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**Risk Categorization Model**  
**for Food Retail /Food Service Establishments**

**Second Edition**

**Federal/Provincial/Territorial Committee on Food Safety Policy**

**Approved May 9, 2006**  
**Revised May 04, 2007**

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## **Preamble**

The Second Edition of the Risk Categorization Model was prepared by a Working Group of the Federal/Provincial/Territorial Food Safety Policy Committee (FPTCFSP) and was endorsed by the latter on May 9, 2006. The Second Edition represents a modification of the First Edition (2001) based on the knowledge acquired through pilot studies conducted to finalize the model. The contributions of all the individuals who participated in the development of both editions are greatly appreciated.

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# 1. Definitions

Definitions of common terms contained in this document are listed below.

**Critical items:** Specific requirements that, when in violation, may result in foodborne illness if not corrected immediately. These would include temperature control (e.g., hot holding, refrigerator temperatures), food handler handwashing, and food/ water sourcing.

**Epidemiological Evidence:** Epidemiological evidence: In the absence of other types of evidence, epidemiological evidence must show a statistically significant association between human illness and consumption of specific food(s).

**Food Handler:** Individual working with unpackaged food, food equipment, utensils, or food contact surfaces.

**Hazard:** means, as set out in the *General Principles of Food Hygiene (CAC/RCP 1 - 1969, Rev. 4 - 2003)*, a biological, chemical or physical agent in, or a condition of, food with the potential to cause an adverse health effect.

**High risk establishment:** An establishment which represents a high likelihood of occurrence of a foodborne illness outbreak, based on the evaluation of the eight risk factors provided in the Risk Categorization Questionnaire.

**High risk food:** Foods or groups of foods that are frequently the cause of microbial foodborne illness. Foods may contain and support the growth of microorganisms and are intended for consumption with or without further treatment to destroy microorganisms.

**Laboratory evidence:** Evidence shown by the isolation/identification of the same pathogen, toxin or contaminant from cases of human illness and the suspect food.

**Low risk establishment:** An establishment which represents a low likelihood of occurrence of a foodborne illness outbreak, based on the evaluation of the eight risk factors provided in the Risk Categorization Questionnaire.

**Low risk food:** Foods or groups of foods that are seldom the cause of foodborne illness. Foods are unlikely to contain pathogenic microorganisms or will not support growth of pathogenic microorganisms due to food characteristics.

**Medium risk food:** Foods or groups of foods that are less frequently the cause of microbial foodborne illness. Foods may contain microorganisms but will not normally support their growth due to food characteristics OR are unlikely to contain pathogenic microorganisms due to their processing but may support their growth.

**Moderate risk establishment:** An establishment which represents a moderate likelihood of occurrence of a foodborne illness outbreak, based on the evaluation of the eight risk factors provided in the Risk Categorization Questionnaire.

**Non-Critical Items:** Requirements that, when in violation do not meet regulatory standards, but are not likely to pose an immediate health hazard. These would include structural issues (floors, walls, ceilings), solid waste management and pest management.

**Outbreak:** An incident in which two or more persons experience similar illness after a common source exposure. An outbreak is identified through laboratory surveillance or an increase in illness that is unusual in terms of time and/or place. An outbreak is confirmed through laboratory and/or epidemiological evidence.

**Ready-to-eat (RTE) foods:** Foods that do not need any further preparation before being consumed, except perhaps washing, thawing or moderate reheating if the food in question is customarily eaten hot.

**Risk:** An estimate of both the harm to human health that results from being exposed to a hazard, together with the likelihood that the harm will occur. In order for a health risk to exist, three things must be true: there must be exposure to a hazard; there must be a health effect; and there must be some likelihood that the health effect will occur.

**Risk factor:** Something that can increase the likelihood that adverse health effects will occur following exposure to a hazard.

**Risk-based inspection:** An inspection approach focussed on identifying significant behaviours and practices inherent to the food establishment operations with particular emphasis on *Food Retail and Food Services Code* interventions and risk factors.

**Risk management:** The process that includes identifying, evaluating, selecting and implementing alternatives for mitigating risk.

## **2. Introduction**

The Federal/Provincial/Territorial Committee on Food Safety Policy (FPTCFSP) established a Working Group to develop a national risk categorization model for food retail and food service establishments. This undertaking was prompted by the publication of the *Food Retail and Food Services Code* and the commitment of federal, provincial, territorial and municipal governments to pursue the goals of the *Blueprint for the Canadian Food Inspection System*. The Risk Categorization Model (RCM) presented in this document was pilot tested in Nova Scotia and the Yukon to provide reasonable assurance that the categorization rankings obtained with its use reflect the rankings that would be given by inspectors based on the factors outlined in the model. The RCM Questionnaire and Guide contained in Annexes 1 and 2, respectively, are provided for the voluntary use by regulatory authorities across Canada.

