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Preliminary Health Center Assessment Findings  
From Three Regions of Ethiopia

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## *Preliminary Health Center Assessment Findings From Three Regions of Ethiopia*

### **INTRODUCTION**

On September 29, 2006, Crown Agents Consultancy, Inc. was awarded the contract to implement USAID/Ethiopia's Health Center Renovation (HCR) project (No. 663-C-00-06-00428-00).<sup>1</sup> The **purpose** of this two-year project is to assist the Federal Democratic Republic of Ethiopia extend chronic disease care and treatment services, including HIV/AIDS, to health centers (HCs) in selected regions of the republic.

The HCR Project is headed by Noel McIntosh, Project Director (PD), and a technical team comprised of Sellehunae Merahi, Senior Program Officer (SPO), Efrem Getaneh, Chief Engineer (CE), Zalelam Nigussi, Engineer (E), and Paul Wolstenholme, Senior Consultant Engineer (SCE). The project office is located at the Sevita Building, 4<sup>th</sup> floor, Bole Road, Addis Ababa, Ethiopia.

The two **project objectives** that specifically relate to the findings in this report are:

1. To provide technical assistance on HC renovations to the Federal Ministry of Health's Regional Health Bureaus (FMOH/RHBs) including technical design, engineering, procurement and logistics support
2. To provide direct renovation support of 50 selected HCs to support chronic disease management, including HIV/AIDS

### **Purpose of Report**

The **purpose** of this report is to present the preliminary findings resulting from engineering and clinical service assessments conducted at 12 HCs located in three PEPFAR priority regions of the Republic (Amhara, Oromia and SNNPR). The assessments were conducted during January and February 2007 by members of the HCR project technical team with assistance of the SCE and the PD.

### **Report Structure**

The report consists of the following sections:

- methodology,
- observations,
- implications, and
- recommendations.

In the following sections, each topic is presented in considerable detail.

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<sup>1</sup> Crown Agents Consultancy, Inc. (CAC) is a U.S. incorporated international development company providing direct services, technical assistance and training to improve governance and economic growth. CAC is part of the Crown Agents/UK international group, which works for the public and private sectors in more than 100 countries, as well as for international donors and development institutions.

## **METHODOLGY**

### **Selection of Health Centers to be Assessed**

In each region, HCs were selected from the most recent (January 11, 2007) PEPFAR priority list that includes HCs scheduled to initiate (or have initiated) ART and chronic disease services.<sup>2</sup>

To ensure concurrence on those HCs selected for assessment, discussions were held with each RHB Head or Deputy Head, including staff from the PPD and its engineers. Based on these discussions, the following HCs were assessed during the period 22 January to 02 February 2007:

- **Amhara:** Adet HC, Addis Zemen HC, Bahir Dar HC, Burie HC, Dangla HC, Durbete HC, Injabara HC and Woreta HC
- **Oromia:** Shashemene HC and Zeway HC
- **SNNPR:** Sodo HC and Yirgalem HC

### **Process of Conducting Assessments**

#### ***Regional Level***

Prior to conducting the assessments, one or more meetings were held with the RHB Head (or Deputy Head) of the three regions, the RHB/PPD Head and her/his engineers and HMIS staff (where available). The purpose of these meetings was to:

- inform senior staff of the objectives of the HCR project,
- answer any questions or issues raised by RHB senior staff,
- obtain concurrence on selection of the PEPFAR priority HCs to be assessed in their regions, and
- elicit RHB/PPD support (where available) to assist in conducting the assessments.

#### ***Health Center Level***

At each HC, an initial discussion with the Health Officer (HO) In-Charge, or her/his designated representative, was held. At this meeting, issues and problems raised by the HO were noted as well as a description of the range of promotive, preventive and curative primary health care (PHC) services provided at the HC. In addition, any previous or planned interventions by the Woreda/Zone/RHB, USAID-partners, other USG- or non-USG organisations, such as the World Bank or GTZ, or corporate or private donors were noted.

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<sup>2</sup> The four PEPFAR priority regions (Amhara, Oromia, SNNPR and Tigray) and Addis Ababa are included within the overall parameters of the HCR project.

## **Composition of Assessment Team**

The assessment team included project engineering and medical personnel in consultation with the Health Officer In-Charge, or her/his delegated representative.

