



## Understanding Hospital Weekend Death Risk



Academic researchers from the University of Warwick Medical School believe that more research should be conducted to understand why patients are more likely to die in hospital during the weekend.

Professor Richard Lilford and Dr Yen-Fu Chen started this discussion following the results of The Global Comparators project: international comparison of 30-day in-hospital mortality by day of the week, which was published online in *BMJ Quality & Safety*. The results show hospital weekend death risk is common in several developed countries.

According to Professor Lilford, "Understanding this is an extremely important task since it is large, at about 10% in relative risk terms and 0.4% in percentage point terms. This amounts to about 160 additional deaths in a hospital with 40,000 discharges per year."

He highlights the need to investigate how much of this increase is due to service failure. He also points out that while 0.4 percent represents a large number of deaths, the proportional change itself is quite small.

The two wrote in an editorial that the more important thing is to find out the causes behind the weekend effect as opposed to proving its existence. The study in question found that the weekend effect is a regular feature of several developed countries' healthcare systems and is a phenomenon that not only crosses time but geographical boundaries.

The study researchers evaluated data on almost three million admissions between 2009 and 2012 from 28 metropolitan teaching hospitals in England, Australia, USA and The Netherlands. Their focus was on deaths that occurred in hospital within 30 days of an emergency admission or elective surgery.

The findings showed that after accounting for influential factors, the risk of dying within 30 days was higher for emergency admissions at weekends for 22 of the 28 hospitals. The risk was 8 percent higher in hospitals in England, 13 percent higher in hospitals in the US and 20 percent higher in Dutch hospitals. No daily variation in the heightened risk of death was observed in the Australian hospitals despite the fact that these hospitals had the largest proportion of emergency admissions. Those admitted on a Saturday were 12 percent more likely to die within seven days. The findings also showed that all patients admitted during the weekend for elective surgery were more likely to die within thirty days as compared to those admitted on other days of the week and this was true across the board.

While no single factor is responsible for the weekend effect, the researchers speculate that there may be certain diagnoses and procedures that could be sensitive to reduced access to test results and diagnosis during the weekends. In addition, the effect may be due to the fact that weekend staff is generally fewer in number

and less experienced. Patients requiring urgent care thus may have to wait longer which could affect the success of the treatment and interventions.

Professor Lilford and Dr Chen will aim to understand the factors in more depth in collaboration with the University of Birmingham.

Source: University of Warwick

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