## **3. Purpose**

The purpose of the RCM is to provide a risk management tool that will allow food regulatory authorities to provide a consistent approach to inspection planning and resource allocation, giving greater attention to higher risk establishments and therefore improving public health protection through food safety. Implementation of the RCM by all levels of government is encouraged, as it will provide a common approach for interpreting the *Food Retail and Food Services Code*.

## **4. Scope**

The RCM is a tool to consistently evaluate the risk of food borne illness outbreak occurrence originating from individual food retail and food service establishments, which should be used during on-site visits. By determining if an establishment poses a “high”, “moderate” or “low” risk, a manager can then determine the resource requirements for a given period of time (e.g., on a yearly basis).

The RCM is not intended to serve as an in-depth inspection procedure to assess compliance with jurisdictional requirements and determine appropriate enforcement activities. It should be used as a complement to existing inspection procedures to evaluate the overall risk, based on current conditions at the time of the visit as well as previous conditions or incidents since the last evaluation took place.

The RCM should therefore be used to assess establishments that were inspected at least twice in the past, since it is expected that new establishments would be inspected more frequently at the onset regardless of the risk that they may pose.

The RCM is not intended to assign inspection frequencies that parallel the risk ranking, as frequency is dependent on available resources within a jurisdiction. For instance, a jurisdiction could decide that it has sufficient resources to inspect all “high risk” establishments on a monthly

basis, while another jurisdiction may only have sufficient resources to inspect these establishments on a quarterly basis. Inspection frequency may also be affected by the results of a particular inspection. An establishment that encountered poor inspection results may be subject to a re-inspection within a short time frame, even if the overall risk posed by that establishment may not have changed. Although the RCM does not assign an inspection frequency, its use throughout a jurisdiction should improve consistency in the assignment of inspection frequencies within that jurisdiction.

## **5. Considerations**

Risk categorization is a complex process that may be influenced by a number of factors. The RCM Questionnaire uses a linear process based on the total score of the identified risk factors and pre-determined cut-off values. It is recognized at the outset that no one combination of factors is expected to uniquely or comprehensively capture the complexities of the human decision making process. However, the two pilots conducted to refine the RCM showed that it provides a good approximation of how inspection staff categorize establishments, based on identified risk factors and the likelihood of occurrence of a foodborne illness outbreak. While the RCM uses a prudent and sensible approach, the results that it provides need to be evaluated, especially for establishments with scores near the cut-off values. Managerial discretion should be exercised to assign a different risk categorization if needed. Such a decision should take into consideration any significant risk factors that may not have been captured in the Questionnaire and the consequences of over-categorizing (cost of increased inspection frequency) versus under-categorizing (increased public health risk) establishments. It is for this reason that the RCM Questionnaire provides the opportunity to assign a final risk categorization that differs from the one obtained using the Questionnaire, with documentation of the additional factors considered in reaching the decision.

## **6. Description of the Risk Categorization Model Questionnaire**

### **6.1 Risk Factors and Corresponding Scores**

The purpose of the RCM Questionnaire (Annex 1) is to assess the following eight risk factors:

- Types of food and intended uses
- Food preparation and processing
- Equipment and facility
- Management and employee food safety knowledge
- Food safety management program
- Regulatory compliance
- Volume of food
- Typical patronage

These factors were selected during the development of the First Edition of the Risk Categorization Model, based on a review of factors that contributed to foodborne illness in



Canada (Todd, E.C.D., 1983) as well as factors used by some jurisdictions to determine inspection frequency (Table 1).

Each risk factor has corresponding weighted values (e.g. scores) based on the level of risk posed by the situation noted during an inspection.

The RCM Guide (Annex 2) provides an explanation for each risk factor, along with direction on how to determine the corresponding score. Following is a description of the eight risk factors.

### **1) Type of Food and Intended Uses**

Epidemiological evidence shows that foodborne illnesses occur most frequently from microbiological hazards. Some types of food are more likely to be contaminated with microbial organisms and support their growth. The types of foods being handled in a food establishment are important in identifying the hazards likely to be associated with that establishment.

High or medium risk foods which receive no further heat treatment have a greater likelihood of being implicated in a foodborne illness than foods which undergo additional steps to reduce or control microbial growth. High or medium risk foods which receive further heat treatment or undergo other methods to reduce microbial pathogens are at a reduced risk. Low risk foods are less likely to be involved in a foodborne illness.

### **2) Food Handling, Preparation and Processing**

The amount of handling which a food undergoes during preparation is a determinant of the risk posed by a food establishment. Foods that are extensively handled are more likely to be contaminated with microbial organisms. Establishments handling uncooked and unpackaged foods have a greater potential for contaminating these foods than if they are prepackaged.

Food systems within food establishments such as cook/chill processes, commissaries, and catering away from the location where food is prepared, provide added risk to food safety. Foods in these systems may receive less heat treatment during preparation and may be held hot or chilled for longer periods of time. This presents more opportunity for microbial contamination and growth requiring greater control over the food system.

