

Article-Based Observation

Directions: Read the article "[Data back ban of artificial trans fats](#)" and then answer these questions:

1. What is the overall significance of the recent *JAMA Cardiology* report on hospital admission data for counties in New York state that did and did not restrict trans fat use?
2. What has past research found are some health-related effects of consuming foods that contain trans fats, or trans-fatty acids, as mentioned in the article?
3. According to the article, what are typical foods that contain trans-fatty acids, and what is the source of the trans fats in these foods?
4. New York City, followed by a number of New York counties, began restricting artificial trans fats in 2007. Eric Brandt and his colleagues examined changes in cardiovascular health that followed these restrictions. Describe the design of their study and what they found.

5. Cardiologist Dariush Mozaffarian outlines the U.S. Food and Drug Administration's determination about partially hydrogenated oils and the upcoming actions. What does he say that the FDA ordered, and why is this study important to that future policy?
6. Does Brandt's study find that the New York trans fats restriction policy *caused* a decrease in cardiovascular events in counties with restrictions? Explain.
7. Pick your favorite social media platform, and design a post to inform others about the study described in the article.
8. Would a ban on trans fats stop particular foods that contain these fats, such as margarine and crackers, from being sold? Why or why not?
9. Would a ban on trans fats succeed in making foods that contain these fats healthier to eat? Why or why not?

Responses to Article-Based Observation

- 1. What is the overall significance of the recent *JAMA Cardiology* report on hospital admission data for counties in New York state that did and did not restrict trans fat use?** Possible student response: According to epidemiologist Frank Hu, this study is significant because it is the first to link a trans fat restriction policy to a reduction in heart disease and stroke for a large population. The study's findings also suggest that a nationwide ban of trans fats by the U.S. FDA in 2018 could have large-scale health benefits.
- 2. What has past research found are some health-related effects of consuming foods that contain trans fats, or trans-fatty acids, as mentioned in the article?** Possible student response: Past research has shown that consuming foods containing trans fats increases the risk of coronary disease and raises levels of low-density lipoprotein cholesterol in the blood.
- 3. According to the article, what are typical foods that contain trans-fatty acids, and what is the source of the trans fats in these foods?** Possible student response: Deep-fried fast food, baked goods, margarine and crackers often contain trans-fatty acids, because they are often prepared with partially hydrogenated vegetable oils.
- 4. New York City, followed by a number of New York counties, began restricting artificial trans fats in 2007. Eric Brandt and his colleagues examined changes in cardiovascular health that followed these restrictions. Describe the design of their study and what they found.** Possible student response: Brandt and his colleagues analyzed data from 11 counties that had restrictions on artificial trans fat and 25 counties that did not. They learned that hospital admissions rates for heart attacks and strokes in the counties where trans fats had been banned dropped 6.2 percent beyond expected population trends. Brandt and his colleagues also separated data for heart attacks and strokes in the counties with bans and found that heart attack rates had dropped. Brandt states that it is likely that the decline in heart attacks is due to artificial trans fats restrictions.
- 5. Cardiologist Dariush Mozaffarian outlines the U.S. Food and Drug Administration's determination about partially hydrogenated oils and the upcoming actions. What does he say that the FDA ordered, and why is this study important to that future policy?** Possible student response: The FDA has ordered that U.S. food manufacturers ensure that their products are free of partially hydrogenated oils, which include trans fats, by June 2018. Mozaffarian states that this study supports the FDA's action to ban trans fats.

6. **Does Brandt's study find that the New York trans fats restriction policy *caused* a decrease in cardiovascular events in counties with restrictions? Explain.** Possible student response: Brandt's study found an association between restrictions on trans-fatty acid consumption and a decrease in hospitalization for cardiovascular events. Even though the study controlled for population trends in health, among other variables in the counties, other differences could have developed over time in the counties studied. Therefore, the data from the study alone does not prove causation. However, when the correlation between trans fat bans and cardiovascular events is considered along with data linking the consumption of trans fats to coronary heart disease, a stronger case for causation can be made.
7. **Pick your favorite social media platform, and design a post to inform others about the study described in the article.** Possible student response: I would post on Facebook a picture of my favorite food that contains trans fats, such as a Krispy Kreme doughnut, and the text: "And by June of 2018, the FDA will make this food free of trans fats and possibly healthier to eat! This trans fats ban may even lead to fewer heart attacks and strokes across the U.S., according to a recent study."
8. **Would a ban on trans fats stop particular foods that contain these fats, such as margarine and crackers, from being sold? Why or why not?** Possible student response: No, a ban would require food manufacturers to ensure that their products do not contain partially hydrogenated oils, but they could replace these oils with others that do not contain trans fats.
9. **Would a ban on trans fats succeed in making foods that contain these fats healthier to eat? Why or why not?** Possible student response: Not necessarily. It depends on what ingredient is added to the food to replace the source of the trans fat (likely partially hydrogenated oil). For example, if fat is taken out of the food, is it replaced by extra sugar and salt to try to maintain a similar taste?