replication in other areas of the hospital. The technique of visual management was used to maintain standardized conditions by colour coding. Hospitals have developed check lists to determine whether 3S activities are duly carried out. Colour coding system that is in use at Castle Street Hospital was introduced to the other hospitals and has become a



FIGURE 5-5: COLOR CODING FOR HOSPITAL WASTE

standard practice. Safety measures with visual signage are now in place to avoid accidents. Simple rules were developed so that everyone can follow and maintain.

## E. DISCIPLINE (SHITSUKE)

The last step of 5S is to develop a sense of discipline among the hospital staff to continue their efforts in further improvement. This involves development of commitment and management's support as well. Occasional performance assessment and rewarding, motivates the staff and helps maintain their interest in continuous improvement.

Specific results at the respective hospitals are summerized in **Table 5-3.** 

TABLE 5-3: SPECIFIC RESULTS BY HOSPITAL

ZONE		MADAMPE	CHILAW	DANKOTUWA	KURUNEGALA	KULIYAPITIYA				
Problem identified		Outlook and surrounding are not appealing to the patients and public								
Entrance and Outside	Changes being tested	Repair and changes; Parapet wall "No noise warning" Colour washing Flowerpots Patients flow management; Signage system Vehicle park	Repair and changes; Outside garden Flag posts Parapet wall Name board of hospital Patients flow Management; Signage system Vehicle movement Vehicle park	Repair and changes; Parapet wall Landscaping at the entrance Colour washing buildings Flowerpots rearranged. Patients flow Management; Signage system Vehicle movement Vehicle park	Repair and changes; Parapet wall Road at the entrance Gardening done Inside garden Patients flow Management; Proper signage system Site plan at entrance Parking re-arranged	Repair and changes; Main gate renovated Patients flow Management; Pedestrians directed Site plan at the entrance Removal of vendors Visitors regulated Vehicle parking arranged Proper roadway for vehicles Wooden ramps at entrance				
Problem identified  OPD  Changes being tested		Inconvenience and delay and time wasting due to non- organised OPD, over crowding and congestion.								
		Arrangement and Re-organisation Reception counter Signage system, posters, pictures. Benches for sitting area.	Arrangement and Re-organisation Chairs rearranged Functional layout plan Advanced booking system Signage system New record keeping	Arrangement and Re-organisation Rearrange the OPD	Arrangement and Re-organisation Re-arranged the setting Re-arranged record keeping system	Arrangement and Re-organisation New benches outside the OPD Re-arrange the setting				
Inside	Problem identified	Inconveni	ence to patients and staff o	due to improper arrangem	ent of wards, lack of prope	r signage system.				
Hospital and wards	Changes being tested	Arrangement and Re-organisation Ward beds,	Arrangement and Re-organisation Benches for visitors	Arrangement and Re-organisation Canteen	Arrangement and Re-organisation Beds in wards	Arrangement and re-organisation of ward beds and all furniture.				

		Drug cupboards. Signage system. Corridors. Re-wiring done. Doctors and other rooms. Functional layout plan. Maternity ward.	Clinical records Wd 5 and Wd 9 Psychiatric ward Wire management Blood bank Signage system	Bath rooms Signage system Wire management Maternity ward. Ward beds, Drug cupboards. Corridor to the mortuary.	Signage system.	Signage system Notice board Corridors
	Problem identified		Pat	ients waste lot of time in d	lispensary	
DISPENSARY / DRUG STORE	Changes being tested	Arrangement and Re-organisation as 5S; Drug cupboards dispensary Packing system	Arrangement and Re-organisation Drug store Dispensary	Arrangement and Re-organisation Dispensary	Arrangement and Re-organisation Dispensary	Arrangement and Re-organisation Drug store Dispensary
	Problem identified		Patients get unhygienic food	Patients get unhygienic food		Hygienic condition of the overall kitchen is not good Danger due to gas burner
KITCHEN/ CANTEEN	Changes being tested		Tables to keep food Re-arrange the kitchen Fly killer units.	Renovated with good outlook and better facilities		Placement of items methodically Fly killer units. Replaced gas burner Replaced old switch boards
Emergency and	Problem identified		Delay in admitting patients	Delay in admitting patients	Outlook not appealing to patients	
accident service unit	Changes being tested		Re-arranged the unit	Re-arranged the unit	Repair and changes; Entrance Roadway Visitors control	