### **3) Equipment and Facility**

The layout and design of food establishments should allow for the flow of food to be in one direction from receiving to service or sale. The flow pattern should ensure that raw, unprocessed high or medium risk foods are adequately separated from cooked, ready to eat foods. Dishwashing, waste storage and other non food activities should be separated from food preparation and processing areas. Food establishments that do not provide for the safe flow and separation of foods are at greater risk of contamination of foods.

Water at a foodservice establishment may be used for direct consumption (i.e., drinking, ice manufacturing). Water as a food ingredient and as a part of many necessary processes at an

establishment (i.e., handwashing, ware washing and sanitizing), can also impact the health of patrons at the facility. Establishments not able to provide potable water on repeated occasions pose a greater likelihood of illness to the end consumer.

Food equipment must be constructed of suitable, non toxic materials that are easily cleanable. The design, structure and location within an establishment must allow easy accessibility for cleaning and sanitizing.

Equipment must be adequate to the volume of food preparation or processing. Refrigeration must be appropriate to its intended use and capable of maintaining required temperatures. Use of commercial equipment built to international standards and certified by third parties such as NSF International and Underwriters Laboratories of Canada (ULC) should be used.

As equipment ages and becomes worn through use, it becomes less efficient than when new. Food establishments may add used equipment to their facility. Kitchen layouts evolve over time as a result of changes in activities and added equipment. What was once a well planned and equipped food establishment may now be less efficient and contribute to an increased risk of foodborne illness.

#### **4) Management and Employee Food Safety Knowledge**

Knowledge of food safety principles is essential in the control and reduction of risks of foodborne illness in food service. Those employees who are in direct contact with food should be trained to a level appropriate to the operation they perform. Managers and supervisors must have added knowledge to ensure that safe food handling practices are being followed and capable of undertaking corrective actions when practices pose a risk to food safety. Certification must be current as studies indicate that the level of knowledge of food safety practices deteriorates over time.

Food safety knowledge can be acquired through formal training or informal experiential exposure. The Canadian *Food Retail and Food Services Code* can be used as a guide to determine levels of food safety knowledge in a food retail or food service establishment as it outlines food handler training program expectations, expiration of training programs, and learning outcomes of training program participants.

Having a certification from a recognized training program in itself is not sufficient to ensure safe food handling practices are being employed. Trained managers and employees must demonstrate to the regulatory agency that they are following safe practices. This may be demonstrated by observations during routine inspection of establishments.

Food establishments that do not have trained employees or practice safe food handling principles are at greater risk of being implicated in a foodborne illness.

## **5) Food Safety Management Programs**

Control of food processing and preparation stages is best offered through a food safety management program such as Hazard Analysis Critical Control Point (HACCP). Establishments that have such a program in place would be at less risk than those that have no controls.

Development and implementation of a food safety management program requires the commitment and involvement of both management and employees. It also requires full implementation of pre-requisite support programs such as facility maintenance and sanitation, and personal hygiene of foodservice workers. The implementation of these programs must be done prior to implementation of the food safety management program. The effectiveness of the system depends on how it is practiced in the establishment for identifying and controlling hazards. The commitment to the program and its appropriateness to the establishment must be demonstrated to the regulatory authority when carrying out a risk categorisation of the establishment.

Documentation of the food safety management program used by the establishment is critical in demonstrating conformity with the program. In the absence of record-keeping, management and employees are not able to demonstrate control of Critical Control Points (CCPs). A formal auditing process is recognized to further confirm adherence to the documented food safety program.

The operation of a food service establishment may be very different from one type of foodservice to another. These differences may require modification of food safety management plans. The technical knowledge and abilities of the facility manager and employees to develop and implement the plan must be considered. For some small establishments with low risk foods, detailed documented plans may not be necessary.

## **6) Regulatory Compliance**

Historical information about regulatory compliance with critical items can provide data of value when determining risks. “Compliance” in this factor refers to past and current compliance inspections. There is a relationship between a pattern of non-compliance with critical items and association with foodborne illness. The most often observable critical items found to be in non-compliance are temperatures of cold holding and rapid cooling of foods. When assessing past compliance particular attention should be given to temperature violations. Consumer complaints should also be reviewed when assessing the risks associated with specific establishments as they can indicate non-compliance with critical items. Appreciation of hazards presented by non-compliance, and willingness of management to act on previous advice must also be considered.

The occurrence of an outbreak at a foodservice establishment is an indication that food safety principles were not followed prior to the outbreak. Even after regulatory agencies investigate an outbreak, and targeted food safety education with establishment managers/ operators and employees takes place, enhanced monitoring through inspection to ensure adherence to food safety principles should be considered a significant part in food borne illness risk reduction.

Non-compliant issues identified during a compliance inspection may detect deficiencies in pre-requisite programs if a food safety management program has been implemented.

## **7) Volume of Food**

The number of people served or provided food, or the number of employees at an establishment at a given time (i.e., shifts) is used as a determinant of the volume of foods sold or prepared. Higher volumes of foods, which require additional handling, and the added potential of temperature abuse increase risk of foodborne illness.

