



PUBLIC HEALTH PREPAREDNESS AND RESPONSE

2016

Assessing, Managing and Communicating Public Health Events in Bermuda

Effective assessment, management and communication of public health events is a central component of public health response activities. Communication informs, advises and educates the public, enabling them to make informed choices about the actions they will take based on their understanding of a health risk. This document is intended to provide guidance to assist in accurate risk assessment and effective communication to the public about health risks.^{1,2,3}

¹ Adapted from **Communication Training Program for WHO Staff**. Department of Communications. Director General's Office, WHO Headquarters, 2013

² Adapted from **Communicating with the Public About Health Risks**. Health Protection Network Guidance 1. Health Protection Scotland, Glasgow, 2008

³ Adapted from **Rapid Risk Assessment of Acute Public Health Events**. World Health Organization, 2012.

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Public Health Preparedness and Response

GUIDANCE FOR ASSESSING, MANAGING AND COMMUNICATING HEALTH RISKS IN BERMUDA

INTRODUCTION

Management of public health events reduces or prevents disease in affected populations and reduces negative social and economic consequences. Additional benefits include defensible decision-making, implementation of appropriate and timely control measures, more effective operational communication, more effective risk communication and improved preparedness.

This document has been developed to guide the assessment and management of public health risks from any type of hazard in accordance with the all-hazards approach. It is guided by International Health Regulations (IHR), 2005, requirements.

PURPOSE

This document will assist rapid and defensible decision making for risk assessment and management of public health events, especially acute public health events, and risk communication. The purpose of public health risk communications is to provide the public with meaningful, relevant, accurate and timely information in relation to population health risks in order to influence their response.

DEFINITIONS

A **public health event** is as defined by IHR is “a manifestation of disease or an occurrence that creates a potential for disease” (which can include events that are infectious, zoonotic, food safety, chemical, radiological or nuclear in origin and whether transmitted by persons, vectors, animals, goods/food or through the environment).

An **acute public health event** is any event that represents immediate threat to human health and requires prompt action, i.e. implementation of control and/or mitigation measures to protect the health of the public. The term includes events that have not yet led to disease in humans but have the potential to cause disease through exposure to infected or contaminated food, water, animals, manufactured products or environments. **Public health emergencies** include acute public health events that have led to disease and/or death in humans.

Risk communication includes the range of communication capacities required through the preparedness, response and recovery phases of a public health event to encourage informed decision making, positive behaviour change and the maintenance of trust.

Risk assessment is a systematic process for gathering, assessing and documenting information to assign a level of risk to human health of an event. Risk assessment includes three components – hazard assessment, exposure assessment and context assessment. **Hazard assessment** is the identification of a hazard (or number of potential hazards) causing the event and of the associated adverse health effects. **Exposure assessment** is the evaluation of the exposure of individuals and populations to likely hazards. **Context assessment** is an evaluation of the environment in which the event is taking place.



FIGURE 1. THE RISK MANAGEMENT CYCLE

DETECTION AND CONFIRMATION OF A PUBLIC HEALTH EVENT

Bermuda's surveillance system aims to detect public health events. This is through both indicator-based surveillance (the routine collection, monitoring, analysis and interpretation of structured data from identified sites, including private physicians' offices, clinics and laboratories) and event-based surveillance (rapid collection of ad hoc information of possible public health events from official and unofficial sources, including media reports, internet sites and general public). Public health events (signals) detected through the surveillance system need to undergo an initial assessment (triaging) prior to confirmation. This triaging is conducted by personnel in the Epidemiology and Surveillance Unit. The triage process focuses on assessing the credibility of the incoming signal(s) and whether the event is a potential risk to public health. During triaging, incoming signals are more likely to be real events if there are one or more 'yes' answers to the following questions:

1. Has the event been reported by an official source?
2. Has the event been reported by multiple independent sources?
3. Does the event description include details about time, place and people involved?
4. Is the clinical presentation of the cases described?
5. Has a similar event been reported previously?

Following triaging, different actions may be taken depending on whether the event is confirmed as a public health event and the immediacy of the public health risk.

TABLE 1. TRIAGING OF PUBLIC HEALTH EVENTS

Outcome of Triage	Action
Reported event is not confirmed or proven to be false	Discard the event
	Risk communication about the event may be needed to address public perception of risk and rumours
Event is confirmed but is not an immediate public health risk	Monitor the event and undertake risk assessments as new information becomes available
	Risk communication about the event may be needed to address public perception of risk
Event is confirmed and may be considered an immediate public health risk	Convene the Public Health Emergency Response Team and undertake a full risk assessment
	Provide recommendations for decision makers, including which actions should be taken and which should have the highest priority including recommended control measures and key communication messages

RISK ASSESSMENT AND DETERMINATION OF THREAT LEVEL

After confirming that a reported event is real and may be considered an immediate public health risk, the Public Health Emergency Response Team (PHERT) should convene and undertake a full risk assessment. The Public Health Emergency Response Team should consist of the following:

- **Core team:** Chief Medical Officer, Nurse Epidemiologist, Assessment Officer, Director of Health, Senior Medical Officer, Chief Nursing Officer, Chief Environmental Health Officer
- **Ad hoc members (specialized role and expertise):** Permanent Secretary, Public Affairs Officer, Laboratory Supervisor, Senior Environmental Health Officer for Port Health and Vector Control, EPI Manager, Community Health Nursing Coordinator, Veterinary Officer, Health Promotion Coordinator, Senior Public Health Analyst, Hospital Infectious Disease Specialist, Surveillance Officer, Administrative Assistant, Comptroller
- **Supplemental members:** depending on nature of the acute public health event or emergency, additional expertise may be required, including private physicians, Bermuda Hospitals Board staff, NGO's, EMO representatives, etc.

A risk matrix is used to determine the overall level of risk, which is based on the expert opinion of the team following an assessment of the hazard, the exposure and the context. This risk characterization takes into account the likelihood of the event and the potential consequences of the event to assign the level of risk. All types of consequences should be considered in addition to the expected morbidity and mortality, and include long-term health consequences of the event and the social, technical/scientific, economic, environmental, policy/political, legal, and ethical (STEEPLE) consequences. The level of risk also determined the public health threat level.

TABLE 2. PUBLIC HEALTH RISK CHARACTERIZATION

Estimates of likelihood	
Level	Definition
Almost certain	Is expected to occur in most circumstances (e.g. a probability of 95% or more)
Highly likely	Will probably occur in most circumstances (e.g. a probability of between 70% and 94%)
Likely	Will occur some of the time (e.g. probability of between 30% and 69%)
Unlikely	Could occur some of the time (e.g. probability of between 5% and 29%)
Very Unlikely	Could occur under exceptional circumstances (e.g. probability of less than 5%)
Estimates of consequences	
Level	Definition
Minimal	Limited impact on the affected population Little disruption to normal activities and services Routine responses are adequate and there is no need to implement additional control measures
Minor	Minor impact for a small population or at-risk group Limited disruption to normal activities and services A small number of additional control measures will be needed that require minimal resources
Moderate	Moderate impact as a large population or at-risk group is affected Moderate disruption to normal activities and services Some additional control measures will be needed, requiring moderate resources to implement
Major	Major impact for a small population or at-risk group Major disruption to normal activities and services A large number of additional control measures will be needed and some of these require significant resources to implement
Severe	Severe impact for a large population or at-risk group Severe disruption to normal activities and services A large number of additional control measures will be needed and most of these require significant resources to implement

FIGURE 2. RISK MATRIX

Likelihood	Almost certain					
	Highly likely					
	Likely					
	Unlikely					
	Very unlikely					
		Minimal	Minor	Moderate	Major	Severe
		Consequences				

TABLE 3. LEVEL OF OVERALL RISK AND PUBLIC HEALTH THREAT LEVELS

Level of Overall Risk	Public Health Threat Level	Actions
	Low	Managed according to standard response protocols, routine control programmes and regulation
	Guarded	Roles and responsibility for the response must be specified Specific monitoring or control measures required
	Elevated	Senior management attention needed There may be a need to establish command and control structures A range of additional control measures will be required some of which may have significant consequences
	High	Immediate response required Immediate senior management attention needed Command and control structure should be established within hours Implementation of control measures with serious consequences is highly likely

The overall level of risk assigned to the event is hereafter referred to as the threat level. The actions taken at each threat level will differ at different organizational levels. Actions may involve epidemiological investigation, environmental investigation, laboratory investigation, communication and control measures, as appropriate.

