GRACE HOSPITAL COMPUTER SIMULATION MODEL

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Abstract

A simulation model, written in GPSS/H, was created to study utilization of Grace Hospital, a special-purpose maternity hospital. The model assumes that a patient's transfers and length of stay depend only on her present location and classification, and not on any past history. The model includes a sophisticated overflow policy, and allows the factors used to govern a patient's transfers and length of stay to depend on her treatment stage. Also, to more accurately simulate the mid-morning peak load in the hospital, the length of stay in Postpartum depends on a patient's arrival time in Postpartum. The average census, and the number of patient-days spent in inappropriate units or lost due to overcrowding are determined for several future scenarios. It was concluded that Grace is running very close to capacity, and must continue to limit the number of admissions allowed. In addition, an early discharge program was shown to be very effective in alleviating the overcrowding.

Signed: [Signature]

8/2/85
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