## **8) Typical Patronage**

Segments of the general population - the young, the elderly, and immuno-compromised are most vulnerable to foodborne illness and can become very ill after exposure to low doses of pathogens. The likelihood of a foodborne illness outbreak occurrence in food service establishments that provide food directly to these high risk populations (i.e. daycare centres, health care facilities, etc.), would increase.

## **6.2 Assignment of Risk Categories**

The risk categorization for the establishment (e.g. high, moderate or low risk) is determined based on the total score for the eight factors and pre-assigned cut-off values.

Food establishments should be assigned a risk category as follows:

- a) One of the three categories provided in the RCM Questionnaire should be selected based on the total score for the eight factors.
- b) If the risk categorization obtained with the RCM Questionnaire does not adequately take into account other significant risk factors posed by the establishment, an administrator or manager may assign a final categorization that differs from the one obtained with the Questionnaire. This re-assignment is to be properly documented noting the additional factors instrumental in the change from the original risk categorization.
- c) The categorization should be reviewed at pre-determined intervals as the operational conditions within the establishment may change.

## **7. Summary**

The RCM is intended as a national tool that can contribute to the protection of public health through risk-based inspections of food retail and food service establishments across Canada. It is based on the evaluation of eight risk factors that may be present in an establishment. Each factor has corresponding scores that correlate with the severity of the situation encountered during the

inspection. The total score for the eight risk factors as well as pre-established cut-off values are used to determine if the establishment represents a high, moderate or low risk with respect to the likelihood of occurrence of a foodborne illness outbreak.

The RCM Questionnaire and Guide were pilot tested in Nova Scotia and the Yukon to gain confidence in their ability to estimate risk. As these tools become used more widely by jurisdictions across Canada, they may be reviewed and modified periodically to reflect comments and suggestions from users. Comments and suggestions can be submitted to the Working Group through the contact provided at the beginning of the document.

## **8. Bibliography**

Blueprint for the Canadian Food Inspection System, 1995, Joint Steering Committee, Federal/Provincial/Territorial Agri-Food Inspection Committee and Federal/Provincial/Territorial Committee on Food Safety Policy.

Canada Foodborne Illness Outbreak Response Protocol to Guide a Multi-Jurisdictional Response, July 2006. Federal/Provincial/Territorial Committee on Food Safety Policy.

Food Quality and Safety Systems – A Training Manual on Food Hygiene and the Hazard Analysis Critical Control Point (HACCP) System, 1998, Food and Agriculture Organization of the United Nations, Rome.

Food Retail and Food Services Code, 2004, Canadian Food Inspection System Implementation Group.

Manuals of Food Quality Control #5 Food Inspection, 1984, Food and Agriculture Organization of the United Nations, Rome.

Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1 - 1969, Rev. 4 - 2003).

Todd, E.C.D., 1983. Factors that contribute to Foodborne disease in Canada, 1973-1977, J. of Food Protection Vol.16, Pages 737-747.

**Table 1: Regulatory Agencies using Risk Factors to determine Frequency of Inspection**

<b>Risk Factors Used</b>	<b>Regulatory Agency</b>
Past Performance: History of Compliance/Inspection	USFDA; BC; NS; MAPAQ
Past Performance: Complaints investigated & validated - epidemiological evidence	USFDA; Ont (MoH)
Hazards associated with the foods prepared	USFDA; Ont (MoH)
Types of foods prepared ( most hazardous)	BC; NS; MAPAQ
Food service operational risks (process, procedures, characteristics of the particular operation)	USFDA; BC; NS; MAPAQ; Ont (MoH)
Patronage (number of people served)	USFDA; BC; NS; Ont (MoH)
Type of Population sub-group (day care children, seniors, general population)	USFDA; BC; NS; Ont ( MoH)
Staff training/hygiene	BC; NS; MAPAQ
Management approach/knowledge to/of food safety	BC; NS; MAPAQ
Active use of food safety management system (HACCP, QA program etc)	BC; NS; MAPAQ
Food service equipment sufficiency and proper type for intended use	NS; MAPAQ

**Source: Risk Categorization Model, First Edition (October 2001)**

**Acronyms used in Table 1:**

USFDA: United States Food and Drug Administration

Ont (MoH): Ontario Ministry of Health (the current name is Ontario Ministry of Health and Long-Term Care)

BC: British Columbia

NS: Nova Scotia

MAPAQ: Ministère de l'Agriculture, des pêcheries et de l'alimentation du Québec

## Annex 1 – Risk Categorization Model Questionnaire<sup>1</sup>

Establishment Information	
Name:	Permit No.:
Location:	Contact:
Telephone:	Risk Category:

