Chlorhexidine Gluconate
	Chlorhexidine Gluconate in Alcohol
	Povidone Solution 1L
Endocrine	Insulin N
	Insulin R
	Gliclazide Tabs 60 mg
	Androcur Tabs 100 mg
	Androcur Tabs 50 mg
	Neomercazole Tabs
Nutrition	Fractionated Soy Oil 20 %
Miscellaneous	Boric Acid Powder
	Acetic Acid

CATEGORIES	DRUGS
	Talc

Appendix B 1 : Operating Theatre: Critical Items needed based on Audit

LARGE EQUIPMENT				
	SPGH**	CRH	TOTAL	ESTIMATED COST***
Anaesthetic Machines	2	3	5	3,517,188
Operating Beds	1	2	3	3,055,000
Operating Theatre Lights*	1	6	7	7,000,000
Vital Signs Monitor*	4	5	9	110,000
Recovery Beds (similar to stretcher)	1	4	7	290,800
Stretchers	2	2	4	298,975
Autoclaves	2	1	3	350,000
Suction (portable)	1	1	2	70,000
				305 p/yr

* Non functional items require maintenance assessment to determine if repairs are possible.

**Piped compressed air and oxygen needed

*** Costs to be verified

LINEN (levels extremely low and influenced by laundry services ¹)				
Estimated at 25 patients per day CRH and 10 SPGH				
	SPGH Ideal	CRH	NEEDS ²	ESTIMATED COST

	with buffer	Ideal with Buffer		
Scrub Packs (3 gown)	40/day	80/day	210 gowns additional needed(already supplied 75) This will allow a buffer stock for 2 days	335, 805
Patient Gowns (reuseable)	35/day	60/day	Based on audit no additional needs at this time. 157 were injected early May. This included the buffer for 2 days. <u>Injection pattern to be established</u>	
Laparotomy packs -Major		6/day	Based on audit . Order made for these sets to be done including buffer stocks . As at 24/6/15 order is only 10% filled for CRH. SPGH needs	300,000
Laparotomy packs- Minor		7/day		
OT Staff scrubs	100/day	250/day	Reported that scrubs are not made but usually donated/purchased. Last purchased 4-5 years ago. Gifts received but large sizes are small. Stores report none in stock. A count of current stock is needed. Injection of 400 scrubs recommended	366,000
Trolley Linen (stretcher)	100/day	250/day	<u>200</u> additional required as 150 injected in the system recently	122,000
	SPGH	CRH	TOTAL³	

Disposable scrub packs (single)	9/day	18/ day	600 disposable needed (buffer reorder based on usage)	
Patient Gowns (disposable)			250 disposable needed (buffer , reorder based usage)	
Infant Gowns				

- 1. Laundry services have been unreliable over the last 12 months
- 2. Includes buffer stock for day (buffer stock allows functioning of theatre [emergency services only if laundry services down for 48 hrs). Assumes 40% daily cases are emergencies. This is the additional linen to be purchased to meet the requirements
- 3. **Stock required for infectious cases and to supply buffer stock in emergency cases for one week**
- **Bed Linen should have 5 bed sheets : 1 bed**
- Estimates of cost generated from fabric only @\$305/yd

DISPOSABLES TO BE PROCURED (Recommend purchase of 3 months supply)

1. HME Filters for Ventilators and Anaesthetic Machines: 1050 per month
2. Anaesthetic circuits (corrugated tubes): 300 per month
3. Face Shield : CRH : 600 per month, SPGH : 150 per month
4. Goggles : SPGH 150 per month, CRH 400 per month
5. Aprons: Disposable SPGH requires stock of 300 (two week supply),
6. Diathermy Plates: SPGH : 300 / month CRH 750/ month
7. Suction tips: 1050 per month

