

Crisis Nutrition Response Plan for Cruise Tourism During Health Emergencies

Flora Ceyda Knapp

DE240004

05.05.2025

Basics of Dietetics

Table of Contents

Introduction	3
Emergency Meal Provisioning Strategy	4–5
Sample Diet Plans for Affected and Non-Affected Guests	5–6
3.1 Affected Guests (Isolation/Recovery)	
3.2 Non-Affected Guests (General Passengers)	
Psychological and Nutritional Support Recommendations	7–8
Internal Communication Manual	8–10
5.1 Kitchen Staff Communication Protocol	
5.2 Nutritionist Communication Protocol	
5.3 Medical Team Communication Protocol	
5.4 Communication Templates and Tools	
Food Safety Protocols and Contingency Sourcing Options	10–11
6.1 Food Safety Protocols During Crisis Conditions	
6.2 Contingency Sourcing Options	
Real-World Case Example: The <i>Diamond Princess</i> Outbreak	11
Conclusion	11–12
References	13

Introduction

In cruise tourism, every aspect of the cruise experience requires careful planning, including what people eat. A health crisis involving a virus will change the cruise experience and may impact what foods are served. There is an operational food service component that becomes a significant concern during times of medical crisis. Service during a health crisis is about hospitality and, more importantly, ensuring that people are safe, well-fed, and at ease.

Providing nutrition for guests amidst the chaos of a food service emergency on a cruise ship is no easy task. It can be difficult when guests are isolated in cabins, experiencing distress, or disruptions to our supply chain. Cruise operators risk harming guests' health and eroding their trust without a system of coordination and a structured approach.

This report addresses what a crisis nutrition plan looks like and how it could be implemented and utilized before, during, and after an emergency onboard. This includes emergency meal planning, dietary examples for guests in isolation or distress, internal communication styles for teams, and food safety considerations. All information includes the recommendations made by the World Health Organization (World Health Organization [WHO], 2020) and is based upon lessons learned from case examples during actual outbreaks, including the Diamond Princess during the COVID-19 pandemic.

A complete food response during a crisis is not only about providing meals; it is also part of the overall safety strategy. With appropriate planning in place, cruise lines and vessels can be prepared, protect and care for their guests, and continue vessel operations when situations become difficult.

Emergency Meal Provisioning Strategy

Regarding food provision in a health-related crisis on a cruise ship, meal provision is complicated but critical within the response process. In a cruise ship setting, a unique, constrained environment with limited access to fresh supplies exists. In a pandemic or outbreak, additional external factors can disrupt the normal flow of goods and staff. In some cases, accessing pre-planned menus for safe, nutritionally-sufficient meals in emergencies will be necessary.

First and foremost, the goal is to ensure all guests have continuous meals that provide sufficient dietary intake and comfort, whether guests have been isolated or not. The menu would be built around readily available, shelf-stable, nutrient-dense foods. It is recommended to have a stock of items such as non-perishable canned beans, dried lentils, vacuum-packed proteins, powdered milk, rice, dried fruit, and oats. These shelf-stable foods last long term; they are compact, ready-to-eat, and supply the critical nutrients of protein, fiber, carbohydrates, and vitamins needed to create energy for immunity function (Centers for Disease Control and Prevention, 2020).

With guests in isolation, meals should be prepared, easy to digest, and comforting. Warm foods such as vegetable broth, lentil soup, rice with steamed vegetables, and soft-boiled eggs are nourishing meals. These foods play an important role in supporting recovery and meeting protocols to provide protein, electrolytes, and hydration without overworking the digestive system. Providing clean, potable water, herbal teas, and electrolyte replacement solutions is also critical for guests experiencing symptoms of illness such as fever or fatigue.

For non-isolated guests, food service is working to create multiple forms of normalcy during a suspended operational proceeding while dealing with limited access to kitchen availability and resources. Creating a limited but consistent eligible operating menu that rotates or allows for variation is important during a health-related crisis but also for morale. Food service staff can provide meals such as pasta with tomato sauce, rice with mixed vegetables, and oatmeal with dried fruit safely, simply, and consistently with limited resources. Office supplies such as pasta, rice, and oats enrich at a lower social expense than frozen, fresh, and perishable foods. Limiting exposure and weighing alternative sources before creating or serving food adds a new level of effort toward staff, catering, safety, and security.

