CSF

ESCORT STUDY

417 - 66

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COMMUNITY SYSTEMS FOUNDATION

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Mr. John J. Laverty
Assistant Administrator
The Johns Hopkins Hospital
Baltimore, Maryland 21205

Dear Mr. Laverty:

An analysis of the patient escort activities engaged in by Osler Nursing personnel has been completed. This report includes a summation of the data obtained from the traffic survey along with two alternative solutions to the problem.

The data reduction and analysis was accomplished with the assistance of Messrs. Donald Pyle, Willian Donnelly, and Marvin Jacobs of the Foundation's staff.

I would like to thank Miss Catherine Loeffler, Associate Director of Nursing Service; Mrs. Janice McCann, Administrative Assistant - Nursing; Miss Patricia McCormick, Director Operations Research - Nursing; Miss Rachel Fee, Administrative Director - Nursing; the Osler Nursing Staff; and the Johns Hopkins Student Nurses; and other observers whose generous cooperation and assistance in data collection and helpful suggestions made this report possible.

Sincerely,

Richard M. McMahon

Richard M. McMahon
Project Director

SYNOPSIS

OBJECTIVES:

This study was initiated to determine the need for and feasibility of a patient escort service for the Osler Building. Such a service would consist of non-nursing personnel and would compliment the existing escort activities of the X-ray service.

SUMMARY OF CONCLUSIONS:

1. Osler Nursing personnel spent an average of 14.4 hours per day on escort activities (between 7:00 a.m. and 7:00 p.m.) during the period of the Study. This would indicate that a substantial amount of nursing time would be released for patient care if an Escort Service were established.

2. This report details two possible modes of operation of such a service. This service could consist of two Escorts dispatched, 1) by the Osler Nursing office or 2) by the Central Messenger Service. The total direct cost to the Hospital would be $5,200 per year, assuming that the Escorts are of the Escort-Messenger classification.

3. It is recommended that a study be conducted to determine the feasibility of establishing a Centralized Escort Service for the entire Hospital.

METHODOLOGY

Observers were placed on Osler Nursing units for a total of 25 unit days (i.e., 4 floors on Monday, Wednesday, Friday, and Sunday and 3 floors on Tuesday, Thursday, and Saturday). A continuous observation technique was utilized from 7:00 a.m. to 7:00 p.m. each day. Using the data collection form, on page 6, the observer noted: a) the type of personnel, b) where they were going if they were leaving the unit or where they were coming from if they were entering the unit, c) the time they left the unit, and d) the time they entered the unit. Observations were taken for all messenger and escort activities.

The time spent by nurses on escort activities was compiled hour by hour for each of the days studied. These figures were then adjusted to correct for census and the fact that only a fraction of the units was observed (e.g. for days when 4 units were observed, all figures were multiplied by 168/114 to give a picture of the activity in the entire building. The 168 represents the average Osler census during the study, while the 114 is the average census for the four floors studied that day.)

NOTE: The average census for Osler during this study was 168, while the over-all census for June 1965 through May 1966 was 161. Thus, this period can be considered representative.

Figure A, on page 8, presents the adjusted data. Each figure gives the amount of escort activity in hours. The data was truncated at 7:00 a.m. and 7:00 p.m. and to Monday through Friday because the level of activity during the 7:00 p.m. to 7:00 a.m. period and on Saturday and Sunday was so low that very little significance could be attached to the data obtained.

Figure B, on page 9, presents a simulation of the utility of an escort service had it been in operation during the course of this study. The assumption is made in this analysis that the escort duties are not of a "stat" nature and thus each request for service can be scheduled on short term basis and await the availability of the Escort.

It was calculated that the average trip time was 8.7 minutes. The assumption was made that the Radiology Escorts' time on the floor was representative of the time any Escort would have to wait on this unit. This average time was calcu-

lated and found to be 2.4 minutes per trip. Therefore, the total time necessary for each escort activity would be 11.1 minutes. Utilizing the estimate of 5 trips per escort per hour, Table B on page 10, presents the simulation of activity assuming a demand pattern equal to the pattern observed during this study. The calculations in Table C, on page 11, show the rapidly decreasing marginal utility of more than two Escorts.

CONCLUSIONS

1) The data shows that an average of 14.4 hours per day of nursing time are devoted to escort activities. Assuming that the nurses could productively utilize this time on other activities, this figure is substantial enough to justify the establishment of an Escort Service for Osler.

2) Figure B shows that two Escorts would free ten and one-half hours of nursing time per day, while the addition of a third would free only two and one-half additional hours per day. Therefore, it is recommended that initially the service consist of two Escorts. In order to most fully utilize the Escorts' time, it is suggested that their shifts be staggered. That is, one should work 8 - 4:30 while the other should work 9 - 5:30. Due to the low demand on weekends, this should be a Monday through Friday operation.