MINISTRY OF HEALTH
REGIONAL HEALTH AUTHORITY AUDIT CONFORMANCE RESPONSE
REGION: WESTERN REGIONAL HEALTH AUTHORITY

HEALTH FACILITY & SERVICE DELIVERY AREA	NON-CONFORMANCE	RECOMMENDED / PROPOSED CORRECTIVE ACTIONS	TIMELINES	STATUS
WESTERN REGIONAL HEALTH AUTHORITY				
	<p><i>Challenges in Leadership and Governance</i></p> <ul style="list-style-type: none"> • Risk management • Implementation and monitoring of Quality Assurance (QA) programme 	<ol style="list-style-type: none"> 1. Review Regional Priorities in Quality Assurance (QA) 2. Improve risk management 3. Strengthen monitoring and Evaluation frameworks at the Regional level 4. Employ a dedicated Quality Assurance Officer 5. Determination and implementation of short, medium and long-term goals and Action Plan, with priorities and budgets and ensure monitoring and evaluation at parish levels 6. Improve supervision in high risk areas 	<p>Sept 2015</p> <p>Dec 2015</p> <p>Ongoing</p> <p>Sept 2015</p> <p>Nov 2015</p>	<p>1. Operational plan and priorities reviewed and shared with parish teams on September 18, 2015. This was previously done in Regional Technical Meetings and Senior Directors Meeting in May 2015 and August 2015. Focus on QA has been done in various meetings.</p> <p>2. Training in Risk Management conducted in October 2015. Risk Registers to be updated and monitored</p> <p>3. Regional Quality Assurance committee meetings held</p> <p>4. Audit monitoring meeting convened with Senior technical and Administrative September to review audit findings. Specific action plans</p>

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				<p><i>being developed/refined and monitored</i></p> <p><i>5. Infection control training done. Gap analysis done to review staff needed to improve ability to strengthen supervision. Recruitment for key personnel to be done within the next three months</i></p>
	<i>Inadequate systems and infrastructure for Infection Prevention and Control, in particular for the high risk areas</i>	<ol style="list-style-type: none"> 1. Strengthen staffing at the facility level to support infection control 2. Provide guidance and tools for the Establishment / Strengthening of Infection Prevention and Control Committees at all hospitals and for Primary Care at Parish Level 3. Update Standard Operating Procedures including cleaning 4. Ensure adequate infrastructure for 	<p>Dec 2015</p> <p>Dec 2015</p> <p>Sept – Dec 2015</p> <p>Sept- Dec2015</p>	<p><i>Recruitment effected for key positions including inventory managers, operating theatre manager.</i></p> <p><i>Gap analysis to be used to develop action plan for recruitment.</i></p> <p><i>Infection Control Manuals disseminated in hospitals. High risk framework guideline is being implemented including monitoring infection in hospital and drug resistant</i></p>

HEALTH FACILITY & SERVICE DELIVERY AREA	NON-CONFORMANCE	RECOMMENDED / PROPOSED CORRECTIVE ACTIONS	TIMELINES	STATUS
		<p>hand hygiene</p> <p>5. Review priorities in Work Plan, for Infrastructure repairs</p> <p>6. Complete infrastructure repairs in high risk areas</p> <p>7. Train and retrain staff in high risk areas</p>	<p>Sept 2015</p> <p>Jan 2016- Dec</p>	<p><i>microbes</i></p> <p><i>SOPs being posted to spur action</i></p> <p><i>Monitoring from Health Department</i></p> <p><i>in high risk areas is being done</i></p> <p><i>Retrofitting of areas being done and provision of hand sanitizer strengthened</i></p> <p><i>Completed and additional staff to manage infrastructure works have been employed</i></p> <p><i>Completed Intensive Care Unit (CRH) works. Other areas in progress</i></p> <p><i>Training has commenced.</i></p>

HEALTH FACILITY & SERVICE DELIVERY AREA	NON-CONFORMANCE	RECOMMENDED / PROPOSED CORRECTIVE ACTIONS	TIMELINES	STATUS
	<i>Inadequate and inconsistent supply of pharmaceuticals and sundries including weakness in stock and inventory management</i>	8. Strengthen monitoring of pharmaceutical supply 9. Employ inventory managers 10. Strengthen systems to track use of drugs and sundries	Ongoing Dec 2015	<i>Monthly reports generated and some procurement done on open market where NHF is unable to supply.</i> <i>Recruitment process in progress for inventory managers</i> <i>IT system in development</i>
SAVANNA LA MAR PUBLIC GENERAL HOSPITAL				
<i>Maternity</i>	Lack of equipment poor lighting and inadequate supply of linen	<i>Procure equipment and supplies</i> <i>Repair /Replace lighting</i> <i>Improve linen management</i>	<i>Dec 2015/ongoing</i>	<i>Request made to procure items (BP Machines etc)</i> <i>Lighting issue addressed.</i> <i>Shortage of linen due to incomplete renovation of laundry.</i>
<i>Operating Theatre</i>	Routine Microbiology not done.	Trained staff to supervise Monthly Deep cleaning Routine cleaning and swabbing.	Sept 2015ongoing	<i>Deep cleaning and Swabbing done of OT. Awaiting</i> <i>Air Conditioning system cleaned.</i> <i>Duct cleaning scheduled for 7.11.11</i>

