



KEY POINT SUMMARY

OBJECTIVES

The objective of this study was to present a method that would effectively compare the ward layouts in hospitals in connection with the distances nurses travel.

Travel in Nursing Units

Lippert, S. 1971 | *Human Factors*. Volume 13, Issue 3, Pages 269-282

Key Concepts/Context

The author refers to previous studies where the comparison of nurses' travel in nursing units was done using different methods and on the basis of the unit layout, without taking into consideration nurses' activities. The author developed a mathematical model, the Tour Model, to enable a universal comparison of nurses' travels in units with different layouts. The model was then tested in four different hospital layouts. Using the model the author was able to make a comparison and also determine the number of patients a nurse visited and the number of utility stops made.

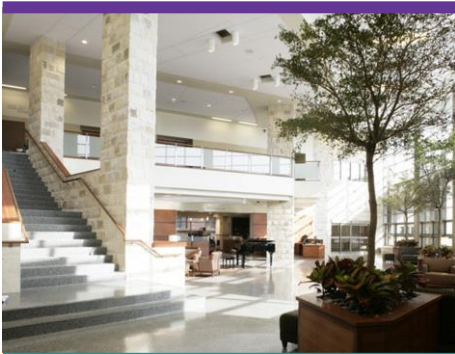
Methods

The author reviewed existing literature to define what entails nurses' travel. Given that nurses travel to multiple rooms/destinations from the nurse station (NS) and back, the author developed a tour model to address this. The first model included nurses' travels between patient rooms (PR) and between NS and patient room or rooms. Travel to utility rooms (both inside and outside the PR) was later added to the model. Different combinations of travel were determined, which included travel between the NS and one or more PRs and no or one utility stop. This model was applied in the nursing units of three hospitals (four different layouts).

Findings

Based on the tour model the author developed and applied, it was found that:

- Nurses do not make ordered tours or completely random tours of PRs. Their travel is somewhere between ordered and completely random.
- In the four different layouts, the number of patients visited varied between 2 and 2.67 and the number utility stops per patient varied between 0.125 and 0.50.



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- The time nurses would spend walking was calculated to be 32 minutes per patient per day shift.
- The average distance nurses would walk was calculated to be approximately 1.5 miles per nurse per day shift.

Limitations

The author does not explicitly state limitations for the study, but mentions that observations of nurse activities and walking would have supplemented his tour model.

Design Implications

The author recommends using the Tour Model (which involves the calculation of the distances between patient rooms and between patient rooms and nurses' stations) and its expanded version (to include utility stops) to compare two different layouts prior to design.

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