

STAT 221 Introduction to Probability and Statistics Winter 2012

Quiz 14

Taken on Mon Feb 6. You may work with a group of as many as 4 students, submitting one quiz with all names, provided that you all contribute to the work. You may use your notes. Also, please include your section number (8am: section 2, 9am: section 3) and “quiz 14” along with your name(s).

For several years in the 1990s, Kristen Gilbert worked as a nurse in the intensive care unit (ICU) of the Veteran’s Administration hospital in Northampton, Massachusetts. Over the course of her time there, other nurses came to suspect that she was killing patients by injecting them with the heart stimulant epinephrine. Gilbert was eventually arrested and charged with these murders. Part of the evidence presented against Gilbert at her murder trial was a statistical analysis of more than one thousand 8-hour shifts during the time Gilbert worked in the ICU. The following 2×2 table displays these data:

	Gilbert working on shift	Gilbert not working on shift
Death occurred on shift	40	34
Death did not occur on shift	217	1350

1. Identify the explanatory variable in this study.
2. Identify the response variable in this study.
3. In what proportion of Gilbert shifts did a death occur? In what proportion of non-Gilbert shifts did a death occur?
4. Calculate the relative risk of death occurring on a shift, comparing Gilbert shifts to non-Gilbert shifts.
5. Do the data suggest an association between the two variables? Explain.