

Mexico vs USA in Sanitation

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Culinary destinations are one of the great reasons to travel the globe. From local street fair to dining in an established five-star restaurant, there are sure to be exciting foods for our taste buds to revel in. Food safety is something that we, in developed countries, take for granted and often make assumptions about when we travel. We often enjoy a sense that food safety is universal. As a result, food safety may not always be in the forefront of our minds when we embark on our travel plans. However, it's important to remember that, while you may be up for the heaps of wonderful food you're about to partake of, your digestive tract may not be up for the microbial challenge. The cleanliness of the food and water, as well as environmental factors encountered on a culinary excursion, can pose a serious health hazard for travelers. Although the locals may be able to drink and eat routinely it does not mean that you should without proper consideration first.

All too often, food safety is an afterthought and, until a digestive problem arises, goes unnoticed. Luckily, foodborne illnesses are preventable! Educational efforts to impart knowledge regarding concepts pertaining to food safety standards begin in the classroom. Those within varying educational backgrounds, such as culinary, hospitality, beverage coordination, event management, and nutrition require, a solid foundation of understanding with regard to the behaviors and activities that contribute to the safety of food and decrease the risks of foodborne illness. The classroom sets in motion an in-depth understanding of the science behind food safety. Therefore, granting students the ability to apply this knowledge to real-life situations and circumstances. Students are provided with foundational knowledge with respect to food handling practices, the maintenance of clean and safe working spaces, as well as a thorough understanding of the whys and how of proper personal hygiene specifically related to food preparation and safety. Accurate food safety knowledge influences and predicts whether proper food handling practices will be utilized, and illness will be avoided.

Food safety regulations are put into place to provide guidance and to govern proper food preparation, storage, and handling in an effort to prevent food-borne illness. These guidelines may seem like routine tasks however, they should be followed to avoid potential health risks to consumers. The Food and Drug Administration reports that there are an estimated one in six people that become ill from foodborne sources in the United States alone. Now consider that the United States of America's food supply is one of the safest in the world (Center for Food Safety and Applied Nutrition). Symptoms of foodborne illnesses can range from mild discomfort to serious, life-threatening conditions. Those most at risk for foodborne illness are the elderly, pregnant women, and those with weakened immune systems (Center for Food Safety and Applied Nutrition). Nevertheless, even the healthiest of travelers is vulnerable to the effects of compromised food, water, and environmental influences that contribute to overall food safety. In an effort to familiarize and assist in understanding the vast differences in food safety while traveling, an observational, comparative analysis was conducted between Denver, Colorado, and Oaxaca, Mexico in the spring of 2018. The resulting findings showed that food safety standards, requirements, environment, and regulations diverge.

The way food is provided, prepared, cooked, chilled, delivered, and generally handled refers to food safety. A lack of food knowledge and improper food handling can lead to food safety issues. The Department of Environmental Health in Denver, Colorado has put in place food guidelines and regulations concerning proper control of biological, chemical and physical hazards that may allocate the manufacturing, distribution, and consumption of dietary food items to safeguard consumers and employees, as well as to promote public health ("Food Safety Section | Public Health Inspections |

Department of Environmental Health.”). Through the regulation and management of food, it is assured that safety is paramount.

Bacteria can spread throughout a retail food establishment by way of utensils, equipment, countertops, cutting boards, and on a person’s hands. Unless there is proper washing of these surfaces, bacteria will reproduce and spread like wildfire. Foodservice enterprises in Denver, Colorado, are responsible for providing proper hot water sanitation and chemical solution to kill microorganisms commonly found in culinary operations. Contaminated equipment and poor personal hygiene are two of the five most significant behaviors and practices that contribute directly to foodborne illness within a food establishment (State Board of Health and Regulations *Colorado Retail Food Establishment Rules and Regulations*).

