# Case Study – Cohort Studies

# Epidemiology 600

**Pre-Lab Individual Work**

*Please complete the following Part 1 and associated questions* ***BEFORE*** *lab.*

**PART 1: Applying the concepts discussed in lecture.**

**Readings:** [Franks PW, Hanson RL, Knowler WC et al. Childhood Obesity, Other Cardiovascular Risk Factors, and Premature Death. *NEJM*. 2010;362(6):485-93.](http://www.nejm.org/doi/pdf/10.1056/NEJMoa0904130)

[Gregg EW. Editorial: Are Children the Future of Type 2 Diabetes Prevention? *NEJM*. 2010;362(6):548-50](http://www.nejm.org/doi/pdf/10.1056/NEJMe0912192).

[Letters to the Editor Re: Franks PW, Hanson RL, Knowler WC et al. Childhood Obesity, Other Cardiovascular Risk Factors, and Premature Death. *NEJM*. 2010;362(19):1841-2.](http://www.nejm.org/doi/pdf/10.1056/NEJMc1002801)

**Optional Reading:**

[Rabin RC. Child Obesity Risks Death at Early Age, Study Finds. *The New York Times*. February 11, 2010; page A22.](http://query.nytimes.com/gst/fullpage.html?res=9C03E4D9103FF932A25751C0A9669D8B63&pagewanted=print)

After reading the Franks et al article please answer the following questions:

Data adapted from Franks et al. (\*some hypothetical)

|  |  |  |  |
| --- | --- | --- | --- |
| Status at Baseline | Number of Participants | Endogenous Deaths by age 55 | Person-years of Observation |
| Obese | 1,394 | 65\* | 30,316\* |
| Non-obese | 3,463 | 101\* | 85,794\* |
| Total | 4,857 | 166 | 116,110 |

1. Based on the table above, calculate the following and interpret in words (please show your work):

1. the **risk** of endogenous death by age 55 in obese children and in non-obese children;

*obese risk= 65/1394=.046\*100=4.6 endogenous deaths by age 55 per 100 children*

*non-obese risk=101/3463=.029\*100=2.9 endogenous deaths by age 55 per 100 children*

1. the **rate** of endogenous death by age 55 in obese children and in non-obese children;

*obese rate= 65/30316=.002\*1000=2 endogenous deaths per 1000 person years*

*non-obese rate=101/85794=.001\*1000= 1 endogenous death per 1000 person years*

**In-Class Group Work**

*Please complete the following part* ***DURING*** *lab.*

2. There are different ways of intervening to prevent obesity in children, i.e., such as clinical intervention and public health intervention. What is the difference between a clinical and public health intervention?

3. Discuss potential difficulties associated with both clinical and public health approaches to the problem of childhood obesity.

4. Table 2 in the Franks article reports the number, rate, and percentage of deaths by age group for all, external, and endogenous causes of death. Describe the pattern of premature endogenous related mortality by age category.

5. Which of the childhood health risk factors for early mortality discussed in this week’s readings (including the letters to the editor and editorial) is most relevant in terms of disease prevention and public health improvement? Explain your answer.

6. Cohort studies are considered observational studies, whereas clinical trials are considered more experimental. How does this difference affect:

1. the generalizability of the conclusions of the two types of studies;
2. the strength of the conclusions?