## 5.1.4 FINAL RESULTS

5S – TQM approach implementation aims at developing an organizational culture characterized by increased patient satisfaction and safety through improving hospital employees' active participation.

With this aim in mind, implementation of various interventions during the EBM Study period have taken place and evidence was gathered which is presented under four main headings, namely;

- A. Achievements of pilot hospitals in solving quality& safety problems.
- B. Responsiveness to people's expectations.
- C. Making hospitals safer places.
- D. Strengthening community involvement.

The above four aspects create a culture that has to be nurtured in any hospital which aims at spontaneous and continuous improvement of working environment and increased patient-satisfaction and safety. This organizational culture of learning is crucial for improvement of quality services provided by the hospital.

## **A.** ACHIEVEMENTS OF PILOT HOSPITALS IN SOLVING QUALITY& SAFETY PROBLEMS

To maintain and further obtain continuous improvement, the value of learning has to be shared among the employees through effective use of PDCA cycle for problem solving.

All WITs have to identify and analyze the quality problems in their areas. The WITs were trained to adapt this problem –solving technique.

On average, about 40 to 50 quality problems have been identified and worked out by the WIT teams per hospital during the first year of implementation of 5S-TQM approach in those hospitals. See table below

Hospital	NO. OF WIT TEAMS	No. of Ident.Problems
Madampe PU	3	49
Dankotuwa DH	9	32
Chilaw DGH	5	47
Kuliyapitiya BH	31	53
Kurunegala TH	98	34

TABLE 5-4: QUALITY PROBLEMS IDENTIFIED BY WITS

The quality Management Teams of each hospital, chaired by Hospital Directors (QMTs) gathered every month to monitor the progress of quality improvement activities in the hospitals.

The Quality Management Unit (QMU) was entrusted with the preparation of a summary report every month to be used at those monthly meetings of the QMTs. The QMU members document all the problems identified by the WITs and incorporate it into one summary table. This table has successfully introduced what is called the "Traffic

light System". This indicates 'green' if the identified problems are solved, 'yellow' for 'progress', and red for 'unsolved'.

This format was a practical device to monitor the progress of implementation of 5S actions in the hospitals. It was used by supervisors, the QMU, and hospital management.

This format will provide at a glance, the achievements of the hospital during the period of implementation. It would also be a solid 'start' for the planning of the next phase of problem solving cycles.

An example of the summary report of achievements of Kuliyapitiya hospital (below) highlights different quality problems that the WITs identified and strived to solve.

The complete set of summary reports of the other four hospitals are attached (Annex. 2).