## **Engineering Assessment Approach**

The **purpose** of the engineering assessment was to gain an overview of the HC from both a physical and use perspective. **Specific objectives** included:

- To assess the physical condition of the HC buildings
- To determine if the utilities and sanitation system were functioning and adequate for the needs of the HC
- To estimate if the HC is over- or under-utilized
- To assess if patient care is compromised by space limitations, inappropriate use of existing space and/or a combination of the two

The first step in conducting the engineering assessment was to tour the facility with HO In-charge. During this initial walkthrough a sketch of the HC layout was made and the function/use of each room was noted. During this walkthrough, the general structure of the buildings, including the roof and guttering, was assessed to determine their condition as well as the functional condition of the utilities (water supply and electrical system) and sanitation system (waste water disposal, toilets, pit latrines and septic tank(s)).<sup>3</sup>

Subsequently, the project team inspected each room/space in the HC, measured it, and took detailed notes in order to identify items that were damaged, not functioning or missing (e.g., plugged sink drains or damaged/missing hand wash basins in designated exam/treatment rooms). In addition, digital photos were taken to document the observations. Items identified for repair or replacement also were noted as well as any structure(s) deemed unsuitable for renovation (e.g., a partially burned out building or unused mud hut). Finally, where new construction such as an additional room or block of rooms was required, comparison with the FGOE's HC construction standards was used as the guide.

## **Health Care Services Assessment Approach**

To gain a better understanding of the current functioning of the HC, a limited assessment of the health care services provided was done. As the initial step in this process, the HC In-Charge was asked to describe the services currently provided, to discuss any concerns or limitations, and to make suggestions for improving any services. Then, when available (and appropriate), provision of various types of health care services was observed. The guidelines for the assessing the quality of health care services provided were based on the promotive, preventive and curative primary health care (PHC) service standards defined by the FGOE for HCs.

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<sup>3</sup> At each HC, two water tests are conducted at the closest point of entry to the facility or water reservoir; one to identify bacterial contamination and other to test for lead.

## OBSERVATIONS

In the following subsections, the observations listed are indicative of frequently encountered problems and/or fundamental deficiencies in the physical, clinical service and management functions of 12 HCs assessed. The list is not all inclusive, nor does it take into account all findings necessary to bring any one HC up to the FGOE standard. As an example, the cost estimate for renovation of the Addis Zemen HC/Amhara region is shown in **Table 1, next page**. (A list of all deficiencies identified for each of the 12 HCs, including detailed site visit notes and cost estimates, is available.)

### *Engineering Issues*

- The standard of new construction varied considerably, from good to poor. This included a building of only 6 months showing significant wall cracks.
- Rainwater gutters and down pipes were damaged or were filled with debris in nearly all HCs.
- Where additions or extensions to the HC had been completed, rainwater discharge from the roof had not been considered. In some HCs, this has resulted in pooling of water around buildings, thereby increasing the risk of foundation subsidence. (For example, a building in one HC constructed less than 10 years ago showed considerable foundation subsidence due this problem.)
- Electrical installations had been completely replaced in some HCs using surface mounted cable, which was not safe because under-sized wire was used, and there were bare cable joints and open junction boxes. Often, light switches, power outlet sockets and light fittings were not installed correctly and had been left unattached to the walls or ceiling.
- Waiting patients often had to sit on the ground or on building access steps due to benches/seating being damaged and not repaired.
- Sinks and hand wash basins did not function due to under sink discharge pipes being blocked with medical waste and debris.
- Often there was no water supply to hand wash basins or the taps/faucets were broken, resulting in buckets of water being used as an alternative water supply.
- Water reserves were sometimes inadequate, with only 3 to 8 hours capacity.
- In showers and toilets where the water supply did not work, the rooms were used as temporary stores for broken or damaged equipment or as general stores.
- In several HCs, water pipes and valves were broken; also many pipes were old leading to internal rust contamination.
- The waste water disposal network was not functioning in some HCs. As a result, septic tanks, intended to collect waste water and drainage from toilets, often were filled with all types of debris as well as being used as placenta pits.