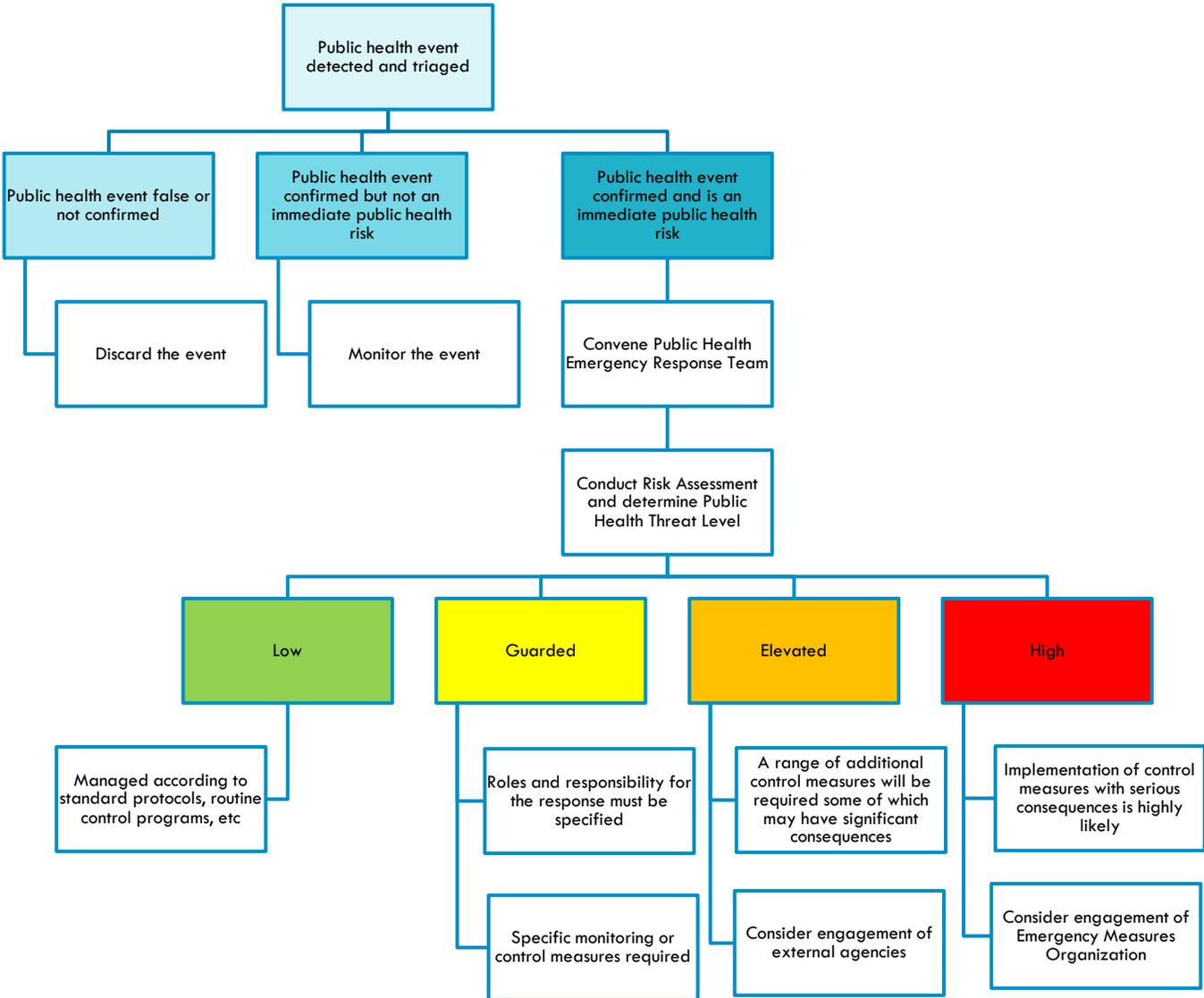
In situations where the event is determined as high risk (i.e. almost certain to happen with serious consequences) and/or a precautionary approach is required, the Emergency Measures Organization may be contacted to assist in the implementation of control measures. This assistance includes, but is not limited to enforcing social distancing, isolation and quarantine, and securing of public health stocks of vaccines, medicines, etc.

Alternatively, the Emergency Measures Organization may require public health services as a support in the handling of disaster or emergency events such as hurricanes, large fires, etc. This support includes providing personnel for shelters.

All sections and programmes within the Department of Health, should have Public Health Continuity of Operations Plans containing:

- Essential services provided
- Personnel needed to continue provision of essential services
- Personnel available for redeployment as required for public health response by category:
 - Investigation
 - Communication
 - Control measures
- Call-out procedures
- Assistance required from Emergency Measures Organization and/or other external agencies

OVERVIEW OF MANAGEMENT OF A PUBLIC HEALTH EVENT



SCALABLE ACTIONS FOR CONFIRMED PUBLIC HEALTH EVENTS

Investigation	Control Measures	Communication
<ul style="list-style-type: none"> • Epidemiological • Environmental • Laboratory 	<ul style="list-style-type: none"> • Control measures are dependent on the nature of the public health event • Administrative support may be required 	<ul style="list-style-type: none"> • Media • Hotline • Direct communication to those affected

EPIDEMIOLOGICAL INVESTIGATION

The Epidemiology and Surveillance Unit may provide selected materials for the investigation. These can include:

- Reference books, fact sheets, etc. with information on communicable diseases and toxic substances
- An introductory sheet containing precise wording for the introductory statement,
- Questionnaires, recording sheets and investigation tools
- A computer installed with a database that allows entry and storage of data from the questionnaires in an electronic form – MS Excel/Access
- A computer installed with a basic statistical package – Epi Info

CASE-FINDING

Case-finding involves identification of additional cases by searching for people who might meet the case definition. This step is undertaken to ensure recognition of the true scale of the public health event, to minimize the bias that could result from an investigation focusing only on cases identified early in the public health event, and provide more statistical power to identify risk factors. Without this step, inappropriate control measures may be implemented. However, the investigation should not be unnecessarily slowed while trying to find every case.

- **Case-finding strategies for public health events related to common event outbreaks:** Case finding strategies for common event outbreaks can be tightly focused on the event itself.
 - Try to locate a list of individuals who attended the event associated with the outbreak.
 - If available, the list will normally be held by the event organizer.
 - If a list is unavailable, contact the individual responsible for organizing the event, and try to obtain a verbal list of names with contact details.
 - If neither approach is fruitful, interview cases identified for names of other individuals attending the event.
 - Retain names and contact details of all individuals linked to common event outbreaks, whether cases or not, for the duration of the investigation.
- **Case-finding strategies for public health events related to common site, dispersed and community-wide outbreaks:** Case finding strategies that are more appropriate for outbreaks in other community contexts include:
 - interviewing family contacts of cases
 - reviewing notifiable disease reports
 - requesting general practitioners to report (retrospectively or prospectively) patients who meet the case definition
 - requesting laboratories to report (retrospectively or prospectively) patients from whom the aetiological agent has been isolated
 - reviewing urgent care centre and hospital records
- **Case finding in public health events related to institutional outbreaks:** Identify other cases in institutional outbreaks by interviewing staff members responsible for other subsections of the institution (i.e., hospital wards, rest home wings, etc.).
- **Other case-finding strategies:** On occasion, it may be appropriate to advertise for cases through the media (e.g., through newspaper health articles or public announcements on the radio). This method, however, should be used very carefully because it is likely to identify a large number of people with

illnesses that are unrelated to the public health event or outbreak, details included in the newspaper article or radio announcement may bias reports of illness, and it may create unnecessary alarm.

