Chart Interpretation Assignment

Chart 1: The table below is based on a Japanese study carried out to learn the cause of a gelatin allergy epidemic that occurred among Japanese children during the 1990's. The column on the left indicates whether or not the children in the group received a gelatin-containing DTAP vaccine at three months. The (+) and (-) columns indicates whether or not the children in the group had an allergic reaction to gelatin. Use this table to answer the questions that follow:
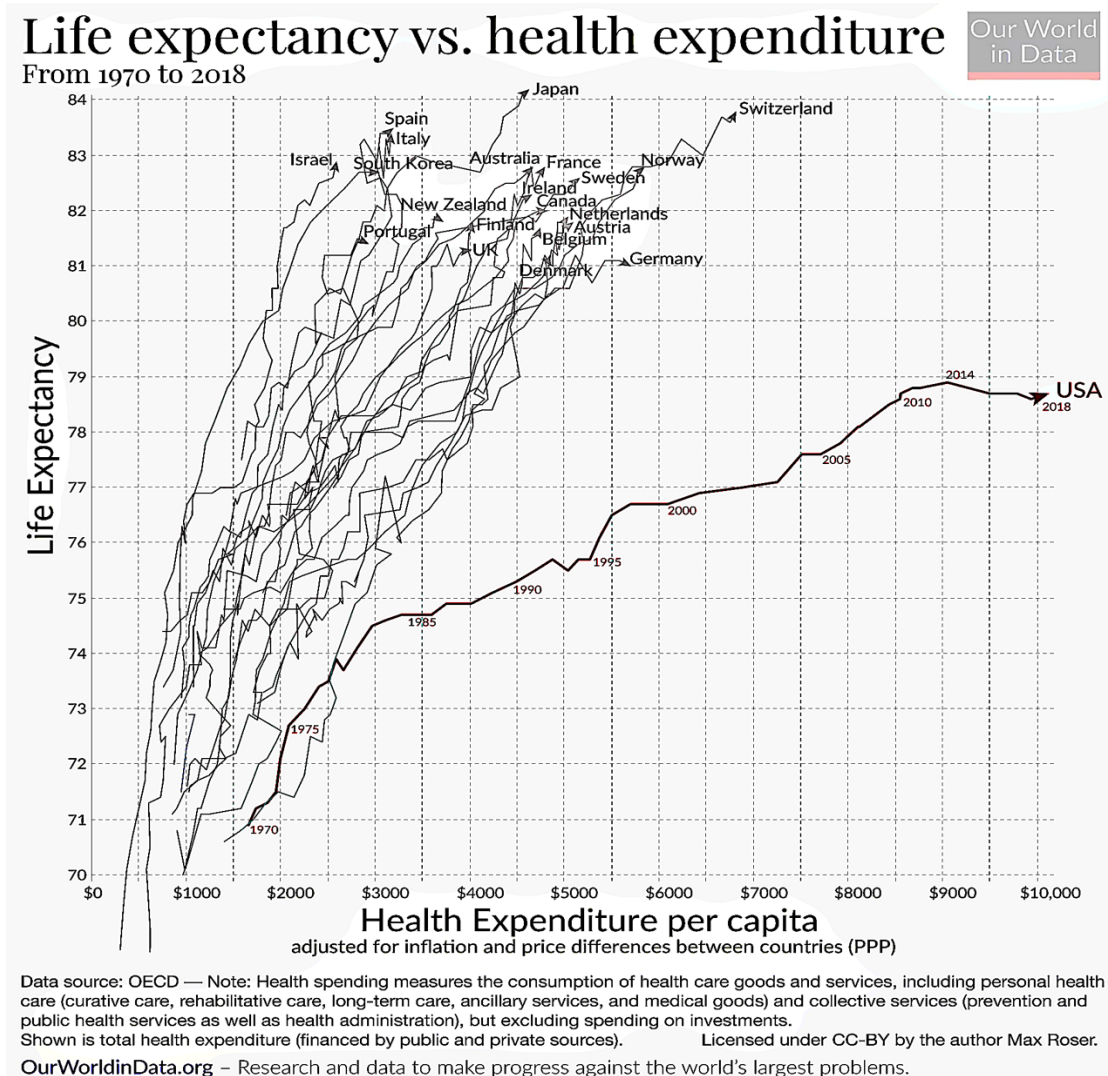
Table 6. DTaP vaccination histories of children with anti-gelatin IgE and systemic immediate-type allergic reactions to vaccines

History of DTaP vaccine	Allergic reactions	
	+	−
with gelatin	54	72
without gelatin	0	29

Significant relationship between histories of vaccination with gelatin-containing DTaP vaccine and anti-gelatin IgE production ($P < 0.001$).

Chart on p.191 from Sakaguchi & Inouye in the Japanese J. Infect. Dis., 53, 189-195, 2000.

1. Write out the hypothesis that is being addressed by the data.

2. Which group of children represent the control?

3. How many children were included in the entirety of the study?

4. How many children in this study received the gelatin-containing DTAP vaccine?

5. How many children in this study did not receive the gelatin-containing DTAP vaccine?

6. How many children that received the gelatin-containing DTAP vaccine developed allergies to gelatin?

7. What <u>percentage</u> of the children that received the gelatin-containing DTAP vaccine developed allergies to gelatin? (Show work)

8. How many children that did not receive the gelatin-containing DTAP vaccine developed allergies to gelatin?

9. What <u>percentage</u> of the children that did not receive the gelatin-containing DTAP vaccine developed allergies to gelatin? (Show work)

10. Do the results support the hypothesis? Explain:

Chart 2: The graph below shows trends in the relationship between life expectancy and healthcare spending between 1970 and 2018 in a range of developed countries. Use this graph to answer the questions:

Life expectancy vs. health expenditure
From 1970 to 2018

Data source: OECD — Note: Health spending measures the consumption of health care goods and services, including personal health care (curative care, rehabilitative care, long-term care, ancillary services, and medical goods) and collective services (prevention and public health services as well as health administration), but excluding spending on investments.
Shown is total health expenditure (financed by public and private sources).   Licensed under CC-BY by the author Max Roser.
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1. Which country on this chart had the longest life expectancy in 2018?

2. Which country on this chart had the shortest life expectancy in 2018?

3. Which country on this chart had the highest health expenditure per capita in 2018?

4. Which country on this chart had the lowest health expenditure per capita in 2018?

5. During what approximate time period did US health expenditures start to deviate from that of the other developed nations on the graph?

6. What was the first year between 2000-2018 that US life expectancy noticeably declined?