

## MODEL GILIRAN BAGI TEMPOH RAWATAN UNTUK KES KRITIKAL DI JABATAN PERUBATAN KECEMASAN PPUKM

(Queuing Model of Treatment Time for Critical Cases at the Emergency Department of PPUKM)

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### ABSTRAK

Jabatan Perubatan Kecemasan (JPK) merupakan komponen penting dalam jaringan penjagaan kesihatan, bersedia menawarkan perkhidmatan 24 jam sehari dan tujuh hari seminggu untuk yang memerlukan rawatan. Didapati, bilangan pesakit yang datang ke JPK dari semasa ke semasa untuk mendapatkan rawatan adalah semakin meningkat. Pertambahan ini secara tidak langsung memberi kesan ke atas masa menunggu sebelum mendapatkan rawatan dan juga masa rawatan. Kajian ini bertujuan untuk menentukan model giliran  $M/G/\infty/GD/\infty/\infty$  dan sistem giliran  $M/G/1/GD/\infty/\infty$  seterusnya mendapatkan tempoh masa rawatan dan masa menunggu bagi pesakit yang dikelaskan sebagai kes resusitasi dan kecemasan sepanjang bulan Mei 2009 di JPK, PPUKM. Berdasarkan model yang diperolehi, didapati masa rawatan bagi seorang pesakit dalam kelas kecemasan secara puratanya adalah dalam tempoh tiga jam.

*Kata kunci:* Teori giliran; kes kritikal; tempoh masa rawatan

### ABSTRACT

Emergency Department (ED) is a vital component in our health care safety net, available 24 hours a day, 7 days a week, for all who require care. The number of patient visits to ED has been increasing steadily in terms of volume and acuity. The increasing number of visitors to the ED has affected the patient's waiting time before being seen and treated by a physician. This study examined the average time taken by a physician in the emergency department when treating a patient. Accordingly, the queuing model  $M/G/\infty/GD/\infty/\infty$  and queuing system  $M/G/1/GD/\infty/\infty$  are applied to obtain this average time for resuscitation and treatment for emergency cases admitted at the ED of PPUKM in May 2009. Based on the queuing models considered, on the average, approximately a three-hour period was required by a physician when treating any particular patient under an emergency case.

*Keywords:* Queuing theory; critical case; treatment time

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