EPIB-609: ASSIGNMENT ON HOSPITAL STATISTICS   (v 2011.09.07)

Read the Iezzoni paper published in Annals of Internal Medicine, 1996 (124 (12): 1079) and respond to the questions below.

The following 3 statements highlighted in that paper imply that Farr and Nightingale published misleading results.

> Page 1080: "*Thus, the numerator reflected figures from an entire year, whereas the denominator encompassed a single day. Farr had calculated death rates per occupied hospital bed, not mortality rates per the total number of hospitalized patients.*"

> Page 1082: "*Timothy Holmes, a London surgeon, indicated that by Farr's method, one hospital had a mortality rate of 130%, clearly a "misleading" figure (26).* "

> Page 1082: "*public would interpret Farr's mortality rates: "That Dr. Farr understands the mathematical meaning of his figures no one will doubt; but that the majority of his readers understand them neither in this sense nor in any other, and are utterly mislead by them, is certain" (25).*"

Question 1. Do you agree or disagree that the hospital mortality statistics published by Farr and Nightingale were, at the time, misleading? Justify your response.

Question 2. Comment on how the mortality statistics reported by Farr, and used by Nightingale, relate to the person-time concept described in Farr's 1838 work [see also the Vandenbroucke et al. 1998 paper]. Did Farr and Nightingale make any assumptions in their calculation of mortality rates?

Question 3. What assumptions are made when mortality rates are calculated as deaths per total number of hospitalized patients, as Farr's critics suggest?

Please hand in your answers (no more than 1000 words in total) at the beginning of the class on September 12, 2011).