Base Hospital warm

FIGURE 5- 6: IMPROVEMENTS IN THE DRUG STORE
AT BH KULIYAPITIYA

FIGURE 5-7: UPGRADING OF THE MAIN ENTRANCE





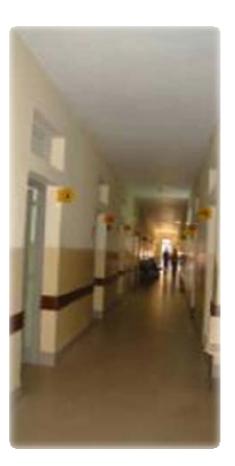


FIGURE 5-8: LABELING OF THE HOSPITAL

TABLE 5- 5: EXAMPLE OF SUMMARY REPORT OF ACHIEVEMENTS AT KULIYAPITIYA HOSPITAL

NO	QUALITY PROBLEM	CHANGES	RESPONSIBLE PERSON	TIME FRAME IN MONTHS								
1	Frontage Landscaping not appealing to patients & public	Trees trimmed, parapet wall colour washed & tarred areas to be re-coated	QMU & Hosp.Dev.Com									
2	Absence of Hospital Development Committee retards public assistance	Formed a committee with govt. officials, industrialists & traders	DMO & QMU									
3	Patients/Visitors are inconvenienced due to long ramp to Bhikku Ward	Reduce the length of the ramp to have only 5 ft.	QMU & WIT									
4	Critical patients are delayed due to disorganized storage of trolley & W/chairs	Wooden ramps were installed on either side of the entrance to the OPD	QMU & WIT									
5	Patients' inability to use toilets due to poor maintenance	Cleaning method adopted, Tiling of walls & floors done with sponsor funds	QMU & Hosp.Dev.Com									
6	Hygiene of the overall kitchen not good	Improve the activities & placement of items methodically	QMU & WIT									
7	Prepared food prior to serving the wards is kept Unhygienically	Proper methods adopted to keep food Ward-wise	QMU & WIT									
8	Kitchen is kept unhygienically due to flies	Install "Fly-Killer" units as appropriate places in the kitchen	QMU & WIT									
9	Patients/employees in danger due to leaking gas burner	Replaced the leaking gas burner with a new one	QMU & WIT									
10	Unsafe old electric switch board in the kitchen to be removed	Removed the old switch board	QMU & WIT									
11	OPD patients inconvenienced due to inadequate seating capacity	Bench type seats to be made & fixed to the outside wall of the OPD	QMU & Hosp.Dev.Com									
12	Haphazard parking of vehicles inside premises delay intake of bad patients	Vehicle parking will be arranged with the commissioning of new building	QMU & WIT									
13	Patients waste lot of time at the OPD	Re-arranged available space with proper arrangement of benches & admission ticket counter	QMU & WIT									
14	Patients waste lot of time at the Dispensary	Re-arranged drugs on a prioritized dispensing basis	QMU & WIT									
15	Patients/doctors privacy disturbed by cluttered consultation rooms	Re-arrange furniture and change the process of entering patients	QMU & WIT									

16	No discipline in the way beds are kept in selected Ward No. 8	Re-arranged with X axis Y axis basis with beds kept equally distanced	QMU & WIT
17	No discipline in the way beds are kept in Ward Nos 5 & 7	Re-arranged furniture on X axis Y axis basis & kept beds equally distanced	QMU & WIT
18	No discipline in the way beds were placed in Ward Nos 2 & 12	Re-arranged furniture on X axis Y axis basis with beds kept equally distanced	QMU & WIT
19	Disorganized change/rest rooms for nurses in selected wards	Re-arranged and organized in an orderly manner	QMU & WIT
20	Nurses inconvenienced due to clutter in drugs cupboards in selected wards	Re-arranged to store drugs on a tiered system on easy retrieval methodg	QMU & WIT
21	Critical patients/visitors delayed due to lack of signage outside the hospital	Planned to erect Sign boards on approach roads & in front of the hospital	QMU & Hosp.Dev.Com
22	Patients/visitors inconvenienced due to lack of signage Inside the hospital	Planned to fix signage to cover all areas/rooms inside the Hospital	QMU & Hosp.Dev.Com
23	Patients/visitors/staff lack information due to clutter of notice boards	All notice boards to display only approved notices methodically	QMU & WIT
24	Negative impression created by poorly maintained corridors	Colour wash corridors, signage fixed & flower pots placed at equal spacing	QMU & Hosp.Dev.Com
25	Outlook of the premises is bad, patients/visitors geta negative impression	Proper roadway, garden & vehicle parking to be re-arranged	QMU & Hosp.Dev.Com
26	Criticl patients' intake at the OPD is delayed	System of admission changed, trolley & wheel chair kept ready	QMU & WIT
27	Filing of admission tickets not cariled out properly	Proper address system for filing was implemented	QMU & WIT
28	No discipline of visitors when they enter/exit to/from Hospital	Entrance to be modified/expanded, vehicles to use only the roadway	QMU & Hosp.Dev.Com
29	Patients/visitors inconvenienced due to the lack of a sitepPlan at the entrance	Prepare & erect Site plan at the entrance	QMU & WIT
30	External environment of the hospital looks very unclean, Patients/visitors have poor impression	Removal of vendors from the roadside payments assisted by the UDA	QMU & Hosp.Dev.Com
31	Critical patients when brought to OPD get delayed	Re-arranged the entrance to OPD with ambulance parking spots marked	QMU & WIT
32	Proper advise not given to patients at the entrance to hospital	Reception counter to be established manned by a Nurse	QMU & WIT