3) There are two possible methods of supervising Escorts for Osler.

   a) Their activities could be coordinated by the Central Messenger Service Dispatcher. Under this arrangement they would call the Dispatcher after completing each assignment and they would receive a new assignment from the requests called into the Dispatcher by the Osler nursing units or ancillary services treating Osler patients. This alternative has three advantages. First, the dispatching would be directed by a person trained and equipped to properly handle this function and would be at a station which is occupied constantly. Second, the Escorts could be utilized as "stat" messengers when they are not functioning as escorts. Third, as a centralized hospital escort service would very likely function in this manner, the Osler Escorts could be used to evaluate the system.

   b) The second method of supervising the Escorts would be to assign the dispatching function to an Osler secretary or Ward Clerk. The dispatching would be handled in the same manner as described above. The primary ad-

vantage of this alternative is that Osler would receive the full use of the Escort's time, including non-escort activities. This time would probably be used for orderly or other similar duties.

4) It is recommended that these positions be filled by Messenger level personnel. This would result in a direct labor cost of about $5,200 per year for the two Escorts.

NOTE: The Radiology Department's success with female Escorts would indicate that women might be considered for these positions.

5) It is strongly recommended that a study be conducted on the feasibility of an escort service for the entire Hospital. The data for such a study would probably be collected at the ancillary services rather than the nursing units. Collecting the data in this manner would be far less expensive and would probably give more significant results. Assuming that a nursing shortage exists, it appears from the Osler Study, that a major contribution to nursing service could be rendered by a centralized escort service.

In addition, the increased service area would increase the utility of each Escort. (e.g. An Escort bringing a patient to Physical Therapy from one unit, might pick up a patient from Physical Therapy to return to another unit, thus eliminating a non-productive return trip.)

The results of such a study might indicate that Escorts be assigned to specific services, rather than a central pool, or possibly a combination of the two. In any case, the result would be the release of a considerable amount of nursing time for "nursing Activities".

APPENDIX

DATE _____

ESCORT STUDY
OBSERVATION SHEET

FLOOR _____

Census

Personnel Category and Department	Destination or Origin	Type of Activity		Time Off A	Time On B	Comments	A-B	B-A
		P.E.	Other					

SUMMARIZED DATA

FIGURE A

OSLER ESCORT SURVEY DATA

	7am	8am	9am	10am	11am	12 Noon	1pm	2pm	3pm	4pm	5pm	6pm	7pm	Total Hours
MONDAY			.6	1.1	3	.7	.7	1.9	.8					8.8
TUESDAY		1.2	.6	2.4	5.2	.7	2.1	2.2	.3		2.4			17.1
WEDNESDAY			.9	2.7	1.9	1.3	1.6	2.3	2.2	1.1	.7			14.7
THURSDAY	1.5	.4	.9	4.2	2.5	.7	2.5	1.2	3.2	.9	.3			18.3
FRIDAY		.1	1.9	1.7	1.6	.8	2.2	2.1	1.6	.8	1.1	.1		14.0
TOTALS	1.5	1.7	4.9	11.9	14.2	3.9	9.1	9.7	8.1	2.8	4.5	.1		72.9
AVERAGE	.3	.3	1	2.4	2.8	.8	1.8	1.9	1.6	.6	.9	0		14.4

FIGURE B

Average Escort Trip Time $\frac{2289 \text{ Min.}}{262 \text{ Trips}}$ = 8.7 Min./Trip

Average Waiting Time X-ray Escorts $\frac{219}{91}$ = 2.4 Min./Trip

Average Total Trip Time 11.1 Min./Trip

Therefore, 1 Escort can make 5 trips/hr.

TABLE B

TIME	Trips by 1st Escort	Trips by 2nd Escort	Trips by 3rd Escort	Trips by 4th Escort	TOTAL
9	5	2	0	0	7
10	5	5	5	2	17
11	5	5	5	4	19
12Lunch	2	3	1	0	6
1	5	5	2	0	12
2	5	5	3	0	13
3	5	5	1	0	11
4	4	0	0	0	4
5	2	4	0	0	6
	38	34	17	6	95

$\frac{72}{95}$ = 76% of all trips on the average can be handled by 2 escorts

$\frac{89}{95}$ = 94% of all trips on the average can be handled by 3 escorts

$\frac{95}{95}$ = 100% of all trips can be made by 4 escorts

TABLE C

Utilization of Escort Time

			% Utilization
1st Escort	$\frac{38 \times 11.1 \text{ Minutes}}{480 \text{ Minutes/day}}$	=	88%
2nd Escort	$\frac{34 \times 11.1 \text{ Minutes}}{480 \text{ Minutes/day}}$	=	79%
3rd Escort	$\frac{17 \times 11.1 \text{ Minutes}}{480 \text{ Minutes/day}}$	=	39%
4th Escort	$\frac{6 \times 11.1 \text{ Minutes}}{480 \text{ Minutes/day}}$	=	14%

Nursing Time Saved by Increasing Numbers of Escorts

Escort	Trips	Minutes	Minutes/day	% Savings to Nursing
1st	38	8.7	331	40%
2nd	34	8.7	$\frac{296}{627}$	$\frac{36\%}{76\%}$
3rd	17	8.7	$\frac{148}{775}$	$\frac{18\%}{94\%}$
4th	6	8.7	52	6%
Total	95		827	100%

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