Logical (Critical) Reasoning Questions for CLAT | QB Set 66

Hurricane Helene recently devastated the southeastern coast of the United States, claiming over 200 lives, with hundreds more missing. However, the true toll of such storms may be far higher. A study published in *Nature* on October 2 suggests that hurricanes (tropical cyclones, or TCs) lead to increased mortality for nearly 15 years after the storm. Stanford researchers Rachel Young and Solomon Hsiang analysed 501 historical storms in the U.S. from 1930 to 2015, focusing on how mortality rates changed in states hit by TCs. They used an "excess mortality" approach to track deaths beyond typical levels, considering factors like healthcare systems and previous TCs. This allowed them to estimate the long-term impact of hurricanes on public health.

The study found that mortality rates in affected states increased for about 14.3 years following a TC, leading to 7,000–11,000 excess deaths per storm. Between 1930 and 2015, these storms caused an estimated 3.6 million to 5.2 million additional deaths, surpassing those from motor vehicle accidents, infectious diseases, and wars in the same period. Several factors explain these long-term impacts. Economic losses from TCs often drain families' financial resources, leaving less for healthcare. The dispersal of families weakens social support networks, which are crucial for maintaining health. Moreover, government healthcare spending may shift towards recovery efforts after a storm. These persistent consequences highlight the hidden, long-lasting effects of hurricanes on public health.

Question 1

The passage discusses how tropical cyclones (TCs) lead to long-term impacts, including increased mortality for years after the event. What assumption underlies the researchers' use of excess mortality as a metric for studying the impacts of TCs?

A) TCs primarily affect the population immediately after the storm and not over long periods.

B) Short-term fatalities directly caused by TCs are insufficient to capture the total impact of the storm.

C) Excess mortality due to natural disasters like TCs only occurs in underdeveloped regions.

D) Government responses after a TC are always adequate, reducing the need for further study.

Question 2

The researchers argue that TCs cause increased mortality rates for many years due to economic, social, and health effects. Which of the following, if true, would best support this argument?

A) Most states in the U.S. experience minimal long-term economic impacts after a TC.

B) Government funding for healthcare increases in the aftermath of a TC, particularly in wealthy areas.

C) Studies in other countries show that natural disasters cause long-term social disintegration and weakened healthcare systems.

D) Mortality rates tend to stabilise within two months after a TC in areas with strong healthcare systems.

Question 3

Based on the passage, what can be inferred about the relationship between government spending and healthcare after a TC?

A) Government spending on healthcare increases proportionally to the number of deaths caused by a TC.

B) Long-term recovery efforts from TCs typically prioritise healthcare over infrastructure repair.

C) Diverting government funds towards recovery after a TC may lead to reduced healthcare funding, exacerbating long-term mortality rates.

D) The government's primary focus after a TC is to rebuild infrastructure, which has no long-term impact on healthcare.

Question 4

What is most likely the cause of the weakened social networks that the researchers claim exacerbate the long-term health impacts of TCs?

A) Increased government oversight in disaster-affected areas.

B) Families are dispersing to different areas and are unable to maintain community ties.

C) A surge in population due to post-disaster migration into affected areas.

D) A decrease in the number of TCs hitting a specific region over time.

Question 5

Which of the following conclusions can be drawn from the researchers' findings regarding long-term mortality after TCs?

A) Immediate disaster relief efforts are the primary determinant of long-term mortality rates after a TC.

B) The health impacts of TCs persist for many years due to a combination of economic strain, weakened social ties, and insufficient healthcare resources.

C) Excess mortality caused by TCs is generally overstated and does not require significant policy changes.

D) Long-term mortality is only a concern in areas that are hit by more than one TC over a decade.

Answers and Explanations:

Question 1: Answer - B
The assumption behind the use of excess mortality is that short-term fatalities are not enough to fully understand the long-term impact of TCs. The study aims to show that effects continue for many years due to various indirect consequences. Answer B best aligns with this reasoning, as it recognises that short-term data are insufficient for capturing the full scope of TC impacts.

Question 2: Answer - C
The argument that TCs have long-term health effects would be strengthened if studies in other countries also showed similar long-term social and health consequences from natural disasters. This would indicate that such impacts are a widespread and recognised phenomenon, not just limited to the U.S.

Question 3: Answer - C
The passage implies that government funds might be redirected away from healthcare towards disaster recovery efforts. This inference aligns with the argument that such diversion could result in reduced healthcare resources, contributing to higher long-term mortality rates.

Question 4: Answer - B
The passage mentions that families dispersing after a TC can weaken social networks, which are important for maintaining health. This dispersion likely disrupts community support systems, leading to longer-term health challenges.

Question 5: Answer - B
The study concludes that long-term mortality rates rise due to a combination of economic losses, social disintegration, and weakened healthcare systems following a TC. This conclusion reflects the multiple layers of impact that TCs have beyond immediate disaster response efforts. Answer B encapsulates this broader view.