**Table 1. Renovation Summary Sheet for Addis Zemen HC (Amhara Region)**

Sir No	Description	Unit	Qty	Remedy	Unit Cost (Birr)	Estimated total (Birr)
<b>1</b>	<b>Shortage of space for treatment, injection, archives and patient education</b>					
	Room Space	m2	78	HCB wall, stone masonry, RC beams and columns, G30 corrugate sheet, eucalyptus truss, chip wood or equivalent ceiling	1600	124800
	Waiting area	m2	60	HCB law wall, stone masonry, RC beams, metallic posts, G30 corrugate sheet, eucalyptus truss	500	30000
	No TB examination and treatment room	m2	20	HCB wall, stone masonry, RC beams and columns, G30 corrugate sheet, eucalyptus truss, chip wood or equivalent ceiling all according to the existing	1800	36000
<b>2</b>	<b>Maternity wing functional flow needs correction</b>	m2	130	Light weight partitions, open door from out side, close two doors and make windows with all finishing works	800	104000
<b>3</b>	<b>Clinical Rooms lack water supply</b>	No	8	Provide single bowl sink with metallic stand and with all accessories	1000	8000
<b>4</b>	<b>Toilet fixture required for labor room</b>	no	1	Provide and fix Turkish WC with elevated water tanker with all accessories and floor drain and shower head	2200	2200
<b>5</b>	<b>No clean water supply</b>	Lump sum	7	Provide and fix half inch galvanized steel pipe up to the inlet get valve, Price include all connectors and fitting	300	2100
<b>6</b>	<b>No Sewage line from the fixture</b>	Lump sum	8	Provide and fix diameter 50mm PVC pipe from the fixtures to the manholes	100	800
<b>7</b>	<b>Clean Water supply</b>	ml	40	Supply and lay half inch galvanized steel pipe	30	1200
<b>8</b>	<b>Sewage line Supply</b>	No	65	Provide and Lay 110mm diameter pvc sewage line. Price include digging, laying in position and supplying all connectors	100	6500
<b>9</b>	<b>Manhole connection</b>	LS	9	Manhole with diameter 60 concrete pipe, thickness not less than 5 cm. Price include, supplying, laying in position, connecting slope grading	250	2250
<b>10</b>	<b>Achieve requires renovation</b>	m2	15	Pavement around the building, plastering and painting to the wall and ceiling works	300	4500
<b>11</b>	<b>Septic tank is required</b>	less	1	Construct 20 m3 septic tank price include, excavation, construction of stone masonry, arc slab with two openable manhole and HCB wall partition	20000	20000
				<b>TOTAL (Birr)</b>		<b>342,350</b>

- Latrines for both patients and staff were poorly maintained and often inadequate for the needs of the HC (too many patients and/or limited space on the HC compound to build more latrines) and were overflowing resulting in patients and staff using the surrounding area for this purpose.

- At most HCs, the FGOE standard incinerator was either seldom used and the ash put filled with unburned medical and general waste, or it was stuffed with non-burnable items (e.g., cartons of out-dated glass vials containing sterile water).

In two HCs, the water quality test proved positive suggesting a contaminated water supply (bacterial count in excess of 10,000 ppm compared with a count of 100 ppm for potable water). Both of these HCs use the main city water supply that comes from untreated wells or boreholes (**Table 2**). Subsequent retesting at one site (Zeway HC) two weeks later (samples taken from both original off site tap and a tap on site) were negative ( $<10^2$  coliform colonies per ml), however.

**Table 2. Summary Results: Water and Lead Testing (by region and health center)**

Region and Site Name	Water Quality				Lead	Status
	Source (city/well)	Clarity (clear)	Particle (none)	Bacteria ( $< 10^2$ / ml) <sup>1</sup>	Negative ( $< 15$ ppb) <sup>2</sup>	
<b>AMHARA</b>						
1-Adet	Yes	Yes	Yes	Yes		Need lead test
2-Addis Zemen	Yes	Yes	Yes	Yes	Yes	
3-Bahidar	Yes	+	Yes	$>10^4$	Yes	Retest to confirm
4-Burie	Yes	Yes	Yes			Need H2O/lead test
5-Dangla	Yes	Yes	Yes	Yes	Yes	
6-Injibara	Yes	Yes	Yes	Yes		Need lead test
7-Durbette	Yes	Yes	Yes	Yes	Yes	
8-Werota	Yes	Yes	Yes	Yes	Yes	
<b>OROMIA</b>						
1-Shashemene	Yes	Yes	Yes	Yes	Yes	
2-Zeway	Yes	Yes	Yes	$>10^4$	Yes	Retest to confirm
2a-Zeway <sup>3</sup>	Yes	Yes	Yes	Yes		Retest Site A
2b-Zeway <sup>4</sup>	Yes	Yes	Yes	Yes		Test Site B