HEALTH FACILITY & SERVICE DELIVERY AREA	NON-CONFORMANCE	RECOMMENDED / PROPOSED CORRECTIVE ACTIONS	TIMELINES	STATUS
				<i>Training done for cleaning staff</i>
	Lack of supplies for basic function.	Reuse of supplies should not exceed manufacturer's recommendation Monitor use of supplies	Ongoing	<i>Increase in procurement and distribution of supplies. This process is ongoing.</i>
	Documentation of supplies and issues of inventory control	Improve the human resources to manage inventories	Sept 2015	<i>Officer identified and trained in Inventory and Supplies management. Better monitoring of stock. Improvement in supplies being made available</i>
Nursery	Located within Pediatric Ward with inadequate layout and no ventilator	Develop proposal to improve Nursery	Dec 2015	<i>Proposal developed and supported by Issa Trust Renovation and relocation commenced for SCN to include compressed air. Equipment donated by ISSA Trust (no ventilator) Training being done for staff in WRHA and Issa Trust</i>
Accident &	Lack of preventative	Develop preventative maintenance schedule	Oct 2015	<i>In discussion with Regional Biomedical</i>

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Emergency	Maintenance Schedule	for equipment and strengthen implementation		<i>Unit to implement. Visit scheduled for November 24, 2015.</i>
	Lack of Stretchers and wheelchairs	Procure equipment	Nov 2015	<i>Procurement phase of three stretchers in progress.</i>
	Laboratory results unavailable to physicians within standard time protocol	Improve health information system	Dec 2015	<i>Roche implementing LAN system to link ER with Lab.</i>
	Difficulty in obtaining essential drugs	Strengthen drug procurement and monitoring	Ongoing	<i>Supply/demand problems based on NHF controls. Sourcing on open market where available</i>
Laundry Service	Inadequate supplies of linen	Procure additional linen Complete laundry renovations	Oct 2015	<i>Laundry services outsourced to CRH . Introduction of disposables to augment supplies. Renovation to be completed by November 2015</i>
Equipment		Procure Equipment		
	Split A/C units in OT		Dec 2015	<i>Central Unit being procured to be installed by December 4, 2015</i>
	Anesthetic Machine		Dec 2015	<i>Procurement process far advanced for item</i>

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	No table top autoclave		Dec 2015	<i>Issa Trust consented to donate to the hospital</i>
	Operating Theater Beds		Dec 2015	<i>Procurement process far advanced for this item.</i>
CORNWALL REGIONAL HOSPITAL				
Operating Theatre	Inadequate management of stock and supplies	Strengthen Stock management Employ an Operating theatre manager	Sept 2015 Dec 2015	<i>Established the requirements and buffer stock levels. Recruitment of OT manager is in progress</i>
	Inadequate disposables and PPEs	Procure disposables and PPEs	Sept 2015/ongoing	<i>Procurement in progress</i>
	Inadequate critical equipment	Procure equipment and supplies	Sept- Dec 2015	<i>Repairs done on operating theatre lights, operating theatre bed procured, 5 vital signs monitor and stretchers procured. Anesthetic machines(1) on order and three (3) prepared for tender</i>
	Non compliance with infection control procedures	Train and monitor staff to ensure conformance with infection control procedures	Ongoing	<i>Training session conducted before and post audit</i>
Maternity	Inadequate physical layout	Complete rehabilitative works in	Dec 2015	<i>Project is in progress</i>