INTERVIEWING CASES (AND CONTROLS)

Detailed information on all cases (and controls) involved in an epidemiological investigation should be collected using a structured interview based on a standardized questionnaire. The questionnaire should cover disease manifestations, patient characteristics and exposures that may be sources of infection. The emphasis at this stage of the investigation should be on rapidly administering a simple questionnaire designed to elicit information to identify possible hypotheses. Interviewers should probe where necessary to explore details of exposures. However it is essential to avoid marginalizing the concerns and values of the people primarily affected by the public health event or outbreak. Only structured questionnaires, where all subjects are asked exactly the same questions, are likely to be of use in epidemiological investigations. For cohort studies, a cohort log will need to be maintained that lists all individuals known to be a part of the cohort and records the results of attempts made to reach said individuals. With case control studies, the questionnaires may differ between cases and controls but the same interview techniques are to be used. A contact log of cases and controls should be maintained for case-control studies.

The preamble to the interview will be pre-scripted to standardize information collection. It will be important that interviewers pre-test the interview introduction to ensure that it reads in a professional but relaxed style and builds a rapport with the interviewee. It is important that the introduction provides complete information about the reason for the interview and establishes the credibility and responsibility of the investigator.

The following points are key parts of the interview introduction.

- Identity of interviewer and interviewing organization
 - Upon making contact with the interviewee, the interviewer should identify him/herself, including their affiliation with the Department of Health, and explain the purpose of the visit or call.
- Emphasize the importance of participation
 - The interviewer should state that the investigation is important (and why), and should emphasize the positive contribution that it will make to the control and prevention of disease.
- Assurance of confidentiality
 - Much of the information collected will contain personal identifiers. State that the information collected will only be used for the purposes of the investigation and will be kept confidential.
- Interview duration
 - Provide an estimate of the length of the interview.
- Informed consent
 - After reading the interview introduction, explicitly ask for the interviewee's consent to be interviewed. Document that consent has been obtained.

The following points are related to interview etiquette:

- Respect the interviewee's privacy
 - If the interview is being conducted face-to-face, it should take place in a private, quiet setting.
- Use the interviewee's first language
 - The interview should be done in the interviewee's first language, or, if necessary, through an interpreter or a family member or friend who agrees to act as an interpreter.
- Interview parents/guardians as proxies

- Use a parent or guardian to answer questions as a proxy for a child under the age of 13 years (as a rule of thumb). If aged 13 years or older, it may be preferable to interview the child directly. Consent from a parent or guardian must be obtained prior to interviewing any children under age 16 years.
- Use a professional but friendly approach.
- Allow adequate time
 - Adequate time should be allowed at the end of the interview for the interviewee to ask questions and express concerns about anything that he/she regards as important, but which has not been covered in the interview.
- Interviewers must be able to understand the content of the questionnaire, to communicate clearly and to work methodically.
- Interviewers should:
 - read the questions as written, in the same order, with the same emphasis
 - unless instructed, not prompt the interviewee or provide additional interpretation
 - thank the interviewee for their co-operation at the end of interview
 - specify basic advice for the prevention of transmission of the disease under investigation - any advice should be given at the completion of the interview
 - specify who the interviewee should contact for detailed clinical enquiries (usually the interviewee's own health care provider).

DATA ENTRY

For data entry (handwritten or into database) accuracy is as important, if not more important than speed. Handwriting should be legible, preferably in block capitals.

The potential for errors during data collection or data entry should not be underestimated. No matter how urgent the investigation, it is important that public health recommendations are based on information that is as error-free as possible.

- All completed questionnaires should be checked.
 - Somebody other than the interviewer should read through each completed questionnaire, as soon as possible after interview completion and check for illogical sequences in responses, missing data or coding errors.
 - Missing information should be obtained whenever possible.
- If resources permit, data should be entered twice, using different data entry personnel. This will allow for cross-checking in order to minimize data-entry errors.

ENVIRONMENTAL INVESTIGATION

Environmental investigation should be closely integrated with the epidemiological and laboratory investigations. Epidemiological information if available should be used to help focus the environmental investigation. In addition, laboratory investigators can provide guidance about the likely transmission routes of the causative pathogen, if known. Depending on the type of public health event, the environmental investigation can help form hypotheses, direct the epidemiological investigation and identify issues that can be immediately addressed for control.

Objectives of environmental investigation include:

- identifying forthcoming events in which the circumstances of the common event under investigation may recur (e.g., events that will use the same premises, food handler, sanitation facilities)
- identifying obvious hazards that may require the immediate implementation of control measures, including premises closure, prohibition of forthcoming events or placement of restrictions on potential human sources (such as infected food handlers)
- obtaining environmental specimens of material potentially linked to the public health event or outbreak
- identifying less obvious hazards that may require implementation of control measures or further investigation
- collecting information about the origins of any products, suspected to be the source(s) of the public health event or outbreak, in preparation for a potential recall or advisory warning

Investigators should be familiar with the types of processes that are likely to be encountered, and the regulatory environment and standards for these processes. This may involve reviewing guidelines for the sector, such as:

- food – hazard analysis critical control point (HACCP) systems and food safety programmes for that food industry; specific codes of practice
- hospitals – infection control guidelines
- pools – pool management guidelines
- water – treatment plant operating
- childcare – infection control guidelines.

ENVIRONMENTAL INVESTIGATIONS DURING PUBLIC HEALTH EVENTS RELATED TO OUTBREAKS

Before visiting the implicated site or premises associated with the event, investigators should identify and make contact with key individuals involved with the public health event. This is a crucial part of the entire investigation. Establishing a good relationship with the person or people responsible for the event can expedite a fast and thorough investigation, and will encourage the adoption of control measures. During the initial discussion:

- present the basic details of the outbreak, frankly and openly. Clearly state that the source of the outbreak has not been identified at this stage (if this is the case), and explain that preliminary enquiries are necessary at an early stage to help guide the investigation
- do not present suspicions about the outbreak source, unless the epidemiological analysis is complete
- arrange a mutually acceptable time for the site visit
- identify whether there are any forthcoming events in which the circumstances of the common event under investigation may recur (i.e., events that will use the same premises, food handler, sanitation facilities, etc.)
- if the outbreak could be associated with a human source (i.e., an infected food handler), identify the number of potential sources and how they may best be contacted.

Site visits and inspections provide the interface between the investigation and control of an outbreak. Observations made during the site visit may reveal helpful clues about the outbreak source, address general hygiene and safety issues, and can directly lead to implementation of control measures regardless of the subsequent epidemiological findings. The site visit is likely to have maximum benefit if undertaken as soon as possible after identification of the suspect site. A prompt visit would try to identify, sample, cease or remove from sale any food that could be contaminated. Also this initial rapid visit may identify gross problems at the site which may be immediately controlled. A second visit may occur when more detailed information has been gathered and analysed.

An additional function of visiting premises potentially linked to an outbreak is to meet those involved face to face. This emphasizes the importance of the investigation, and when carried out in a polite and professional manner, tends to enhance communication and co-operation.

Key components of the site visit and environmental investigation are inspection of the place and related processes.