<b>1. Types of Food and Intended Uses</b>	<b>Check one of a, b, c, or d</b>	<b>Circle corresponding score</b>
a) High risk foods that are ready-to-eat when served or sold to the consumer		<b>40</b>
b) Medium risk foods that are ready-to-eat when served or sold to the consumer		<b>25</b>
c) High or medium risk foods that are not ready-to-eat		<b>25</b>
d) Low risk foods that may or may not be ready-to-eat		<b>10</b>
<b>2. Food Preparation and Processing</b>	<b>Check one of a, b, c, or d</b>	<b>Circle corresponding score</b>
a) Extensive handling or preparation of high or medium risk foods		<b>40</b>
b) Limited handling or preparation (cooking, serving) of high or medium risk foods		<b>25</b>
c) Handling or preparation of unpackaged low risk foods		<b>10</b>
d) a, b, or c do not apply		<b>0</b>
<b>Additional Factors:</b>	<b>Check one of a, b, c or d</b>	<b>Circle corresponding score</b>
e) Manufacturing cook/chill foods; small scale cooked meat or seafood products (smoking, curing) and/or vacuum packaging or aseptic packing of low acid foods		<b>20</b>
f) Provides catering services off site		<b>20</b>

<sup>1</sup> This Questionnaire should be used with the companion Risk Categorization Model Guide (Annex 2).

<b>3. Equipment and Facility</b>	<b>Check all that apply</b>	<b>Circle corresponding score</b>
a) Insufficient refrigeration equipment or hot holding equipment to maintain food temperatures at correct standards, facilities that are under re-occurring boil order advisories, or, if in place, drinking water treatment systems for microbial contamination are poorly maintained		<b>15</b>
b) Food preparation area or kitchen is small, insufficient space, has poor layout, inadequate lighting or ventilation		<b>15</b>
c) Equipment or facility surfaces are not easily cleanable, in disrepair or need replacing		<b>15</b>
d) Equipment and facility is satisfactory or better		<b>0</b>
<b>4. Management and Employee Food Safety Knowledge</b>	<b>Check only one</b>	<b>Circle corresponding score</b>
a) Demonstrate little or no knowledge/training of food safety practices		<b>30</b>
b) Demonstrate some knowledge/training of food safety practices		<b>15</b>
c) Demonstrate good knowledge/training of food safety practices		<b>0</b>
<b>5. Food Safety Management Program</b>	<b>Check only one</b>	<b>Circle corresponding score</b>
a) No documented food safety management program in place where warranted		<b>30</b>
b) Documented food safety management program in place without an audit program		<b>15</b>
c) Audited food safety management program where all HACCP principles are applied		<b>0</b>
d) Not applicable due to the type of foods (1d) or the amount of handling and preparation (2d)		<b>0</b>



<b>6. Regulatory Compliance</b>	<b>Check only one</b>	<b>Circle corresponding score</b>
a) Non-compliance usually with three or more critical items during inspections; continual non-compliance with non-critical items		<b>40</b>
b) Non-compliance with two critical items during inspections; continual non-compliance with non-critical items		<b>30</b>
c) General compliance usually with one or no critical items in non-compliance during inspections; some non-compliance with non-critical items; conditions being maintained or improved		<b>15</b>
d) High compliance; may have some non-compliance with non-critical items		<b>0</b>
<b>Additional Factor:</b>		
e) A clinically confirmed or epidemiologically linked outbreak has occurred at the facility within the last year under the same ownership/management		<b>30</b>
<b>7. Volume of Food</b>	<b>Check only one</b>	<b>Circle corresponding score</b>
a) Foodservice serving more than 250 meals per day or food retail employing more than 10 people		<b>20</b>
b) Foodservice serving less than 250 meals per day or food retail employing 10 or less people		<b>10</b>
<b>8. Typical Patronage</b>	<b>Check only one if present</b>	<b>Circle corresponding score</b>
a) Provides foodservice primarily to vulnerable populations including <b>immuno-compromised individuals</b> (e.g., hospitals, nursing homes)		<b>30</b>
b) Provides foodservice directly to vulnerable populations that <b>do not</b> include <b>immuno-compromised individuals</b> (e.g., child care centres, residential care facilities)		<b>15</b>

Total score for 8 factors: \_\_\_\_\_

Risk categorization obtained with questionnaire:

**High Risk: 165 points or more**

**Moderate Risk: between 110 and 160 points**

**Low Risk: 105 points or less**

Document any additional risk factors noted during the visit that should be taken into consideration:

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Evaluation prepared by: \_\_\_\_\_ Date: \_\_\_\_\_

Evaluation reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Final categorization assigned by manager or administrator (if different than above):

**High Risk**

**Moderate Risk**

**Low Risk**

Rationale for changing risk categorization obtained with the Questionnaire (if applicable):

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## **Annex 2 – Guide for Use of the Risk Categorization Model Questionnaire**

### **Purpose**

This guide is intended to be used by Environmental Health Officers and Food Safety Specialists to evaluate the risk of food borne illness outbreak occurrence originating from food retail and food service establishments. For the purpose of the Risk Categorization Questionnaire, “food borne illness” refers to illness from microbial hazards. The Questionnaire takes into account eight risk factors with corresponding scores. The guide provides an explanation for each risk factor, along with direction on how to determine the corresponding score. The risk categorization for the establishment is then determined based on the total score for the eight factors.