Minimum standards in place for food establishments, in Denver, Colorado, require that a three-compartment sink be used properly to prevent illness-causing bacteria to survive. The three-compartment size must be able to completely submerge large pieces of equipment. Three individual basins, with a drain at the bottom, each permit separate functions to be performed in the manual washing process. With the proper chemical cleaning agents, the resulting outcome of equipment found within an establishment will be washed, rinsed, and sanitized. Which then allows for the sanitized items to be air-dried on a rack (“Food Safety Section | Public Health Inspections | Department of Environmental Health.”).

Furthermore, proper sanitary design and materials, the use of proper water sanitation in regard to both temperature control of the water and the chemical use of soap, supports that appropriate requirements are met for proper hand washing. Proper temperature, chemical use, and handwashing techniques are vital in preventing contamination of food by food handlers (“Food Safety Section | Public Health Inspections | Department of Environmental Health.”). The Department of Environmental Health in Denver, Colorado provides guidelines regarding the attention to frequent and proper handwashing techniques, which will result in one of the most important hygiene practices in dietary food safety measures. Similarly, additional attention to the importance of controlling cross-contamination concerns involving sanitation; related to areas of bare hand contact while prepping raw foods (“Food Safety Section | Public Health Inspections | Department of Environmental Health.”). The use of proper handwashing, by food handlers, helps to prevent contamination of food, thus upholding food safety.

Observational analysis of Oaxaca food establishments showed a lack of proper and readily available access to hot water, chemical solutions, and a suitable water supply system for utilization. Correspondingly, there was only a single two bin sink observed within the kitchen establishment and no additional designated hand washing station. As a result, handwashing, dishware cleaning, and cleaning of equipment after and between uses was supported only by the limited access to current, local water supply, uncertain hot water source, and the single two bin sink. Accordingly, **Oaxaca’s???** become more susceptible to an increased risk of foodborne illness and pathogens being transmitted to consumers. This is due to food handlers potentially becoming infected or the equipment becoming contaminated either due to cross-contamination or improper sanitation.

Equally important, was the noticeable concern regarding access to and the usage of local water supply for sanitary needs in Oaxaca. Considering, without the practice of using jugs of purified distributed water, food items and drinks are more susceptible to cross-contamination of bacteria or parasites transmitted from the local water system. It’s relatively easy to forget while traveling the many ways in which our food is prepared and cleaned with water. For example, water from the tap or well could be used to brew coffee, clean salad greens, or create ice. Contaminated water resources result in more susceptibility of food safety constraints that could potentially create food-borne illness. However, we determined there was no true way as a consumer to differentiate whether a food establishment was using distributed water or the local water system. Unless observation of any dietary food was being made

through the whole progression of the dietary food item. In other words, a consumer must properly observe from start to finish that each dietary food item was either handled with the local water supply or with purified water to ensure complete safety.

Properly practicing hygiene prior to food handling ensures that all utensils, equipment, and surfaces are cleaned, and food contamination can be averted. Food safety also requires that food be cooked and stored at safe temperatures. The Department of Environmental in Denver, Colorado requires proper storage and refrigeration of food items with additional attention concerning the monitoring of food storage in proper containers with labels indicating date and time. This is coupled with regulations supporting specific times and temperature of food items to protect from temperature danger zone of 40-140 degrees Fahrenheit ("FSIS.").

Temperatures that are most conducive to the reproduction of bacteria, known as the temperature danger zone, is between 40-140 degrees Fahrenheit. Any temperature that is above 40 degrees Fahrenheit and below 140 degrees Fahrenheit is ideal for bacterial growth to occur. The Academy of Nutrition and Dietetics states that approximately every twenty minutes, and under the right conditions, bacteria can double within the danger zone ("The Danger Zone"). Therefore, making food safety an issue due to the rapid growth and survival rate of bacteria. As a result, prepared food must be kept at precise temperatures to remain safe from rapid bacteria growth. Routinely ensuring that there are safe temperatures of different hot food varieties are met. Such as, correct temperatures being met for poultry, pork, veal, beef, and eggs. In addition, to regularly measuring temperatures with a thermometer to ensure safety and proper temperature of prepared cooked meat items there is the addition of holding temperature of dietary food items that are being kept warm with heat lamps and steam tables. Duly noting that bacteria growth and contamination of prepared food items equally comes with improper cooling of food items. There is significant evidence that there is a substantial decrease to the risk of foodborne illness when proper food temperature is kept outside the danger zone.