<sup>1</sup> Potable water level standard

<sup>2</sup> Less than EPA action level

<sup>3</sup> Sample from original tap (off site)

<sup>4</sup> Sample from on site tap

### ***Health Care Service Issues***

The major clinical services provided at HCs that entail considerable risk to both patients and staff are labor and delivery and emergency treatment of cuts, boils and infected wounds. With few exceptions, recommended infection prevention practices were not in place nor understood by staff. In addition:

- Rooms/areas designated for emergency care generally were poorly maintained and relegated to the oldest building in the HC compound. (At one HC, which had seven clinical service buildings constructed of concrete block, including a new ART/chronic disease care building, the emergency care unit was a mud hut without electricity, water or access to sanitation.

- In most HC maternity units, the walls, doors, floors and delivery table were not clean. And, the delivery rooms were littered with debris (old towels, rags, dirty instruments and needles and syringes).
- In delivery areas, access to the shower and toilet facilities often was through the delivery room itself. Re-organisation of patient flow was recommended.
- Sluice rooms, where provided, were unclean and equipment for sterilization (or high-level disinfection) of instruments were often broken (e.g., in one HC the electric plate for heating the gravity-type autoclave had been broken for sometime). In several other HCs, the gauges on the autoclaves were broken; the dry-heat ovens at several sites had broken gauges and thermometers so the temperature could not be monitored during use. In addition, staff members responsible for operating the equipment were unsure of the correct operating conditions (e.g., time and pressure for correctly operating an autoclave). In no HC were equipment operating instructions available.
- In most HCs, used syringes and needles were not placed in disposal boxes, which in several HCs were available in the stores. Instead, after use they were left on tables, benches and the floor often with the needle covered! (These findings were observed most frequently in the EPI room/area.)
- At one site, staff brought out a metal needle [hub] cutter that they had been given several months before. It was covered with dust and dried blood.

### ***Health Center Management Issues***

There appears to be no, or only a small, budget line for repair or maintenance of the HC, the furniture or any equipment. In addition, with few exceptions (e.g., Dangla HC and Addis Zemen) routine maintenance is not done (e.g., even basic inspection of blocked hand wash basins/sinks that often can easily be unblocked). Other findings included:

- There appear to be no records or drawings available on-site detailing buried water and waste water pipe locations.
- Broken and damaged equipment, which is repairable, is stored thus taking up valuable space rather than being repaired and put back into service.
- Many drug storage rooms were so crowded with boxes and cartons of drugs lying on the floor and tables that stock rotation was difficult. No wooden or other types of shelving was found in most making it even more difficult to have a stock rotation (first in/first out) system. In some HCs, one or more rooms were allocated for storage of expired drugs awaiting disposal instructions. This finding also applied to equipment beyond repair.

### **IMPLICATIONS**

From an engineering perspective, the majority of problems so far identified at the 12 HCs assessed to date are correctable at moderate cost (estimated range: USD 11,000 to \$39,000). Thus, based on our preliminary findings, in order for a HC to provide the FGOEs defined package of promotive, preventive and curative services, the physical

requirements (space, utilization and basic functions and services) should include at least the following:

**Physical Structure:** Without a sound building structure, renovation or repair of existing rooms is not an appropriate course of action.

- Essential repairs should include roof coverings and rainwater guttering systems. Water leakage through a damaged roof can create a risk of electrocution by staff coming in contact with the electrical cabling in the roof void. In addition, falling debris from the roof and damaged ceiling panels can injure patients and staff.
- Poor or no maintenance of the rainwater guttering system can lead to damage to the external wall structures and ingress of water leading to mould on the internal walls. In addition, pooling water surrounding the building can have a destructive effect on the stability of the foundation either through scouring in sandy/loam soils or by heave in high clay content expansive soils.
- Where additional space (e.g., new rooms) is needed, the foundation design must take into account the soil type/strength, storm water drainage and landscaping around the building to prevent water pooling potentially resulting in foundation stability problems.

**Water Supply:** Provision of a regular supply of potable water for multiple purposes (hand washing, instrument cleaning, laundry, etc.) is essential to the delivery of quality PHC services at HCs.

