

# READING EXERCISE

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**PulseNET: SYSTEM FOR A SAFER FOOD SUPPLY**

1 If the latest headlines are any indication, it's never been more dangerous to eat out in the USA. Since the summer of 2015, *Chipotle*, a fast-food restaurant chain, has been enduring a food-safety nightmare, with hundreds of its customers infected with norovirus, salmonella and *E. coli* after eating at their restaurants. Meanwhile, in early March, Starbucks recalled some of its breakfast sandwiches because of possible **contamination** with listeria. Recent months have also seen massive recalls of contaminated pistachios, packaged salads, raw chicken and more.



2 Food-borne illness may appear to be increasing, but hearing more about it is, in fact, a sign that the food supply is getting safer, not more dangerous. That's because the speed with which outbreaks are identified, and the public notified, has risen dramatically, thanks to sophisticated advances in the government's pathogen-tracking system, called PulseNet. Now the system can take advantage of whole-genome sequencing to get more accurate DNA fingerprints of microbes. That allows experts to identify and take necessary measures for outbreaks quicker because they can connect individual food-poisoning cases that stem from the same source. The implications are significant not just for consumers, eager to avoid the stomach bug, making them ill but also for food manufacturers, who face unprecedented investigations and possibly severe legal consequences in food-borne-illness cases.

3 "Listeria has been in the news lately because we have been using **this new system** that is helping us find more cases, and sometimes we find ones we think we would have missed before," says Dr. Robert Tauxe, who oversees food-safety issues at the U.S. Centers for Disease Control and Prevention (CDC). "I hope it means we will be finding outbreaks while they are smaller and stopping them, immediately!"

4 Since PulseNet launched in 1996, health officials have been building the national database of microbes that turn up in food and make people sick. Before PulseNet, it could take nearly 40 days to detect an outbreak. For instance, during an *E. coli* outbreak in 1993, over 700 people got sick and four died. In a similar outbreak after the introduction of PulseNet, officials detected *E. coli* in less than half the time, just 44 people got sick, and no one died. In the 20 years since PulseNet's inception, half a billion kilos of tainted food have been recalled. Moreover, that process is getting better all the time. In 2015, the CDC used whole-genome sequencing to figure out the source of a year-long outbreak of listeria. It was the first time the agency had identified an outbreak of such long duration, with 10 cases spread over five years. The outbreak, which killed three people, started with the famous ice-cream Blue Bell, officials concluded. Until recently, this mystery might have been impossible to solve; some of the reported cases date as far back as 2010, and linking those earlier cases to the 2015 ones would have been much harder without the new technology.

5 "It was the whole-genome sequence that tied it all up and gave us the confidence that this was really happening," says Tauxe. Blue Bell ultimately recalled its entire product line, and the company is reportedly under investigation by the Department of Justice. Blue Bell's wasn't the only listeria mystery solved this way. In September, the CDC used whole-genome sequencing and information from PulseNet to identify an outbreak of listeria linked to soft cheese, which had sickened 30 people. A recent outbreak linked to packaged salads was discovered with the same method in January.

6 This is all happening as the legal ramifications of food-safety violations grow more severe. The U.S. Food and Drug Administration now exerts more power over food safety, and officials have brought criminal charges against executives involved in food-safety scandals. Recently, the CEO of a peanut-processing company was sentenced to 28 years in prison for his role in an outbreak. That's **unsettled** some food executives, but for the average American, the more precise tracking of pathogens and higher legal stakes mean food will only get safer. "The people who make the food have to do it correctly and do it safely!" says the CDC's Tauxe. "I think we will all be healthier in the future!"

1. Which of the following statements is TRUE according to paragraph 1?
  - A) Starbucks recalled its sandwiches as their taste was not good enough.
  - B) Eating out in America hasn't been as dangerous as today, in the past.
  - C) At most a hundred customer of Chipotle infected with nerovirus salmonella and E. coli.
  - D) The situation of poisoning declined because it has been under control recent months.
  
2. In paragraph 1, the word "**contamination**" could be best replaced by -----.
  - A) problem
  - B) infection
  - C) sales
  - D) outbreak
  
3. According to the paragraph 2, hearing more about food-borne illnesses -----.
  - A) is actually a sign that the situation is getting more and more problematic for the community
  - B) is bad for companies as well as their reputations, so they should be under investigation.
  - C) leads the government to create system called PulseNet, which previously has no effect.
  - D) is an evidence showing the food that is provided us is getting safer day by day, while it looks like to be the opposite.
  
4. In paragraph 3, the phrase "**this new system**" refers to -----.
  - A) Listeria
  - B) CDC
  - C) PulseNet
  - D) DNA
  
5. Which one of the following statements is FALSE according to paragraph 4?
  - A) After the new technology, the latest E. coli outbreak detected at most 20 days.
  - B) In 1993 E.coli outbreak, four people died and over 700 people suffered from it.
  - C) The outbreak of Listeria, killing three people and longing a year, started with Blue Bell.
  - D) The national database of microbes has been created by national officials.
  
6. What can be said about Blue Bell according to paragraphs 4 and 5?
  - A) Blue Bell is responsible for the listeria outbreak and the company will face some legal consequences
  - B) Blue Bell is a company which makes Ice creams so good that all the charges are actually false.
  - C) Since the launching of PulseNet, the company has been under investigation for their suspicious behaviors.
  - D) Blue Bell recalled all products, especially their soft cheeses and their packaged salads.

7. What can be said about CDC according to paragraph 5?

- A) They applied the whole-genome sequencing method and database of PulseNet to identify outbreaks.
- B) The whole-genome sequencing and other progresses gave them hesitation about identifying outbreaks.
- C) The mystery of listeria, linked with soft cheese and packaged salad, solved without the help of CDC.
- D) The company Blue Bell sued by CDC because of their products and their link with listeria.

8. The word "**unsettled**" in paragraph 6 is closest in meaning to -----.

- A) organized
- B) bothered
- C) embarrassed
- D) relieved

9. According to the paragraph 6, Taxue supposed that -----.

- A) The people must choose their foods in terms of their package
- B) The companies must make their food according to the taste
- C) The charges should be higher in the future
- D) In the future, the human race will be healthier than today

10. Which of the followings can be said about PulseNet according to the text?

- A) Since it was launched, this technology helped the officials in terms of the speed of defining process.
- B) It was so helpful that the problems of it were neglected and this was necessary for those days.
- C) In 1996, the system was actually, offline and officials need to record every case one by one.
- D) The food-poisoning cases have been increased because of PulseNet and the companies.

KEY: 1B 2B 3D 4C 5C 6A 7A 8B 9D 10A