It may be difficult to assess all eight factors for a given establishment due to the nature of the situation. For instance, a banquet hall may be used by various community groups, which makes it difficult to assess the types of food and their intended use, or the food safety knowledge of management and employees. If there is insufficient information to determine the appropriate score of a risk factor, then the recommended approach is to err on the side of safety and assign the highest score.

Compliance history is one of the eight factors considered within the Risk Categorization Questionnaire. Therefore, it is recommended the Questionnaire not be used to determine risk categorization of a new food retail or food service establishment until at least two inspections are performed at the facility. It is assumed that a compliance inspection is routinely carried out after a pre-opening inspection, after which it would be appropriate to use the Risk Categorization Questionnaire. The guide is to be used as a complement to properly interpret the Questionnaire and is not designed to serve as a procedural inspection/inspector-oriented document.

### **Identified Risk Factors**

The following table defines and provides direction on assessing each of the risk factors used in the Questionnaire.

#### **1. Types of Food and Intended Uses**

Ready-to-eat foods pose a greater risk than do foods that will receive or require additional processing such as heat treatment. When assessing food retail or food service establishments, consider the foods used in preparation or processing (high, medium or low risk foods) and whether they are ready-to-eat or will undergo additional steps such as cooking designed to control microbial loads.

The choices on the Questionnaire are listed in decreasing order of risk. The type of food/intended use with the highest risk present in the facility should be checked even though it may not be the majority of the food sold and/or consumed.

Check only one.

**Read-to-eat foods** are foods that do not require any further preparation before being consumed, except perhaps washing, thawing or moderate reheating if the food in question is customarily eaten hot.

<p>a) High risk foods that are ready-to-eat when served or sold to the consumer</p>	<p>Food products that are historically and most frequently linked epidemiologically to microbial foodborne illness. These foods are non-acidic or slightly acidic, moist, high protein foods.</p> <p>Such products include cooked foods and food items containing meat, poultry, fish, rice, or pasta.</p> <p>These would also include infused oils, baked goods with cream/custard fillings, raw milk cheese, raw eggs, raw shellfish, and gravies.</p>
<p>b) Medium risk foods that are ready-to-eat when served or sold to the consumer</p>	<p>Food products that are less frequently linked epidemiologically to microbial food borne illness</p> <p>These foods include milk and other dairy products (e.g., ice-cream), sandwich and deli meats, pasteurized cheeses, pizza, cut fruit, uncooked sprouts, and unpasteurized juices/ciders</p>
<p>c) High or medium risk foods that are not ready-to-eat</p>	<p>These foods require further preparation/processing by the <b>consumer</b> to reduce microbial hazard.</p> <p>Such foods include raw meat, poultry seafood, and eggs.</p>
<p>d) Low risk foods that may or may not be ready-to-eat</p>	<p>Food products that do not pose significant health hazards by themselves.</p> <p>These products include shelf stable foods such as peanut butter, bread, crackers, butter, dry cereals, all foods in unopened cans and flexible pouches, uncut fruits and vegetables, and beverages (other than milk products)</p>

## 2. Food Handling/ Preparation and Processing

Each handling or preparation step presents an increased risk to that food. Risk to food safety is further increased when a food retail or food establishment has multiple food systems, specifically cook/chill processes, is a central commissary, or provides catering away from the location where the food is prepared.

In this section, the highest risk activity occurring in the facility should be checked even though it may not be the most frequent activity occurring.

Note that if 2.(d) is selected, it is important to continue the evaluation of the remaining factors. An establishment that does not prepare or handle foods would likely store or distribute food, and would need as a minimum some adequate equipment and basic food safety knowledge.

Check only one.

a) Extensive handling or preparation of high or medium risk foods	High or medium risk foods that are extensively handled during preparation can increase the potential of microbial growth and cross-contamination. Extensive handling/preparation would include a number of steps before service such as cooking, hot holding, cooling and reheating of foods.
b) Limited handling or preparation (cooking, serving) of high or medium risk foods	Foods that require only one or two preparation steps such as cooking and direct serving would apply, such as preparation of sandwiches/submarines for sale directly to the consumer, cutting fruit and vegetables, slicing deli meats.  There would be no hot holding, cooling, or reheating, and no packaging or re-wrapping of high or medium risk foods.
c) Handling or preparation of unpackaged low risk foods	Preparation and handling (including packaging) of low risk foods as described in Section 1(d) of the Guide. This would include the manufacturing of low risk foods.
d) a, b or c do not apply	There is no preparation or handling involved.

**Additional Factors - to be added if any factors present**

Check all that apply.