- Without an adequate on site water reservoir, the facility may run out of water in the case of a break in supply from the city or borehole. The water must rotate from the city or borehole supply through the reservoir to maintain water quality in the reservoir.
- The water reservoir tank should be of sufficient size to ensure acceptable water pressure and storage capacity within the HC when the city or borehole water pressure is low or there is inadequate flow.

**Waste Water Disposal:** Most HCs did not have a functioning waste water discharge system at one or more sites (e.g., hand wash basins and/or sinks in delivery rooms, sluice rooms [where present], treatment rooms or laboratories).

- Lack of a liquid waste disposal system increases the risk of serious infection to both patients and staff.
- In emergency situations where water is not available, a bucket-based waste water collection system involving hand carrying to a disposal site should be instituted. Doing this except in emergencies, however, should not be a long-term solution because it increases operational labor and material costs as well as the potential for cross contamination.

**Sanitation system:** A HC should have an adequate, functioning sanitation system (toilets, latrines and septic tanks) to minimize the risk of infections.

- Where water is limited, pit latrines for both patients and staff built and maintained to FGOE HC standards are required.
- Where space is limited for building additional waste pits for latrines, provision of funds for regular removal of the wet and solid waste is required.
- Septic tanks should have secure covers (locked) so that they can not be used for discarding placenta and other medical waste (e.g., old dressings, tissue and other human debris)
- A covered placenta pit should be provided and new one dug when full.

**Electrical System:** The electrical system must be installed and maintained in accordance with relevant building regulations and be certified as being safe for use.

- Permanent use of temporarily installed internal and external electrical systems is dangerous to patients and staff (possible risk of electrocution), and it increases the risk of fire.
- Essential electrical supply is required to service the electric powered autoclaves and provide light in the evenings for duty staff, emergency care and for monitoring in-patients (e.g., postpartum women and newborns).

**Infection Prevention:** Without staff training (and monitoring) in basic infection prevention practices (e.g., hand hygiene), functioning equipment for high-level disinfecting or sterilizing metal instruments and other reusable items, and provision of areas for instrument processing and storage, clinical services at most HCs should be limited to immunizations and at most intramuscular injections.

- Clinical services, such as labor and delivery and emergency treatment of cuts, boils and infected wounds, require (at a minimum) high-level disinfected (or sterilized) instruments and gloves and clean consumable supplies such as dressings, gauze and cotton.

**Maintenance Management System:** Without benefit of routine maintenance, improvements to the water supply, waste water disposal, sanitation and electrical systems will be lost in short time (sink drains are again plugged and latrines overflowing). This applies to new HC constructions as well. Moreover, without a maintenance budget that staff can easily access, capital investment in a HC will be continually degraded, requiring continued support from the community or external agencies. Thus, the importance of a regular maintenance management system can not be overestimated.

- Minor expenditures on maintenance to repair damages to the structure of the building or for routine maintenance can extend the life of the building structure and fittings.
- The upkeep of basic utilities and functions including hand wash basins/sinks and taps/faucets, S-traps for showers, waste water manholes and water supply valves, has a positive impact on recommended infection prevention practices as well as supporting promotion of good health care management.
- Expired drugs should be stored at nominated Woreda distribution locations to reduce the requirement for storage at HCs.

- Unusable (broken and not repairable) furniture, medical equipment and other items should be disposed of according to FGOE guidelines and not stored in valuable HC rooms.

## **RECOMMENDATIONS**

### **1. Types of Renovations**

In order to support decentralization of HIV/AIDS (VCT, PMTCT, ART) and chronic diseases care (TB, malaria and others) from hospitals to HCs, the following recommendations are considered a priority for HC renovation by the HCR project. These recommendations are based on the observations of damages and deficiencies as stated above and are intended to make the care and treatment of patients safer as well as to provide a safer work environment for staff.

- Provide additional room/space to support ART services if reallocation of current rooms/space are not adequate or appropriate<sup>4</sup>
- Repair roof and storm water drainage system
- Provide external landscaping surrounding buildings to prevent pooling of water and subsequent damage to building foundations
- Ensure a continuous supply of clean water supply including a suitably sized water reservoir
- Provide water and hand washing facilities for treatment rooms, labor and delivery rooms, laboratories and emergency care areas
- Ensure a functioning waste water disposal network from hand washing basins, sinks and showers, and drains
- Provide safe electrical supply to support electrical autoclave functions, duty rooms and pharmacies, emergency treatment rooms, delivery rooms and essential external lighting to latrine and toilet facilities
- Re-allocate the flow of functions especially in the delivery area, to reduce the risk of cross contamination, including provision of a suitable sluice room and area for storage of clean and sterilized items
- Re-allocate space used for stores and drugs

### **2. Maintenance Management Budget and Plan**

An adequate HC maintenance budget should be included within the overall HC budget to ensure that the HC is physically safe for patients and staff; has a continuous supply of water and functioning waste water disposal, sanitation and electrical systems; and has the necessary equipment and supplies to provide those the promotive, preventive and curative services defined by FGOE standards.