Place: Gain a general impression of the site and keep an open mind, as unforeseen factors relevant to the outbreak may become apparent. Identify any past events or situations that may have contributed to the outbreak. While examining the site, consider whether specimens of leftover material associated with the common event are available and can be collected for testing. Collect specimens immediately, but if there is a lot of speculation on causative factors such as the specific source, mode of transmission or aetiological agent, it may be best to store the specimens after collection and decide what to test later. Ideally, the combined results of the epidemiological, environmental and laboratory investigation will help to guide decisions about what to test. Be cautious about widespread testing of the environmental specimens collected, because routine environmental culturing usually leads to results that cannot be interpreted, i.e. surfaces, areas or items may be contaminated by organisms that are not relevant to the outbreak or are part of the normal environment.

Processes: The initial site visit is an opportunity to broadly review all processes at the site. If multiple processes occur at the site, it may be too time-consuming to undertake a detailed risk assessment of them all at the initial stage.

- Closely observe all processes and procedures. It is important to include aspects that tend to be overlooked, such as storage, distribution, instructions to consumers, product design and composition. The following processes are likely to require close examination:
 - processes developed to decontaminate raw materials (e.g., systems for cooking or preserving meat products, water treatment processes)
 - processes for preventing humans from ingesting or absorbing material that cannot be entirely decontaminated (e.g., hand-washing facilities adjacent to a petting zoo, systems to avoid dispersal of lead-containing paint flakes)
 - processes for avoiding recontamination of materials that have already been processed and decontaminated (e.g., cross-contamination of cooked food with uncooked products)
 - processes developed to eliminate the potential for the contamination of products by human carriers (e.g., protocols for limiting food-handling by workers with diarrhoea or vomiting, for workers to cover cuts and sores or to wear gloves), either during the preparation or distribution of products

- processes developed to eliminate the potential for contamination of products from the environment (e.g., protocols for cleaning and maintaining appliances, processes to ensure that raw materials or decontaminated product remain free of contamination by vermin, water backflow prevention mechanisms).
- Look for gross negligence, contamination or gaps in techniques.
- Check whether policies, protocols and manuals are available and used. Check these against current standards.
- Review monitoring and record-keeping systems. Obtain specific monitoring data relevant to the investigation.

SPECIAL CONSIDERATIONS

Institutional Outbreaks

A thorough investigation of an outbreak in an institutional setting should include an environmental component, particularly if an inanimate object is epidemiologically implicated as a possible means of transmission. The 'site' visit and inspection must include an examination of equipment and interviews with care workers. Outbreaks of disease caused by airborne microorganisms merit a thorough inspection of air-handling systems, isolation room airflow patterns and infection control techniques. Routine environmental culturing is not warranted.

Outbreaks of Vector-Borne and Zoonotic Diseases

Environmental investigation is vital for vector-borne and other zoonotic diseases. Vector Control and/or the Government Veterinary Officer should be consulted.

LABORATORY INVESTIGATION

Laboratory scientists contribute the following to the investigation of public health events:

- Advising on the range of plausible organisms and toxins involved in the public health event or an outbreak to help focus the epidemiological and environmental components of the investigation.
- Advising on appropriate specimens to collect, quantity of specimens and tests to perform.
- Subtyping of selected organisms, thereby increasing the sensitivity of detection of dispersed outbreaks associated with a common source.
- Identification or confirmation of the pathogen or toxin causing illness.
- Identification of organisms common to different cases, thereby increasing the specificity of the case definition and helping establish links between apparently unrelated cases and outbreaks.
- Detection of organisms of the same type in potential sources (e.g., in food, water and environmental specimens, and specimens from animals and humans).

Laboratory investigation aims to:

- Confirm diagnoses
- Indicate possible sources
- Test clinical and environmental specimens
- Identify links between cases

Laboratory personnel should provide an estimate of the turnaround time for testing and when results will become available. Timely follow-up of these results and their interpretation by the laboratory is important.*

Laboratory personnel should also have available plans for specimen collection, storage, transport, receipt and testing. These plans should be detailed – what, how, who, where, when – and coordinated with all involved. The laboratory should provide information about specific requirements, including transport and temperature. Equipment such as special containers and processing reagents may need to be organised, especially if chemical toxin testing is planned.

SPECIMEN COLLECTION

Specimen collection kits should be already assembled in preparation for public health events related to outbreaks. The collection kits should be portable and have equipment for a range of situations and specimens.

A suggested checklist follows.

- General
 - Sterile spoons, spatulas and gloves
 - Method for surface sterilisation (e.g., chemical disinfectant)
 - Laboratory test request forms
 - 'Bio-bottles', chilly-bins, chiller-pads, labels
- Food, water and environmental specimens
 - Containers for food, water and environmental specimens
 - Sterile plastic bags or unopened containers for food, fluids and environmental material (e.g., potting mix)
 - Sterile bottles (250 mL) for water to test for indicator organisms and Legionella
 - Sterile dry swabs (i.e., without media) for environmental swabs
- Clinical specimens

- Sterile pottles for faeces, vomit specimens
- Additional items for collecting clinical specimens
- Phlebotomy supplies for blood/serum, including tubes with and without anticoagulant
- Specimen container for urine – may need preservative
- Specimen container for chemical toxins (may need to be pre-screened to eliminate background contamination)
- Throat and nasopharyngeal swabs, plain and with viral transport media

Where specimens are collected from people, informed consent must be obtained. This includes adequate explanation of the reasons for testing (if the pathogen can be transmitted by asymptomatic carriers, then all individuals who have had contact with the suspected source(s) should be screened), the process involved and clear instructions for any self-collection (e.g., faecal specimens). For serological testing, paired sera are commonly needed; therefore a second (convalescent) specimen may be required some four-to-six weeks after the first (acute) specimen. Identification details written on specimens and laboratory request forms must be legible and as comprehensive as possible. Providing additional information about the case (including date of onset) and investigation on the request form is also important as it assists those performing the tests.

****Note on Interpretation of laboratory results***

Laboratory test results are generally used to support a diagnosis or hypothesis, not to make it. True positive results cannot determine causation to an absolute certainty (e.g., infection vs. asymptomatic carriage). Therefore, a positive result from a person or item without epidemiological association does not prove the person or item was a source or vehicle of infection. On the other hand, a positive result from an epidemiologically implicated person or item strongly suggests that person or item was most likely a source or vehicle of infection. Conversely, negative results do not deny an association, but indicate only that the pathogen was not found in the specimen collected. Possible reasons, apart from the pathogen truly not existing in the specimen source, include:

- intermittent or non-uniform inoculation of the pathogen in the specimen, for example, due to intermittent faecal shedding of pathogens
- competitive microorganisms outgrew pathogen (if culture)
- diminished, injured or inactivated pathogen due to inappropriate processing, handling or storage for human faecal specimens, elimination of the pathogen may have already occurred

CONTROL MEASURES

Although definitive measures usually require knowledge of the source and reasons for the public health event or outbreak, control activities should be considered during the risk assessment and monitored and evaluated throughout the public health event. The degree of urgency and priority placed on the control measures depends on several factors, including the incidence and severity of disease (morbidity and mortality), whether or not the public health event is continuing or likely to recur, the degree of public concern, and the effectiveness or practicality of the control measures themselves.

The choice of control measure is dictated by factors such as whether the source of the public health event or outbreak is known, whether a suspected vehicle or vector has been identified and whether a vaccine or prophylactic treatment is available for susceptible humans.