<p>e) Manufacturing cook/chill foods; small scale cooked meat or seafood products (smoking, curing), and/or vacuum packaging or aseptic packaging of low acid foods</p>	<p>Commercial cook/chill preparation of foods where these foods may be eaten cold or after reheating. This process is different than that of cooling foods as is commonly done, both in the volume of food being cooled and the design of the cooling process (i.e., rapid cooling using blast chiller equipment or documented procedure). Packaging low-acid foods using vacuum pack processes, sous vide, or aseptic packaging processes are also included. These processes can occur at the retail level to medium and high risk foods. These foods are considered to be of higher risk than foods prepared by conventional food handling/ preparation techniques due to the complexity of the processes and specific knowledge required to safety produce such foods.</p> <p>This factor is not intended to consider the processing of low-risk foods; this is considered under 2(c).</p>
<p>f) Provides catering services off site</p>	<p>Food retail or food service establishments providing catering services off site where foods are prepared/cooked in the facility kitchen and then delivered to a function off site for consumption/further processing are shown to be at higher risk of being implicated in foodborne illness.</p>

### 3. Equipment and Facility

This section is intended to evaluate the general conditions of an establishment rather than regulatory compliance, which is covered in Factor 6. Although a new business should have adequate equipment in order to obtain an operating permit or licence, the conditions may deteriorate with time due to a number of reasons. If a certain condition such as insufficient refrigeration or hot holding equipment results in a regulatory violation, the appropriate score should then be selected in this section as well as in Factor 6.

Check all that apply.

<p>a) Insufficient refrigeration equipment or hot holding equipment to maintain food temperatures at correct standards, facilities that are under re-occurring boil order advisories, or, if in place, drinking water treatment systems for microbial contamination are poorly maintained</p>	<p>Equipment is not adequate for the volume of food preparation. Lack of refrigeration and hot holding capacity to maintain proper temperatures puts food at risk. Over time increased menu items, preparation methods, volumes of foods or other operational changes may have increased demands on equipment. Equipment is not constructed and placed to allow ease of cleaning.</p> <p>Facilities are under re-occurring boil advisories if there are two orders or more within the last 12 months issued by a regulatory agency. If in place, properly operated microbial water treatment system should be maintained as per manufacturer’s maintenance schedule. A poorly maintained microbial water treatment system may include lack of chlorine residual or residual monitoring, or ineffective UV light treatment.</p>
<p>b) Food preparation area or kitchen is small, insufficient space, poor layout, inadequate lighting or ventilation</p>	<p>Equipment is adequate to the volume of food preparation however, poorly designed kitchens increase opportunities for cross contamination and restrict cleaning.</p>
<p>c) Equipment, or facility surfaces are not easily cleanable, in disrepair or need replacing</p>	<p>Equipment is adequate to the volume of food preparation. However, equipment or facility surfaces that are not smooth, absorbent and difficult to clean may harbor microorganisms and other contaminants.</p>
<p>d) Equipment and facility is satisfactory or better</p>	<p>Equipment is adequate to the volume of food preparation and is constructed and placed to allow ease of cleaning. Kitchen is designed to prevent cross contamination and facilitate ease of cleaning.</p>

#### 4. Management and Employee Food Safety Knowledge

Food safety knowledge can be acquired through formal training or informal/on-the-job experiential exposure. The Canadian *Food Retail and Food Services Code* (Section 6) can be used as a guide to determine levels of food safety knowledge in a food retail or food establishment as it outlines food handler training program expectations, continuing educational training, course components, expiration of training programs, and learning outcomes of course/training participants.

Check the one that best describes management and employee food safety knowledge.

<p>a) Demonstrate little or no knowledge/ training of food safety practices</p>	<p>Likely, management and/or employees have had no recognized food handler training and during interviews by the assessor show little or no knowledge of food safety training.</p>
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b) Demonstrate some knowledge/ training of food safety practices	Management and/or employees have had some food handler training through a recognized program but the certificate is not current (certification has lapsed, or has not been renewed within a maximum time frame of five years), or good food handling practices learned in the training program are not being exercised; during the interviews by the assessor neither management nor employees demonstrate a sound knowledge of food safety. In house training programs may be acceptable if deemed suitable by the authority having jurisdiction.
c) Demonstrate good knowledge/ training of food safety practices	Management and/or most employees have completed food handler training and certification within the past five years (usually at a higher level i.e. ServSafe ©, FoodSafe © Level II). Good food handling practices are evident and during the interviews by the assessor management and staff demonstrate a sound knowledge of food safety.

## 5. Food Safety Management Programs

Check the one that best describes the food safety management program in facility.

The person conducting the internal food safety management program audit should not be involved in the daily operation of the facility and routine implementation of the program at the site. This would include on-site managers or owners of facilities.

Facilities should not be categorized under Factor 5(d) if any combination of Factors 1 (a) (b) and Factors 2 (a) (b) or (c) are chosen. If Factor 1 (d) is chosen, Factor 5 (d) should be chosen. If Factor 2 (d) is chosen, Factor 5 (d) should be chosen.

a) No documented food safety management program in place where warranted	If Factor 1 (a), 1(b), or 1 (c) are selected for the facility, a food safety management program is warranted. Management and employees show little or no appreciation of critical control points (CCPs) and how they should be monitored. There may be a program available but management has not implemented the program, and/ or employees are unable to demonstrate knowledge of or conformity with the program.
b) Documented food safety management program in place without an audit program	There is a documented food safety management program in place, with management and employees able to demonstrate control of CCPs and general conformity with the program. However, the program is not audited.
c) Audited food safety management program in place where all HACCP principles are applied	There is a documented program in place and formal audit (internal or external audit process) confirms adherence to documented program with only minor non-conformity with items not identified as CCPs.