Maintaining food safety is critical during an emergency. Cleaning and food staff must implement heightened hygiene precautions that cover temperature management, surface and cooking equipment cleaning and sanitizing, regular hand washing, use of masks, surface contactless exchanges (including provisions and menus and service when possible), and social or physical distancing where it can be managed or used.

A comprehensive and flexible emergency meal provisioning plan supports nutrition needs and enables a stronger response to the crisis. Preparedness relies on the notion that cruise operators can ensure their passengers are adequately and respectfully served with safe, adequate meal provisions during emergency operational contingencies.

Sample Diet Plans for Affected and Non-Affected Guests

In a health emergency, nutrition is key to physical recovery and emotional well-being. Cruise ship passengers may have limited mobility, experience high-stress levels, especially if separation from loved ones is required, and limited access to fresh food. This section provides two practical one-day sample diet plans: one for affected guests who are isolated and the other for non-affected guests who continue daily onboard activities in limited circumstances. The meal plans will include shelf-stable or minimal perishable items that are based on WHO and CDC recommendations for nutrient adequacy as well as immune system support (World Health Organization [WHO], 2020; Centers for Disease Control and Prevention [CDC], 2020).

Diet Plan for Affected Guests (Isolated or Recovering)

The aim for isolated or recovering guests is to promote immunity and hydration while minimizing digestive stress. The meals are soft and warm and have a nutritionally complete calorie density, with sufficient protein and calories to promote healing. Hydration is a key focus during the day.

Meal	Menu	Estimated Calories	Protein
Breakfast	Oatmeal (made with powdered skim milk) + canned peach slices	300 kcal	10g
Snack	Herbal tea + whole grain crackers	150 kcal	3g
Lunch	Lentil soup + white rice + steamed carrots	450 kcal	18g
Snack	Rehydrated dried apricots + water	120 kcal	1g
Dinner	Soft-boiled egg + mashed potatoes + green beans	500 kcal	22g
Daily Total		1520 kcal	54g

Diet Plan for Non-Affected Guests (Healthy but Confined)

For non-ill guests with elevated stress levels and reduced recreational activities, meals focus on balance, familiarity, and satisfaction while using foods that can be stored and cooked in quantity.

Meal	Menu	Estimated Calories	Protein
Breakfast	Whole grain toast (shelf-stable) + peanut butter + banana chips	350 kcal	12g
Snack	Trail mix (dried fruit, seeds, cereal) + tea	200 kcal	5g
Lunch	Pasta with tomato sauce + canned chickpeas + mixed salad	550 kcal	20g
Snack	Yogurt (shelf-stable) + water	180 kcal	6g
Dinner	Grilled chicken (pre-cooked) + rice + mixed frozen vegetables	600 kcal	28g
Daily Total		1880 kcal	71g

These sample menus are adaptable for vegetarian or allergy-sensitive guests by substituting protein sources such as tofu, beans, or lactose-free alternatives. By planning these meals in advance, cruise operators can better meet the nutritional needs of passengers during extended emergencies, even when fresh supply chains are delayed.

Psychological and Nutritional Support Recommendations

During a health crisis at sea on a cruise ship, nutrition becomes more than satisfying physical dietary needs. The psychological effects of isolation, uncertainty, and lack of social interaction can lead to heightened stress, even anxiety and depression, for passengers. As a result, emergency meal planning that considers proper nutrition aims to provide support for physical and mental well-being. This section has outlined how suggested nutritional strategies can enable psychological comfort and emotional stability for all passengers, especially those affected and isolated.

Research has repeatedly established that a balanced diet and good nutrition support mental health. Perhaps not surprisingly, nutrients such as omega-3 fatty acids, B vitamins, iron, magnesium, and amino acids are required for normal brain function, mood regulation, and energy maintenance (World Health Organization, 2020). Cruise operators may not have fresh ingredients in times of crisis, but they can be varied and rely on shelf-stable sources to provide these nutrients. For example, canned fish such as tuna, salmon, and sardines are a good source of omega-3s; lentils, oats, and fortified cereals provide B vitamins and magnesium. Including a source of lean protein, such as egg, chickpeas, or tofu, in each meal helps give passengers a sense of energy and mood stability throughout the day (Centers for Disease Control and Prevention, 2020).