EXAMPLES OF CONTROL MEASURES AIMED AT THE OUTBREAK SOURCE

Public health events or outbreaks associated with food, water or environmental sources

- Closure of premises or site of outbreak
- Modification of procedures
- Cleaning or disinfecting contaminated equipment or fittings

Public health events or outbreaks associated with animal contact

- Removal from contact, treatment, isolation, immunisation or destruction of animal reservoirs

Public health events or outbreaks associated with human sources

- Treatment of cases and carriers
- Exclusion or restriction of activities
- Isolation
- Quarantine
- Education

EXAMPLES OF CONTROL MEASURES AIMED AT CONTAMINATED VEHICLES AND VECTORS

Public health events or outbreaks associated with contaminated food or water

- Removal or recall of contaminated product
- Treatment, pasteurisation or sterilisation of contaminated material

Public health events or outbreaks associated with vectors

- Application of insecticides, setting traps, eliminating breeding habitats, improving management of solid waste

EXAMPLES OF CONTROL MEASURES AIMED AT SUSCEPTIBLE HUMANS

Public health events or outbreaks associated with food, water or environmental sources

- Education to change behaviour associated with food preparation or hygiene
- Instructions to treat or sterilise contaminated material
- Education to reduce contact with vectors

Public health events or outbreaks associated with human sources

- Administration of chemoprophylaxis
- Administration of vaccines
- Advice on physical barriers

PUBLIC HEALTH COMMUNICATION

A coordinated approach to public health risk communication is essential to public health activities. By their very nature, public health events occur at unexpected times, can grow rapidly in scale and can attract considerable attention from the media, public and government agencies. A planned approach to communication will help the Ministry to remain focused on assessment and management of the public health event, safe in the knowledge that information circulating about the public health event is accurate and that relationships with other agencies are being maintained.

SPOKESPERSONS

The Public Affairs Officer is the single point of contact for media enquiries. The Public Affairs Officer (PAO) should ensure that any media implications are considered and planned for in the shape of either a reactive holding statement or a proactive media release. Any media activity would need to be considered with the following considerations:

- that it would not adversely interfere with the assessment and management of the public health event;
- that it would not reveal the identity of any cases or premises under investigation, unless there is a material risk to the public, in which case public protection will be the paramount consideration.

All media material and press releases prepared by the Public Affairs Officer will be signed off by the Permanent Secretary following consultation with relevant PHERT members.

The Public Affairs Officer assigned to the Ministry of Health and Seniors should also provide guidance on communication strategies to ensure good communication between the Ministry and the affected population in a way that promotes awareness and behavior change. Following approval from the Permanent Secretary, the Chief Medical Officer or the Director of Health can direct PHERT members to communicate on their areas of technical expertise as appropriate. Any selected spokesperson should have attended training to improve and update their communications skills and be prepared to brief the media regularly and proactively on the public health event. If persons outside the Ministry are collaborating in communications efforts, approval should be obtained from the Permanent Secretary through the Chief Medical Officer or Director of Health. Additionally, the Public Affairs Officer must act to ensure that all persons acting as spokespersons regarding the public health event use clear, consistent and approved messages.

All public health communications should:

- contribute to clearly defined public health goals, have a specific target audience and focus on concrete outcomes
- be evidence-based (or consensus-based when evidence does not exist)
- motivate audiences to take action and not just stop at information and increasing awareness
- raise awareness of health problems, propose solutions to these problems, and indicate how public health is contributing to solutions
- use public health priorities as a framework for key messages
- use a consistent corporate voice to build trust and maintain credibility
- use the medium best suited to reach the target audience

COMMUNICATION BY THREAT LEVEL

The type and frequency of communication is flexible but should be based on the current public health threat level.

TABLE 4. COMMUNICATION TYPE AND FREQUENCY BY PUBLIC HEALTH THREAT LEVEL

Threat Level	Summary Description	Example	Public, Media, Political Interest	Communication Type and Frequency
Green (Low)	No public health threat currently exists in Bermuda that will have an adverse impact on the general population	Normal disease levels or disease levels above normal in a specific time, place or among an at-risk group with response requiring additional support and coordination internally (<i>i.e. small outbreak of gastroenteritis in a nursery school</i>)	Low	Routine communications to provide general information on prevention and preparedness activities
Yellow (Guarded)	Some public health threat exists in Bermuda but will not negatively impact on the general population	Above normal disease levels with response requiring additional support from local public health partners	Limited	Regular or limited communication related to specific public health threat or incident
Orange (Elevated)	A significant risk of a public health threat affecting the general population exists or is imminent	Beginning of an epidemic, pandemic, declaration by the World Health Organization (WHO) of a Public Health Emergency of International Concern (PHEIC) requiring coordination, support and interaction with local public health partners and other non-health sector organizations	High	Regular communication related to specific public health threat or incident
Red (High)	A public health threat exists in Bermuda and will likely affect most of the population	Large-scale outbreak, epidemic or pandemic with response requiring significant resources and interaction with regional public health partners (CARPHA, PAHO) and IHR-UK Focal Point	Extreme	Frequent communication related to specific public health threat or incident

The specific objectives of these communications may include:

- raising awareness of hazards and risks
- alerting people to an immediate danger
- providing information on avoiding harm or obtaining assistance
- advising on steps being taken to handle a public health event
- explaining the steps being taken to recover from a public health event and return to normality.

In a detailed yet concise manner, the message content must be carefully considered and should include:

- factual information to raise awareness and understanding of the nature and seriousness of the public health event
- accurate and contextual numeric data to explain the frequency and scale of the problem
- information on what to look out for and what action to take if directly involved or affected
- information on what people can do for themselves and their families and friends to reduce their exposure to the hazard and lower their risk of coming to harm
- how to get further information and more detailed advice.
- an expression of empathy during a crisis

CHOOSING A COMMUNICATION CHANNEL

A number of communication channels may be available, depending on the nature of the particular issue or incident, but not all channels will be suitable in every situation. It is important to consider the range of available channels and to select for the strategy most appropriate in the circumstances, based on the time and resources available.

The below table summarizes the communication channels that should be used at a minimum according to the public health threat level. The table lists the main communication channels although other communication channels may also be used, depending on the circumstances.

TABLE 5. COMMUNICATION CHANNELS TO BE USED BY PUBLIC HEALTH THREAT LEVEL

Communication Channel		Public Health Threat Level			
		Green (Low)	Yellow (Guarded)	Orange (Elevated)	Red (High)
Direct Communication with the Public					
Website	<i>www.gov.bm</i>	✓	✓	✓	✓
Facebook	<i>Department of Health Bermuda</i>	✓	✓	✓	✓
Twitter	<i>@DoHBermuda</i>	✓	✓	✓	✓
Telephone helpline/hotline	<i>278-4960</i>			✓	✓
Leaflets, posters, mailings, etc.				✓	✓
Mass Text Messaging				✓	✓
Mass Email				✓	✓
Public Meetings				✓	
Communication via Media					
Press Releases		✓	✓	✓	✓
Interviews		✓	✓	✓	✓
Free Advertising / Notices				✓	✓
Paid Notices		✓	✓	✓	✓
Paid Advertising				✓	✓
Press Conferences				✓	✓
Ministerial Statements				✓	✓

To ensure direct communication with the public in times of emergency, the public (and media) must be aware of routine sources of public health information and these sources must be updated regularly. These include Ministry-generated information on the Government of Bermuda website, and the Department of Health Facebook and

Twitter pages, which can act as primary communication channels or as a secondary source to reinforce key messages and to provide background information. Other direct communication channels include the use of leaflets, posters, mailings (including e-mail), and working with other agencies (such as mobile phone companies for mass text messaging), community organizations and public health partners to disseminate the message.

All news releases must be approved by the Permanent Secretary (or designate).

All other material, including material for the website and social media, may be approved by the Chief Medical Officer or the Director of Health, as appropriate.

Telephone hotlines: The Ministry has the capacity to activate a helpline/hotline (441-278-4960) for concerned members of the public in response to specific health risk issues. Team members can provide call-handlers, likely to be other Department of Health staff, with background information, responses to specific Frequently Asked Questions (FAQs), and call scripts to ensure that general, standardized advice and information is given. Additionally, referral pathways should be developed to so that those who need more specialized advice or assessment can be managed appropriately. It is important that there is ongoing communication between the call-handlers and select Team members to ensure that emerging issues can be identified and advice/call scripts amended to take account of the public's demands and changing circumstances. Ensuring call-handlers have adequate information to deal with rumors and misinformation is critical.