d) Not applicable due to the type of foods (1d) or the amount of handling and preparation (2d)	Due to the nature of the foods served or the minimal if any preparation required these types of facilities do not require a HACCP or HACCP-like program.
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## 6. Regulatory Compliance

“Compliance” refers to past and current compliance inspections. Choose the one that best describes the regulatory compliance history of the food retail or food service establishment based on at least two inspections.

a) Non-compliance usually with three or more critical items during inspections; continual non-compliance with non-critical items	The establishment, on inspection, repeatedly has three or more critical items noted and non-compliance of other non-critical items. These critical items may be repeated from inspection to inspection. These establishments will have required one or more follow-up inspections and have received official notification of their non-compliance, may be subject to increased formal enforcement action. Management has little or no appreciation of the hazards presented by the non-compliance. There is little or no improvement, or has been a noted deterioration in the general maintenance of the establishment from inspection to inspection.
b) Non-compliance with two critical items during inspections; continual non-compliance with non-critical items	The establishment, on inspection, may have two critical items in non-compliance. Critical items may be different from inspection to inspection. Establishment may require one or more follow-up inspections before compliance. There is some basic appreciation of hazards presented by non-compliance.
c) General compliance usually with one or no critical items during inspections; some non-compliance with non-critical items; conditions being maintained or improved	The establishment generally is in compliance, often with only one or no critical items found to be in non-compliance. Management has appreciation of the hazards presented by the non-compliance and responds to critical items within the time given to bring into compliance. The establishment is being maintained or there is some improvement noted from inspection to inspection.
d) High compliance; may have some non-compliance with non-critical items	The establishment is consistently in compliance with no critical items noted. The establishment is being properly maintained. Management has an appreciation of the hazards presented by non-compliance with any critical items.

### Additional Factor

e) A clinically confirmed or epidemiologically linked outbreak has occurred at the facility within the last year under the same ownership/management	Laboratory or statistically significant epidemiological evidence should be established prior to inclusion of this additional factor. Ownership/management refer to the individual(s) directly responsible for daily activities and operation within the establishment. Refer to the document definitions for a full description of the terms: outbreak, laboratory evidence, epidemiological evidence.
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## 7. Volume of Food

The number of people served or provided food, or the number of employees at an establishment at a given time (i.e., shifts) is used as a determinant of the volume of foods sold or prepared. Higher volumes of foods, which require additional handling, and the added potential of temperature abuse increase risk of foodborne illness.

Choose the one that best describes the number meals served on a daily basis or the number of employees.

a) Foodservice serving more than 250 meals per day OR food retail employing more than 10 people	Preparation and serving of large volumes of foods requires increased handling and storage and increases the likelihood of CCP deviations such as temperature abuse. Increased volume is related to the number of meals served. If the number of meals sold is difficult to determine (i.e., grocery store or supermarket store sales), the factor used to determine volume of food should be the number of employees.  Number of people employed refers to the maximum number of people working at any one time.
b) Foodservice serving less than 250 meals per day or food retail employing 10 or less people	

## 8. Typical Patronage

Risk of foodborne illness increases when foodservice is provided to those groups identified as vulnerable populations.

Check only one.

a) Provides foodservice primarily to vulnerable populations including <b>immuno-compromised individuals</b> (e.g., hospitals, nursing homes)	There is a heightened health risk of food borne illness associated with this population. These individuals include immuno-suppressed persons, the elderly and the ill. Facilities catering to them include hospitals and nursing homes.
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<p>b) Provides foodservice directly to vulnerable populations that <b>do not</b> include <b>immuno-compromised individuals</b> (e.g., child care centres, residential care facilities)</p>	<p>Although all individuals in these groups are considered vulnerable populations, the symptoms and consequences of foodborne illness may be less for these non immuno-compromised individuals. These populations include children at daycares, pregnant women, or non-elderly residents in long-term care facilities (i.e., facilities for individuals with special needs).</p>
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The total score of the eight factors indicates the risk categorization of the establishment as per the following cut-off points.

- High Risk:**                               **165 points or more**
- Moderate Risk:**                       **between 110 and 160 points**
- Low Risk:**                               **105 points or less**

**Risk Categorization Obtained with Questionnaire**

After the risk categorization is obtained, the officer/ inspector signs and dates the Questionnaire in the space provided, “*Evaluation prepared by*”. If an administrator or manager reviews the Questionnaire, a signature and date in the space “*Evaluation reviewed by*” is to be completed.

**Final Risk Categorization Assigned**

If the Risk Categorization obtained with the Questionnaire does not adequately take into account other significant risk factors posed by the establishment, an administrator or manager may assign a final categorization that differs from the Risk Categorization obtained with the Questionnaire. This re-assignment is to be properly documented noting the additional factors instrumental in the change from the original risk categorization, and is to be completed in “*Comments*” section.