



**Service Priorities and Programmes**  
**Electronic Presentations**

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**Improvement on environmental hygiene from engineering aspect**

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**Introduction**

As drain blockage and water leakage faults may lead to environmental hygiene problems and affecting the operation of clinical areas. Facility Management Department (FMD) of Princess Margaret Hospital (PMH) aimed to improve the plumbing and drainage systems by studying the fault and incident cases, investigating the root causes and developing improvement plans.

**Objectives**

1.To improve the environmental hygiene by reducing/ avoiding the recurrences of drain blockage and water leakage; 2.To minimize the influences to ward and public areas due to drain blockage and water leakage.

**Methodology**

Fault and incident cases were reviewed. The major findings were: 1.Piecemeal system modifications without having an overall view to the entire plumbing and drainage systems 2.System design with deficiencies and aging 3.Lack of preventive measures 4.Mal-practices by user such as throwing rubbishes into the toilets and sinks The proposed improvement works based on the findings are: 1.Updating layout plans of the water distribution system during renovations and preventive survey rounds which will be done by our in-house staff 2.Planned pipe and system replacement with innovative system designs such as by-pass drainage pipes and warning pipes for high risk areas and the replacement of aged water pipes 3.Preventive checking on the plumbing and drainage systems including regular cleansing of the manhole & underground drains will be conducted 4.Issuing notices to user for reminding user on toilet etiquette which could reduce the sources of drain blockage. Also, installing strainers at sluice sinks which act as a first guard of prevention

**Result**

In 2012, there was at least one major drain blockage incident occurred at Main Block monthly. The drain blockage/ overflow incident affected some major clinical areas, such as the Operation Theaters. Further to the root cause analysis, improvement works, included installations of strainer for sluice sink; conducting preventive

cleansing of drainage system; and installations of warning pipe of toilet cistern, have been arranged accordingly and completed by the end of 2012. According to incident records in 2012 & 2013, there were 9 nos. of water leakage/ drain blockage-related fault occurred at Mainblock in 2012 while only 1 no. of similar incident was recorded in 2013. The fault of water leakage and drain blockage is eliminated. The improvement works will be continuously implemented to other clinical buildings in 2014 and such engineering designs will be applied to new renovation projects as well.