Public Meetings: Public meetings are useful for discussing the issues of risk with stakeholders including the local population, local media and politicians. These meetings can be organized by PHERT. Alternatively, Team members can be invited to public meetings organized by others. Before any public meeting, consider the likely audience and follow the guidance below:

- have a strong, clear introduction
- explain who you are and why you are involved
- explain what PHERT is, why it is involved and what you want to achieve through the meeting
- an audience will make an assessment of your credibility and trustworthiness very quickly (within 30 seconds), so being perceived as empathetic is vitally important – show recognition of the audience's concerns and viewpoint and express commitment to work with them
- deliver the key message(s): select a maximum of three most important messages (SOCO first) and promote these as the audience's "take home" messages
- ensure that the messages delivered in public meetings are consistent with messages delivered via other channels
- provide data to support the message and discuss awareness of uncertainties and limitations in the evidence-base
- if using audio-visual aids, keep them simple and have back-ups.

Press releases: Good practice on press releases is based on the following pointers:

- make the content newsworthy – clearly identify what the problem is at the beginning
- use an attention-grabbing headline if possible (or appropriate)
- answer the "who, what, when, where, why and how" questions in a strong leading paragraph – the first 10 words are crucial to securing interest by the media
- use a second paragraph to elaborate the content of the first and expand the details
- summarize the key messages
- give contact details for follow up or advise when a follow-up release will be made

- supplement a news release with “tip sheets/factsheets/FAQs” to provide supplementary information and to anticipate the most likely follow-on questions.

Press conferences: Press conferences may be useful if there is an important message to get out quickly to the public or there is a need to demonstrate that a situation is being managed and someone is clearly “in charge”. Careful consideration must be taken in deciding whether a press conference is either necessary or useful. Successful press conferences take time and effort to plan. A badly planned and executed press conference can undermine public and media confidence and be very difficult to recover from.

A press conference should only be had when there is enough information to justify the time and effort required by the technical experts, responders, DCI and media to attend/participate in the conference. Additionally, avoid having too many supporters (people involved in the incident but not directly taking part in the press conference) as this can give the impression of a misallocation of available response personnel.

COMMUNICATIONS MONITORING AND EVALUATION

All public health personnel are responsible for planning for and adequately resourcing the monitoring and evaluation of their communications. Media contact must be followed up by media surveillance and an analysis of the outcome of that contact. All public health personnel are responsible for alerting the Chief Medical Officer, Director of Health, or Permanent Secretary, as appropriate, and through the correct protocols, of any real or potential risks to the Ministry’s reputation as discovered through media monitoring.

SITUATION REPORT TEMPLATE

<i>Date and time of report:</i>	
<i>Public Health Event:</i>	
<i>Public Health Threat Level:</i>	
<i>Date of event:</i>	
<i>Brief description of event:</i>	
<i>Impact of event:</i>	
<i>Public health communications:</i>	

Framing your Communications

Effective risk communication aims to develop the public's understanding of a risk, thereby enabling them to make informed choices/decisions as to how best to protect their own health and that of their families.

The guiding principle for effective risk communication in public health is building, maintaining and, where necessary, restoring public trust in those responsible for managing risk and communicating risk to public health.

In this guidance, a *risk communication strategy* means an approach developed specifically in response to a defined public health issue or health protection incident. The reason for having a defined strategy is to ensure that a coherent and consistent rationale underpins all the activities involved in designing, producing and delivering the key risk communication messages to the target audience.

THE SOCO AND THE POINT

The priority for delivering communications about health risks is to prioritise information and formulate a Single Overarching Communication Objective or SOCO.

To develop a SOCO, answer the following questions:

1. What is the issue?
2. Why should there be focus on the issue and why now?
3. Who needs to change their behavior? Who is the audience?
4. What is the desired change in the audience as a result of the communication? (SOCO)

The single overarching communications outcome (SOCO) expresses the specific change you want to see as a result of the communications. The SOCO must be defined first. The SOCO guides the messaging and must be the fixed point of the message. The SOCO clarifies the main point. The point should be expressed first, followed by any explanations. The point should be then be reiterated at the conclusion of the message.

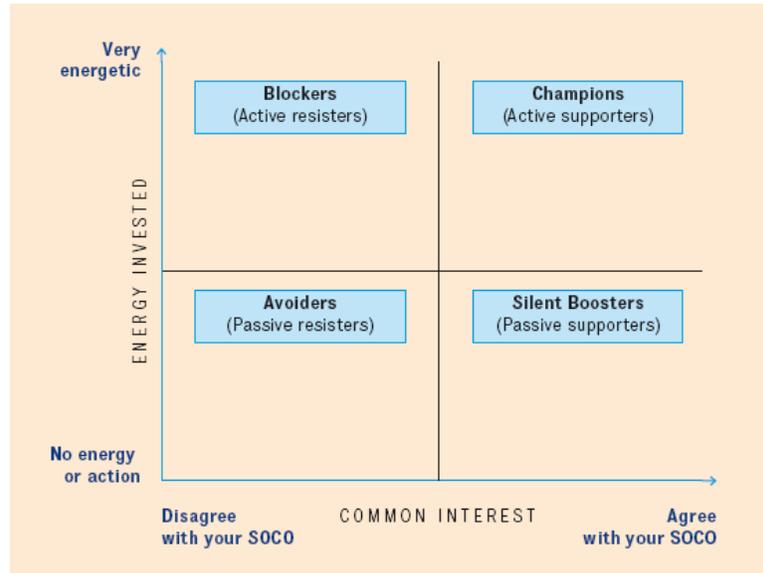
Simplicity is central to the initial SOCO. In general, the SOCO should be written for a comprehension age of 12 years and needs to be repeated to improve recall. In a crisis, it is important to ensure that the language used does not become a barrier to communication with certain segments of the population. Technical jargon and humour should be avoided.

The STARCC principles should be used for developing and delivering risk communication messages. STARCC is about making the message:

- Simple
- Timely
- Accurate
- Relevant
- Credible
- Consistent

Audience Analysis

A strategy should identify all the relevant stakeholders with an interest in the issue in question. A *stakeholder analysis* will define the target audience (the main parties with an interest) and enable identification of all relevant parties involved in developing, delivering, receiving or reacting to the risk communication messages. Failure to plan and anticipate the reaction of stakeholders may lead to failure to achieve the aim and objectives of the strategy. Stakeholders can be analysed in the following way:



Step 1: Define the SOCO.

Step 2: List your stakeholders.

Step 3: Consider which stakeholders agree or disagree with the SOCO (common interest).

Step 4: Consider how much energy each stakeholder puts to support or block the SOCO.

Step 5: Plot every group or person you think can influence the achievement of your SOCO. Be honest about your analysis.

Step 6: Understand that the position each person or group occupies can change with time

Step 7: Decide which groups or persons are best to target to achieve your SOCO. Think of what needs to be done at what time.

Step 8: Follow the following guidance for each target group:

- Champions:
 - Give them information
 - appreciate and acknowledge their contribution
 - allow them to champion your cause
- Silent boosters
 - Educate, enable, inform and motivate
- Avoiders
 - Inform
- Blockers
 - Counteract by giving facts
 - Monitor what they say and who is listening to them

Step 9: Review your analysis at specific time intervals or if the situation or context changes for some reason.

COMMUNICATING RISK

For public health, risk can be considered as the probability of something bad happening when people are exposed to a hazard (something that has the potential to harm). The magnitude of the risk is directly related to the magnitude of the hazard, how much exposure people have to the hazard, and how vulnerable to the hazard those exposed are. Experts and those “at-risk” do not necessarily perceive risk the same way.

- For technical experts, risk is directly related to the nature and magnitude of the HAZARD.
- The public (or others at risk) perceives risk based on many other factors and their ability to create a sense of OUTRAGE (fear, concern, intense emotional engagement).