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	Inadequate equipment and supplies	Maternity Unit Procure equipment and supplies	Sept 2015-Apr 2016	<i>Procurement in progress. Items already delivered include suction, stretchers, and recovery beds</i>
Neonatal Unit	Inadequate adherence to infection control procedures Inadequate staffing in unit Inadequate equipment	Strengthen monitoring of staff Retrain staff in infection control practices Procure equipment and supplies Recruit additional staff	Ongoing Sept 2015/Ongoing Dec 2015 Sept 2015- Apr 2016	<i>Monitoring increased. Training sessions have been conducted and additional staff assigned to the area. Some equipment, PPEs and supplies procured including cots. PROMAC to assist with further infrastructure changes (in the design phase). SOPs developed for some critical procedures and others in development</i>
Intensive Care Unit	Inadequate tools for monitoring and support Suboptimal use of the ICU due to inadequate staff and equipment No microbiologist on staff to support services provided	Procure tools for monitoring and support Employ additional staff including microbiologist	Sept 2016/Ongoing	<i>Procurement in progress. New ventilators procured Improved use of space but staff recruitment pending. Staff granted study leave for training programmes such as critical care nursing</i>

HEALTH FACILITY & SERVICE DELIVERY AREA	NON-CONFORMANCE	RECOMMENDED / PROPOSED CORRECTIVE ACTIONS	TIMELINES	STATUS
				<i>and microbiology.</i>
Accident and Emergency	<p>Absence of manuals for portering services</p> <p>Lack of defined systems to capture time of arrival in A&E</p> <p>Inadequate update of patient log books</p> <p>Inadequate equipment and supplies</p>	<p>Identify manuals for portering services</p> <p>Develop training programme/schedule for portering staff</p> <p>Maintain patient log books</p> <p>Procure equipment and supplies</p>	<p>Dec 2015</p> <p>Sept 2015</p> <p>Immediately</p> <p>Dec 2015</p>	<p><i>Manuals to be developed</i></p> <p><i>Presently done at triage and updated</i></p> <p><i>Dedicated staff needed. Attempts made to have it updated by students until staff identified</i></p>
Linen	Inadequate linen and linen management system	<p>Improve linen management system</p> <p>Repair nonfunctional washers and dryers</p> <p>Improve stock of linen</p>	Sept 2016	<p><i>New washer installed</i></p> <p><i>Linen management system improved with formal systems developed and monitored to track linen</i></p> <p><i>Additional linen procured</i></p>

HEALTH FACILITY & SERVICE DELIVERY AREA	NON-CONFORMANCE	RECOMMENDED / PROPOSED CORRECTIVE ACTIONS	TIMELINES	STATUS
Maintenance	Insufficient maintenance schedules	Develop maintenance schedules where needed Strengthen maintenance systems where present	December 2016	<i>Additional maintenance staff employed and capacity strengthened through training</i> <i>Maintenance Schedules in development</i> <i>Outsourcing of some maintenance schedules done</i> <i>Engaged external consultants to evaluate critical equipment</i>
HEALTH CENTRES				
Savanna la mar Health Centre				
Environment	Inadequate Space – Waiting Area	Savanna la mar Health Centre is currently under renovation – funded by National Health Fund	Project's original end date was Oct. 6, 2015. A new date is to be determined.	<i>Construction in progress.</i>
	Toilet facilities partially cleaned	Strengthen Cleaning schedule	October 2015	<i>Two hourly monitoring in place to ensure adequate cleaning frequency</i>
Emergency Trolley, equipment and Supplies	*Absence of some antipsychotic meds and some resuscitative drugs	Drugs and sundries to be procured	November 2015	<i>Pharmacy monthly request as per need</i>

HEALTH FACILITY & SERVICE DELIVERY AREA	NON-CONFORMANCE	RECOMMENDED / PROPOSED CORRECTIVE ACTIONS	TIMELINES	STATUS
	*Inadequate number of airways			
Human Resource & facilities Management	Lack of documentation of orientation	To share documentation of schedules with Human Resource department	Monthly	
	Staff Meetings not held routinely	Meetings scheduled for 2 nd Thursdays monthly	Immediate	<i>Scheduled d to be held on November 12, 2015.</i>
	Inadequate wheel chairs	To be procured	Budget 2016-2017	<i>One to be redeployed from SPGH</i>
	No pharmacy services	Based on proximity to hospital Pharmacy Services is accessible. In addition primary care offer pharmacy services from three health centres.	immediate	<i>Pharmacy services are held once per month at each location.</i>
	Inadequate storage facility	Area will be identified after renovation of health centre		
	Procure equipment and supplies	To be procured	By the end of November 2015- 2016	<i>Procurement initiated for some supplies.</i>