Comfort is also an important feature of emergency meal planning. In general, familiar, warm meals, provided regularly (i.e. at set intervals), reduce anxiety or provide a sense of control and structure, or at least a recognition of normalcy. Warm soups, or grain bowls with softened vegetables provide a sense of comfort and are simple to prepare and cook in bulk. Even little items like herbal tea, flavored water, or packaged snacks can help enhance morale when fresh variety is less easy to provide. Cruise staff should also take care to assist guests with adequate fluid intake. Dehydration negatively affects concentration and mood, especially in hot or dome-like confined cruise ship environments.

A further psychological strategy is to provide structured mealtime routines. Eating at set times each day supports the re-establishment of control for passengers in a separated living situation. Where possible, providing a schedule with each meal, with a written meal schedule, and including personal touches like meal cards or social messages from the cruise staff can improve

the dining experience through increased social connection and help reinforce a sense of care for passengers.

It is also important to recognize that guests have different comfort foods based on cultural norms or preferences. Where able, cruise operators should provide easy substitutions where they might align with religious or dietary restrictions e.g., vegetarian, halal, or gluten-free. These are regarded as meeting passengers' physical and dietary needs and supporting emotional health and well-being through respect for individual values and identities.

With nutritional science and emotional awareness, cruise lines and future operators can harness food to relieve stress, offer recovery support, and sustain morale. Effective emergency meal planning and management can become part of a wellness strategy even in crisis conditions - both affected and non-affected guests can feel more grounded and secure in the process.

Internal Communication Manual for Kitchen Staff, Nutritionists, and Medical Team

Timely and effective internal communication is crucial in a health emergency where nutrition services are regulated under crisis circumstances. While cruising food and nutrition services are always complex and multi-faceted, ensuring that the kitchen, nutritionist, and medical staff maintain appropriate coordination is imperative not just for the safe delivery of meals but to ensure the food delivered aligns with each guest's dietary and medical requirements. This section outlines an internal communication manual to provide practical strategies to maximize clarity, efficiency, and consistency in the effective operation of emergency food service.

Kitchen Staff Communication Protocol

The kitchen crew is key in food preparation, compliance with hygiene requirements, and meal delivery. In emergencies, staff should always follow a consistent reporting procedure to alert a supervisor about ill-stocked inventory, a cross-contamination risk, or a late delivery. All meals should always be labeled with dietary codes (for example, V for vegetarian, GF for gluten-free, and D for diabetic-friendly) and visible allergen warnings on containers.

For any guests in isolation, staff should use contactless protocols for meal delivery. Staff should leave meals outside the guest's cabin door at scheduled times and avoid interactions with the

guest. Disposable trays and utensils are recommended to limit the potential for cross-contamination. A digital or physical checklist should be used to indicate delivery, record a guest declining a meal, and record concerns from the guest.

Nutritionist Communication Protocol

The nutritionist works with the kitchen and medical staff to ensure that meals meet the dietary needs of both affected and non-affected guests. During a crisis, a nutritionist should check in with the kitchen and medical staff daily about dietary changes based on health or guest feedback.

They should record (in digital form or logbook) dietary requests, intolerances, or transitions regarding religious or spiritual requirements. For instance, if a guest in isolation becomes symptomatic for any reason that may inhibit digestion (e.g., nausea, loss of appetite), the nutritionist should communicate suggested meal changes directly to the kitchen based on a standard dietary adjustment template. Written correspondence should confirm any changes in order to reduce the potential for miscommunication.

Medical Team Communication Protocol

Medical staff should work with the nutrition team to ensure meals support the guest's medical/nutrition needs if they have symptoms that may impact hydration, digestion, or nutrition status. The medical team would write a dietary order and send it through the ship's internal system if there was a specific therapeutic diet, low sodium diet, high protein diet, or soft-texture food.

If the guest's condition changes rapidly, the medical staff will indicate the case as urgent and should also verbally discuss their findings with the head nutritionist and kitchen supervisor. They must document their findings in the guest's medical file to maintain continuity of care.

Communication Templates and Tools

To instill some consistency, action templates should be used during a health emergency when it comes to food delivery:

Meal Delivery Log Sheet (logs date and time for the delivery of a meal).

Dietary Requests Form (to be used by a guest or employee for requests for alterations).

Daily Nutrition Status Update (shared nutrition and medicine communication).

Multilingual Dietary Labels (basic meal tags in various languages; English, Spanish, Arabic, French).

Using this internal communication protocol, cruise ship staff would lessen the burden their hospitality role has during crises, facilitate collaboration between departments, and ultimately support guest health and safety.