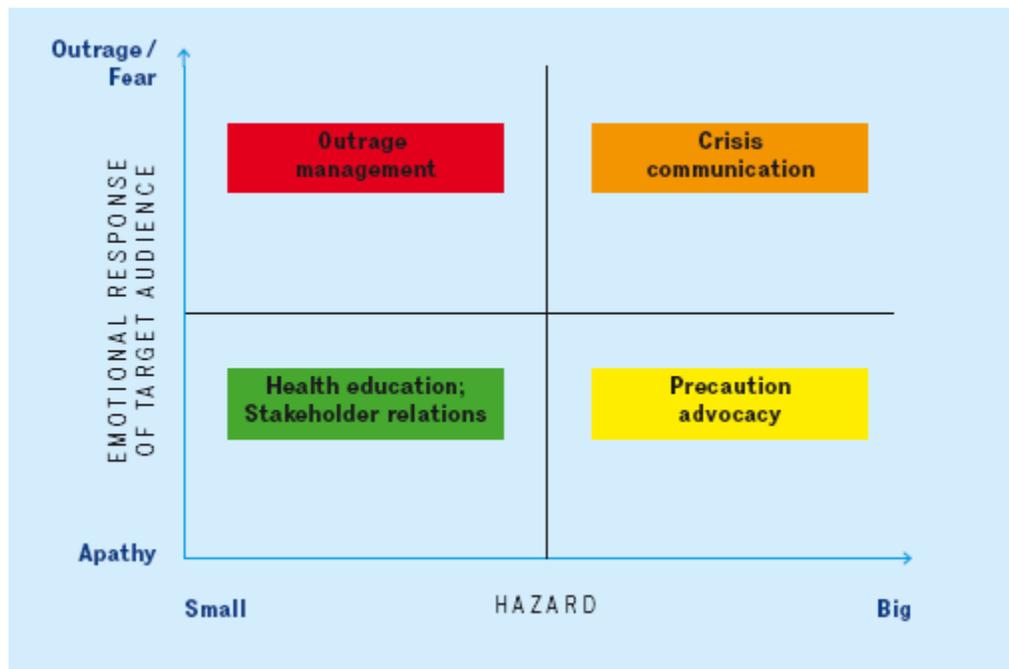
The job of risk communications is to bridge this gap between how the experts define risk and how the public perceives it. So:

$$\text{RISK} = \text{HAZARD} + \text{OUTRAGE}$$

The following model analyses risk perception based on:

- the extent of the hazard.
- the degree of emotion (fear, anger, concerns, outrage, other emotions) of the affected audience(s).

Based on an analysis of where the risk perception lies in the following matrix, one of four risk communications strategies should be used:



HEALTH EDUCATION AND STAKEHOLDER RELATIONS

This strategy should be used when the hazard is relatively small and emotional engagement is low or there is apathy.

Goals:

- Monitor communications surveillance to identify and address outrage early (before the situation moves to outrage management).

- Maintain public and stakeholder engagement in ongoing initiatives.

Guidance:

- Construct messages based on strong scientific evidence.
- Disseminate general information, which is usually sufficient, but watch out for problems early.
- Rely on audience self-motivation to seek out and use communications products.
- Understand that it is unlikely to achieve major changes on its own.
 - Examples include leaflets on food safety, physical activity, etc.

PRECAUTIONARY ADVOCACY

This strategy should be used is when the hazard is big, but people are not very concerned or outraged. They may be apathetic to the issue.

Goals:

- Arouse emotions – increase the emotional response of the public to bring them to the appropriate level of concern (not higher) so that they take action.

Guidance:

- Do not over-dramatize or use scare tactics.
- Be honest and transparent.
- Incite people to take action.
- Send messages based on strong scientific evidence, in lay language.
- Most public health work falls into this category. The health problems we tackle pose serious threats but our audiences are not emotionally engaged enough to take the given advice.
 - Examples include communications about safe sex, vaccinations, etc.

OUTRAGE MANAGEMENT

This strategy should be used is when the hazard is small (little or no real danger) but people are very outraged or upset, or their response is out of proportion to the real risk.

Goals:

- Calm the public down, respectfully and reasonably.
 - Listen to their concerns first.
 - Respectfully acknowledge anger and fear.
- Communicate facts and evidence
- Explain the actual danger.
- Cite credible third parties (experts, scientific research, etc.).
- Correct misinformation.
- Resolve rumours.

Guidance:

- Act early - there is a time pressure to communicate early and frequently.
 - Examples include allegations that the Ministry made decisions influenced by conflict of interest

CRISIS COMMUNICATION

This strategy should be used when the hazard is large or imminent, and fear is also (appropriately) high.

Goals:

- Put everyone on the same page in terms of information.
 - Explain what is happening, explain early and keep providing information frequently.
 - Tell people what is known, what is being done and when the next communication will be.
 - Be transparent.
 - Correct misinformation and resolve rumours.
 - Acknowledge uncertainty as messages may be based on uncertain scientific facts.
- Aim to modify behaviour.
 - Send a message that creates an impetus to act.
 - Give people something to do (making risk seem controllable).
- Deal with emotions.
 - Show empathy.
- Do NOT over-reassure.

Guidance:

- Act early - there is a time pressure to communicate early and frequently
 - Examples include widespread infectious disease outbreak
- Use a mix of communication channels
- Update information daily or even more frequently in the acute phase.
- Listen for concerns and address them proactively.
 - A certain degree of fear/concern is necessary to motivate people to act to protect their health.
 - False assurances that later turn out to be unfounded erode trust.
- Communicate a sense of “we’re all in this together”.

TABLE 6. SUMMARY OF COMMUNICATION STRATEGIES BASED ON PERCEPTION OF RISK

Communication Strategy	Hazard vs. Outrage Evaluation	Goal for dealing with outrage	Main Message	Required Action
Precaution advocacy	Hazard big Outrage low	Raise outrage to appropriate level	Take heed! Something bad could happen!	Increase people’s emotional engagement
Crisis communication	Hazard big Outrage high	Keep outrage high so as to maintain people’s vigilance and motivation to act	We’re in this together	Communicate proactively and early Explain what is happening Make clear what is known and unknown
Outrage management	Hazard small Outrage high	Try to lower outrage level	I understand your concern. Here are the facts as we know them	Communicate proactively and early Listen and acknowledge fears and present the evidence or facts Explain why the hazard is low
Health education and stakeholder relations	Hazard small or intermediate or not imminent Outrage low or absent (apathy)	No action	We are watching with you	Conduct communication surveillance Identify potential causes of concern

WORKING WITH THE MEDIA

The media is naturally very interested in crises and disasters, because their consumers (readers, listeners and viewers among the general public) are interested in them. The media therefore offers an important portal for getting messages out to the wider public during times of crisis. Media journalists and presenters are also adept at pitching messages in language their consumers will readily identify with and understand, meaning the messages may achieve greater penetration.

Requests from the media often arrive while a situation is still unfolding. Even if this is the case, a response must be made. Initial media coverage will have a strong influence on how an issue is perceived. This emphasises the importance of ensuring the information provided is as accurate as it can be from the very start, and that any apparent changes in direction thereafter are carefully explained.

The media tends to expect:

- equal access to information
- honesty in answers to their questions
- timely release of information
- rumours to be dealt with quickly, or they will continue to report the speculation
- a schedule for media availabilities and updates
- the provision of subject experts
- accuracy in the information you give them, or honesty in telling them that the information is preliminary and could change
- to be told if you do not have an answer and an explanation of what you're doing to get one
- a consistent message from all involved in the response, including public health partners

In general, the media believe the public will want:

- information on what the situation means to them and the personal impact on their life and routine
- access to more information via a helpline or other suitable means, such as a website
- information on what is being done on their behalf to manage the situation.