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<sup>4</sup> Renovation or equipping of pharmacies, stores or laboratory facilities in HCs is covered under separate contracts or agreements.

- At a minimum, a brief self-administered routine maintenance checklist could be developed, tested and vetted and HC staff, especially cleaning and environmental health staff, taught how to use it and how to perform simple repairs (e.g., removing debris from blocked sinks and drains). (See **ATTACHMENT**, sample checklist.)

### **3. Maintenance Management Training**

Consideration should be given to improve the overall management of the facility through basic management training for the HC In-Charge and other professional staff. This training should include planning and supervision of facility inspections, asset control and management, staff supervision, budget management, risk assessment and contingency planning.

### **4. Infection Prevention Training**

Consideration should be given to providing staff at all levels with basic infection prevention training, and specialized training to those involved in handling used (dirty) instruments and other surgical items (e.g., decontamination, cleaning and either high-level disinfection or sterilization processes). This training also should include provision for key staff to become qualified to monitor practices and to solve basic problems as they arise.

# ATTACHMENT

## *Health Center Maintenance Checklist*

### **DAILY (or after use)**

- \_\_\_\_\_ Sweep walks and pick up litter on ground daily to prevent dirt being tracked into buildings
- \_\_\_\_\_ Dust and put benches and chairs in place in waiting areas
- \_\_\_\_\_ Sweep corridors and common areas
- \_\_\_\_\_ Clean delivery, treatment and examination tables daily and after use
- \_\_\_\_\_ Clean and change beds in labor room and female and male wards after use with soap and disinfectant
- \_\_\_\_\_ Wash floor in labor and delivery, emergency care and sluice rooms daily with soap and disinfectant
- \_\_\_\_\_ Clean toilets, showers and latrines
- \_\_\_\_\_ Check that sharps disposal containers (needles and syringes) are not full; replace when  $\frac{3}{4}$  full

### **WEEKLY (or as needed)**

- \_\_\_\_\_ Check water faucets for leaks and report if broken or damaged
- \_\_\_\_\_ Check sinks and drains and open if clogged (remove trap and clean)
- \_\_\_\_\_ Wash walls in labor and delivery room, emergency care and sluice rooms
- \_\_\_\_\_ Wash walls in toilets, showers and latrines

### **MONTHLY**

- \_\_\_\_\_ Check water reservoir for leaks (tanks, pipes and connections)
- \_\_\_\_\_ If present, check water in holding tanks, that pump is working and cover is in place and locked
- \_\_\_\_\_ Check that cover on placenta pit is in place and locked
- \_\_\_\_\_ Check that pit latrine is not full (drop stone – time delay 1 second or longer)
- \_\_\_\_\_ Check incinerator and ash pit and clean debris around area
- \_\_\_\_\_ Check and replace dead/broken bulbs, electric socket outlets and switches
- \_\_\_\_\_ Wash floors and walls in female and male wards, corridors and public areas

### **SEMI-ANNUALLY**

- \_\_\_\_\_ Check incinerator for damage and repair
- \_\_\_\_\_ Check manholes for functioning, especially for kitchen and sluice rooms
- \_\_\_\_\_ Check roof for leakage and put glue or putty on possible holes
- \_\_\_\_\_ Check doors, hinges and locks – repair or oil as needed
- \_\_\_\_\_ Check windows and replace broken glass as needed
- \_\_\_\_\_ Clean gutters and down pipes; tighten any loose connections
- \_\_\_\_\_ Check electrical system for shorts (whole HC)

### **YEARLY (or as needed)**

- \_\_\_\_\_ Check storm water drainage and remove debris blocking system
- \_\_\_\_\_ Check that septic tanks not blocked
- \_\_\_\_\_ Check metal surfaces, especially in wet areas, and paint (every other year)
- \_\_\_\_\_ Check common areas and corridors and paint every other year