Food Safety Protocols and Contingency Sourcing Options

Cruise operations always prioritize food safety, which is even more important during a health crisis. In emergencies where supply chains are a challenge and food is stored in difficult circumstances, cruise operations face an increased opportunity for foodborne illness. Maintaining a strict food safety protocol and planned sourcing strategies provides assurance that passengers will continue to receive a variety of healthy and safe meals.

Food Safety Protocols During Crisis Conditions

During a health crisis, all food safety and hygiene procedures on board must be strictly followed. Staff must wear gloves and masks, wash their hands frequently, and apply sanitation practices as recommended by the World Health Organization (WHO, 2021). Raw and cooked foods should be handled in designated areas to prevent cross-contamination, and all surfaces, utensils, and containers must be sanitized regularly. Cold storage temperatures should be checked and recorded daily to ensure the safety of perishable items.

For guests in isolation, meals must be individually packaged with allergens clearly labeled. Deliveries should be made contactlessly and placed in designated drop-off locations. Staff must log each delivery to ensure meals are received by the correct cabins.

Contingency Sourcing Options

If supply chain issues arise, cruise lines should utilize flexible sourcing agreements with multiple suppliers in each port. Cruise lines should stock shelf-stable items such as canned protein, powdered milk, and frozen veggies to keep meals balanced. Keeping real-time inventory allows

menus to be adjusted in a timely fashion. Depending on the severity, an expedited emergency menu can limit the stress on staff duties while being nutritionally adequate. With some planning, food service can feasibly operate during longer supply chain interruptions.

Real-World Case Example: The *Diamond Princess* Outbreak

The Diamond Princess cruise ship was quarantined in Yokohama, Japan, in February 2020 after a previous guest tested positive for COVID-19. During that 14-day quarantine period, more than 700 passengers and crew became infected, which means it became one of the larger virus outbreaks outside mainland China (Centers for Disease Control and Prevention [CDC], 2020). Passengers were restricted to their cabins, and meal service was provided by crew members who placed meals on trays, always wearing gloves and a mask (Princess Cruises, 2020).

Foodservice turned out to be a challenge despite these measures. Subsequent reports indicated that food service workers were some of the very first crew members to become positive, which would suggest that meal service protocols could not have been sufficiently strict (The Independent, 2020). This illustrates an important aspect of emergency management best practices: food handling, clear internal communication, and delivery systems, which could be neglected in emergency and crisis settings.

The Diamond Princess case lends direct evidence to support the strategies laid out in this report. It demonstrated how existing gaps in food safety and coordination can contribute to the spread of illness. It also articulates the value of delivering well-organized nutrition protocols when dealing with health crises on cruise ships.

Conclusion

Providing nutrition and nutrition-related support in a health crisis onboard a cruise ship is much more than just meals. We have a responsibility to ensure the passengers are safe from viral outbreaks, to carry out food safety practices, and to lead to deliberate calmness in an often chaotic environment. The document we have been provided outlines a full crisis nutrition schema, including provisioning, sample diets, emotional nourishment, contingency, food safety practices, etc.

The cases with examples (i.e., the Diamond Princess) accentuate the need for specificity and cooperative working between team/staff/crew. Nutrition can reduce stress, eliminate complications, and build trust with passengers. Moreover, the procedures, protocols, contingencies, follow-ups, and ideally purposeful planning protocols demonstrate that cruise lines can manage the service they have offered in their current form (where applicable) in the face of a global crisis.

References

Centers for Disease Control and Prevention. (2020). *Emergency food supply planning*. <https://www.cdc.gov/disasters/foodwater/prepare.html>

Centers for Disease Control and Prevention. (2020). *Public health responses to COVID-19 outbreaks on cruise ships—Worldwide, February–March 2020*. *Morbidity and Mortality Weekly Report*, 69(12), 347–352. <https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e3.htm>

Princess Cruises. (2020). *Diamond Princess COVID-19 (Coronavirus) Q&A*. https://www.princess.com/news/notices_and_advisories/diamond/diamond-princess-coronavirus-qa.html

The Independent. (2020, March 11). *Food service workers helped spread coronavirus to crew onboard Diamond Princess*. <https://www.independent.co.uk/travel/news-and-advice/coronavirus-diamond-princess-cruise-food-workers-spread-covid-19-a9410616.html>

World Health Organization. (2020). *Healthy diet*. <https://www.who.int/news-room/fact-sheets/detail/healthy-diet>

World Health Organization. (2021). *Five keys to safer food manual*. <https://www.who.int/publications/i/item/9789241594639>