

DISPOSABLE UTENSILS -

COST ANALYSIS

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SUMMARY

The following report deals with an analysis of disposable versus stainless-steel utensils.

A 30-day test was conducted on Units 7x1 and 7x2 in order to determine the cost of disposable utensils and their acceptability by all concerned.

The cost analysis shows that although handling and washing of stainless-steel utensils is expensive, the overall costs of these utensils are cheaper due to their life and the low yearly costs.

Acceptability of disposable utensils by all concerned was excellent and all preferred these to the stainless-steel utensils.

PURPOSE

The purpose of this report is to discuss the acceptability and cost of disposable wash basins, emesis basins and urinals versus the cost of stainless steel utensils.

COST ANALYSIS

Test

In order to properly compare disposable utensils versus stainless steel utensils, a 30-day test was conducted on the seventh floor (units 7x1 and 7x2). These units have a combined capacity of 76 patients.

All stainless steel utensils were gradually phased-out and the disposable utensils phased-in as the patients were discharged.

Handling Costs

A. Stainless Steel Utensils

Upon a patient's discharge, all utensils are hand-carried to the utility room by Housekeeping personnel and left in a solution of Vesphene and water; the Housekeeper returns to the room, completes the discharge-cleaning of the room, returns to the utility room, completes the washing and returns the utensils to the discharged room.

The times involved have been determined to be as follows:

Traveling time ---2 man minutes/discharge

Washing time ---2 man minutes/discharge

The manpower costs involved -- as derived from the above times -- are:

$4 \text{ man-min/disch.} \times 20,043 \text{ disch./yr} = 40,086 \text{ man min/yr.}$

$40,086 \text{ man-min/yr} = 1336 \text{ man-hrs./yr.}$

$1336 \text{ man-hrs/yr} \times \$2.44/\text{hr (average wage plus fringes)} =$

$\$3259.84/\text{yr.}$

B. Disposable Utensils

It is necessary to bag all disposable utensils before usage. Timed observations show an average of 0.25 man-minutes per utensil for the wrapping operation.

$18,265 \text{ utensils at } 0.25 \text{ man-minutes} = 4566 \text{ man-min/yr.}$

$4566 \text{ man-min/yr} = 76 \text{ man-hrs/yr}$

$76 \text{ man-hrs/yr at } \$2.44 = 185.44/\text{yr.}$

Inventory control, storage and handling costs are estimated at 16 man-hours per month or 192 man-hours per year for a total cost of \$468.48 per year.

Data collection and all phases of the test were conducted by Housekeeping Department personnel with assistance from the Systems Engineering Department.

Daily inventory and data on usage of utensils was maintained by Housekeepers, Custodians and Supervisors.

Usage and Cost of Disposable Utensils

An analysis of the patient mix (male and female ratio, see Appendix A) and discharges was made in order to determine the usage of utensils per discharge. The results of this analysis are as follows:

Wash Basins - 0.37/dischARGE

Emesis Basins - 0.45/dischARGE

Urinals - 0.21/male discharge

Based on annual discharges, the number of utensils and bags required per year and their cost are estimated to be:

Wash Basins - 7420/year x \$0.35 = \$ 2597.00/yr.

Emesis Basins - 9020/yr x \$0.11 = \$ 992.20

Urinals - 1825/yr x \$0.35 = \$ 638.75

Large Plastic Bags - 7420/yr
x \$ 0.015 = 113.30

Small Plastic bags - 10,845/yr
x 0.010 = 108.45

Total Cost = \$4449.70/yr

Cost of Stainless-Steel Utensils and Vesphene.

Purchasing Department data for purchases of stainless steel utensils shows a total cost of \$324.00 for 1967.

Cost of Vesphene used to wash utensils has been estimated at approximately \$200.000 per year.

ACCEPTABILITY OF DISPOSABLES

Ten nurses, fifteen patients, six housekeepers and one custodian were interviewed.

Acceptability by nursing personnel was very good, the features they like most are:

1. Easier to clean and lighter.
2. Wash basin deeper and allows patient to soak their feet.
3. Urinals are much easier to handle, allow hanging on the bed and measuring is easier.

Patients interviewed also accepted the disposable utensils very good and preferred them to the stainless steel for two main reasons:

1. No other patient used that particular utensil.
2. They could take them home.

Of the emesis basins used 62% were taken home; 73% of the wash basins used were taken home, and 44% of the urinals went home with the patients (only bed-ridden patients were encouraged to take the urinals).

All housekeepers and custodians liked utensils since it caused less work to the housekeepers and did not increase the work of the custodians.

The actual handling of disposable utensils on the units can be accomplished in two ways: utensils carried on a discharge cart thus eliminating all traveling; or utensils kept in a storage area in which case traveling time has been estimated at one (1) man minute per discharge or a cost of \$815.26/yr.

Therefore, the total handling costs of disposable utensils varies with the method of handling on the unit. The total cost may be a minimum of \$653.92 or a maximum of \$1469.18 per year.

Summary of Costs

Appendix B shows a table summarizing and comparing costs for stainless steel versus disposable utensils.

From the table it can be seen that the most economical manner is to continue using stainless steel utensils. This method is cheaper by approximately \$13000 per year.

If the decision is made to purchase utensils on the basis of other advantages, the purchase of discharge carts should be considered since time would be saved and the utensil-handling operation would be simplified.

APPENDIX A

Ratio of male and female patients on 7x1 and 7x2

Male - 40%

Female - 60%

Male Discharges - 4/day average

Female Discharges - 7/day average

Total Discharges - 11/day average

Usage of disposable utensils for a 30-day period:

Wash basins - 122

Emesis basins - 147

Urinals - 25

Usage per discharge:

$$\text{Wash basins} - \frac{122}{325} = 0.37/\text{discharge}$$

$$\text{Emesis basins} - \frac{147}{325} = 0.45/\text{discharge}$$

$$\text{Urinals} - \frac{25}{120} = 0.21/\text{male discharge}$$

Annual discharge - 20,043/yr. average

O.B. Discharges - 2680/yr. average

$$\text{Male Discharges} - \frac{20,043 - 2680}{2} = 8681/\text{yr. average}$$

0.37 wash b./disch x 20,043 disch/yr. - 7416 w.b./yr.

0.45 em. b./disch. x 20,043 disch./yr - 9019 e.b/yr.

0.21 urin./disch x 8681 disch/yr, 0 1823 urin./yr.

APPENDIX B

Cost comparison summary

Cost Element	Estimated Yearly Costs		
	Stainless Steel	Disposable Utensils With Disch.Cart W/O Disch.Cart	
Purchase of Utensils and Supplies	\$ 525.00	\$4449.70	\$4449.70
Washing and Handling	3259.84	468.48	1283.26
Packaging Costs	---	185.44	185.44
TOTAL	\$3783.84	\$5103.62	\$5918.40