Observations in Oaxaca demonstrated a deficiency of adequate access to appropriate monitoring of temperature-control needs. Items being prepared within the kitchen environment were routinely spotted outside proper handling techniques. Therefore, making them more likely, in theory, to be within the food danger zone. There was no observation of internal temperature being taken of prepared dietary food items. Especially, pertaining to prepared various meat commodities that had been or were being prepared. Likewise, no observation was noticed regarding appropriate hot food holding temperatures or suitable equipment to keep food warm. In fact, no thermometer was seen within the kitchen atmosphere relating to being able to take a temperature reading. Overall, it appears that the same standard for well-intended and suitable heating procedures had or were not of the same significance as those required by The Department of Environmental Health in Denver, Colorado to keep foods out of the temperature danger zone. Thus, observations were found that favored bacterial growth in the food danger zone in Oaxaca, Mexico.

Sanitation, as a whole, differs greatly between Denver, Colorado and Oaxaca, Mexico. In Denver, there is the Food and Drug Administration (FDA), United State Department of Agriculture (USDA) as well as county and city health inspectors. Retail food establishments are inspected for proper pest control, sanitary organization of proper cleaning of utensils and equipment, proper handling of foods, and even for hazardous conditions posed to the workers themselves. For instance, restaurant establishments within Denver, Colorado support proper ventilation for the smoky byproduct of cooking food with heat, in addition to other Occupational Safety and Health Administration (OSHA) regulated safety codes and regulations to protect from creating hazardous workplace environments ("UNITED STATES DEPARTMENT OF LABOR.>"). Standards in Oaxaca, Mexico regarding appropriate and suitable regulation concerning

hazardous conditions did not meet the same standards The Department of Environmental Health in Denver, Colorado requires.

Likewise, Public health inspectors with The Department of Environmental Health play a particularly significant role with the protection of food safety. These public health officials make sure we follow codes and regulations to support public health initiatives that sustain a healthy population. Food establishments are inspected routinely for proper compliance of food standard regulations. Public health inspectors inspect for several factors, points of regulation, and requirements, However, five of the most significant behaviors and practices that directly influence and contribute to foodborne illness within retail food establishments are routinely inspected. These foodborne illness factors are food from unsafe sources, inadequate cooking, improper holding temperature, contaminated equipment, and personal hygiene (State Board of Health and Regulations *Colorado Retail Food Establishment Rules and Regulations*).

It is accepted that there are very few if any, food vendors in the world that are actively trying to make consumers sick by producing foodborne illness. Therefore, it is important that appropriate education concerning food safety guidelines and techniques are taught to ensure that culinary excursions do not pose a risk to consumers. Ensuring food safety goes beyond government regulation and basic kitchen rules. Food safety should be supported by the supplemental curriculum designed to teach those within culinary, hospitality, beverage coordination, event management, and nutrition backgrounds the significant importance of food handling practices, maintenance of clean and safe working spaces, and the whys and how of proper personal hygiene. An emphasis on these topics places a spotlight on the significance of food safety while providing informational gains that support the ability of learners to sustain the appeal of food safety.

No matter how we slice it, food matters to us as consumers. Therefore, food safety should be at the forefront of our minds and the minds of all people wherever they are. Ultimately, no matter where we travel worldwide, our body's most basic requirement is the sustenance of food and water. So, eat that lavish buffet. Eat that street taco. Indulge mightily at that epicurean mecca of global travel. Either way, pay attention and remember that appropriate consideration should be given by way of dietary food items and the methods with which they are prepared. Ensuring we all do our part in food safety.

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