33	Patients are delayed at the Admission Ticket Room	Re-arranged the record keeping system at the Adm/Ticket counter	QMU & WIT			
34	No proper address system to the drugs stores	Proper address system introduced	QMU & WIT			
35	No restriction of visitor-access to patients from the gate	Introduced a system to issue 2 visitor passes per bed at the entrance	QMU & WIT			
36	Handling of emergency patients ineffective	Sent 7 employees to National Hospital for a 3-day programme	QMU & WIT			
37	Delay in providing surgical consumables to relevant parties	Surgical consumable stores to be re- organised with a well-equipped address system	QMU & WIT			
38	No place to store the discared/cluttered items	Red tag corner to be made functional to store unwanted items	QMU & WIT			
39	No method to eliminate condemned items	System adopted to eliminate items from the Red Tag corner	QMU & WIT			
40	Employees hindered by limited knowledge	60 employees sent to other relevant organizations to be exposed to better methods	QMU & WIT			
41	Employees inconvenienced due to the lack of Solid Waste Disposal Method	Solid Waste Disposal Method adopted effectively	QMU & WIT			
42	Patients delayed in getting treatment at the ETU Unit	Re-arranged the ETU Unit to improve the activities in a methodical manner	QMU & WIT			
43	Patients get infected with grimy Oxyen cylinder surfaces	White colour cloth covers used to cover the unhygienic Oxygen cylinders	QMU & WIT			
44	Nurses inconvenienced in sending specimen samples to the lab	Specimen samples from wards to be sent at 8.30 & 2.00 to the lab	QMU & WIT			
45	Nurses inconvenienced in getting urgent specimen samples tested	Urgent specimen samples from wards to be marked with a red dot Sticker	QMU & WIT			
46	WIT Team members still lack practical knowledge of 5S	30 persons were taken from WIT Teams to get an impression of the K'gala Hospital	DMO & QMU			
47	Assistance in finances & in Kind not forth coming from community	Presentation made to the Hospital Development Committee	DMO & QMU			
48	Patients & hospital staff delay in identifying the earlier treatment done	A New BHT was designed to introduce to all patients	DMO & QMU			
49	Patients inconvenienced due to lack of method to select the Clinic Book	Advance booking system adopted to all clinical patients	QMU & WIT			
50	Time is wasted by the office staff in	Filing system in the Admin Office to be re-	QMU & WIT			

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	locating the required files	arranged with magazine holders						
51	No system to identify the required key in the Admin Office	Key Management to be adopted at the Admin Office	QMU & WIT					
52	Staff inconvenienced & time is wasted in identifying rubber stamps	Rubber stamps to be methodically stored along with the stamp pad	QMU & WIT					
53	Cluttered look is prevalent in the Admin Office	All furniture to be rearranged on X-Axis & Y-Axis basis in the Admin Office	QMU & WIT					
54	No system to identify employees and	ID, Time & Attendance system for	QMU & WIT					
	their work places	employees to be adopted						