MEDIA SPOKESPERSON TOOLS

The role of the public health spokesperson is to communicate information that the public wants or needs to prevent and reduce illness, injury or death. The spokesperson's goal is to build and maintain trust and credibility and garner support for the public health response. PHERT spokespersons should keep in mind the following essential communication tips:

- Start with a single overarching communications outcome (SOCO).
- Get to the point, as fast as possible.
- Respect the 7 Cs of public health communications:
 1. Command attention.
 2. Clarify message.
 3. Communicate a benefit.
 4. Cater to the heart and mind.
 5. Consistency counts.
 6. Create trust.
 7. Call to action.
- Prepare a soundbite: a short, focused, clear quote that is easy to repeat and memorable when heard.

- Remember the 10 rules of dealing with the media
 1. Never, never, never lie.
 2. Never say “no comment”.
 3. There is no such thing as “off the record”.
 4. Be short, get to the point and always think of the audience.
 5. Stay calm, confident and in charge.
 6. Use simple language, avoid jargon.
 7. Be human, and smile when appropriate (Face to face communication: 55% body language; 38% voice; 7% words)
 8. It is okay to say “I don’t know, but I’ll find out”.
 9. Do not speculate.
 10. Beware of reporter’s tactics. (Always bridge back to the SOCO)

TABLE 7. REPORTERS TACTICS AND ACCEPTABLE SPOKESPERSON RESPONSES

Question type	Reporter tactic/questions	Spokesperson responses
Speculative questions	“What could happen if...?” “How do you think this happened?” “Can you offer a guess as to ...”	“I wouldn’t want to speculate on that. The facts are...” “It is important that we deal with the facts as we know them, and they are...” “It’s too early to tell. We will have a full evaluation and find out what happened.”
Hearsay questions	“A source from another organization has said ...” “Our sources tell us ...” “How do you respond to Dr. XYZ who said that ...”	“This is the information I have...” “I’d like to stick to the facts and they are...” “The facts are...” “This is what I know...” “I can’t speak for Dr. XYZ but what I can address is...”
Negative repeat questions	“Tell us about the ... that happened here today?” “Could this have been another ...?” “Why is your surveillance and response substandard?”	“The truth is...” “Let me give you the facts as I have them ...” “Once again, let me share with you exactly what happened...” <i>[Do not repeat the negative comment or word. Correct the inaccuracy.]</i>
Putting words in your mouth	“So ... is affecting public health, isn’t it?”	“Many organizations are being affected by various things, however...” <i>[Do not repeat the negative. Make the answer collective.]</i>
Presupposition questions	Reported gives completely false information to prompt a defensive response.	“Let me give you the correct information...” “Actually this is what happened...” <i>[Do not repeat the negative comment or word. Correct the inaccuracy.]</i>
False facts and incorrect information	Reporter provides incorrect information	“Perhaps I could clarify that for your (viewers, listeners, readers), [reporter’s name]. That is not true and the facts are that...” <i>[Correct graciously and go to a positive point.]</i>
Feeding the mic	When the camera stops rolling and the reporter is still recording; may be preceded by a compliment on the interview	Stay on the agenda Be aware of nonverbal cues

TABLE 8. SPOKESPERSON BRIDGING TECHNIQUES AND EXAMPLES

Technique	Explanation	Examples
Blocking	Sometimes a reporter asks you a question you do not want to answer. If it is a policy not to discuss certain issues, it is fair to say...	“It’s our policy not to discuss XYZ, but what I can tell you is...” ...and then bridge on to what you want to talk about. If you cannot answer a question, explain why.
Bridging	You will often be asked questions that do not get to the points you wish to make or that you do not wish to answer. You can use bridging to turn the question to your points.	“Let me start by...” “I would describe it differently... (the answer)... “Let me explain...” “I don’t know...I don’t have that information...What we do know is...” “That’s the way it used to be, here’s what we do now...” “Historically, that was the case. Today, here’s what we’re doing...” “I’ve heard that too. The real issue is...” “Yes... (the answer) and furthermore... and in addition to that...” “That’s interesting...The fact is (are)...” “That’s one view...research shows...” “Yes, but that speaks to a bigger point...” “I think what you are really asking is...”
Hooking	Hooking is leaving a little taste at the end of something you have said so that the reporter will want to ask you a follow-up question.	“You’d be surprised at what our research indicated...” “There are three things we’ve found that are particularly important...”
Flagging	When trying to make your key messages clear quickly in an interview, start with the conclusions and end with the explanations – “flag” or “headline” the issue. This is especially important for broadcast interviews. It helps your audience remember your message by emphasizing or prioritizing what you consider to be most important.	You can simply make your point and then explain it, or you can draw attention by saying phrases such as: “What’s important to remember is...” “The most important thing to remember...” “I’ve talked about a lot of things today. It boils down to these three points...” “I’m glad you mentioned that...because...” “What we really want to make clear is that...” “Your readers/viewers need to know...” “But what’s really important or what you should take away is...”
Enumerating points	When you have a complicated message in a broadcast interview, you can carefully extend the soundbite by enumerating your points, making it difficult for the media outlet to separate them.	“There are three things you should know: 1) ... 2) ... 3) ...”

APPENDIX 1: INTERNATIONAL HEALTH REGULATIONS (2005)

ARTICLE 6 NOTIFICATION

1. Each State Party shall assess events occurring within its territory by using the decision instrument in Annex 2. Each State Party shall notify WHO, by the most efficient means of communication available, by way of the National IHR Focal Point, and within 24 hours of assessment of public health information, of all events which may constitute a public health emergency of international concern within its territory in accordance with the decision instrument, as well as any health measure implemented in response to those events.

2. Following a notification, a State Party shall continue to communicate to WHO timely, accurate and sufficiently detailed public health information available to it on the notified event, where possible including case definitions, laboratory results, source and type of the risk, number of cases and deaths, conditions affecting the spread of the disease and the health measures employed; and report, when necessary, the difficulties faced and support needed in responding to the potential public health emergency of international concern.

ARTICLE 7 INFORMATION-SHARING DURING UNEXPECTED OR UNUSUAL PUBLIC HEALTH EVENTS

If a State Party has evidence of an unexpected or unusual public health event within its territory, irrespective of origin or source, which may constitute a public health emergency of international concern, it shall provide to WHO all relevant public health information. In such a case, the provisions of Article 6 shall apply in full.

ARTICLE 8 CONSULTATION

In the case of events occurring within its territory not requiring notification as provided in Article 6, in particular those events for which there is insufficient information available to complete the decision instrument, a State Party may nevertheless keep WHO advised thereof through the National IHR Focal Point and consult with WHO on appropriate health measures. The State Party in whose territory the event has occurred may request WHO assistance to assess any epidemiological evidence obtained by that State Party.

ANNEX 1

A. CORE CAPACITY REQUIREMENTS FOR SURVEILLANCE AND RESPONSE

At the local community level and/or primary public health response level

The capacities:

- (a) to detect events involving disease or death above expected levels for the particular time and place in all areas within the territory of the State Party; and
- (b) to report all available essential information immediately to the appropriate level of healthcare response. At the community level, reporting shall be to local community health-care institutions or the appropriate health personnel. At the primary public health response level, reporting shall be to the intermediate or national response level, depending on organizational structures. For the purposes of this Annex, essential information includes the following: clinical descriptions, laboratory results, sources and type of risk, numbers of human cases and deaths, conditions affecting the spread of the disease and the health measures employed; and
- (c) to implement preliminary control measures immediately.

At the intermediate public health response levels

The capacities:

- (a) to confirm the status of reported events and to support or implement additional control measures; and
- (b) to assess reported events immediately and, if found urgent, to report all essential information to the national level. For the purposes of this Annex, the criteria for urgent events include serious public health impact and/or unusual or unexpected nature with high potential for spread.

At the national level

Assessment and notification.

The capacities:

- (a) to assess all reports of urgent events within 48 hours; and
- (b) to notify WHO immediately through the National IHR Focal Point when the assessment indicates the event is notifiable pursuant to paragraph 1 of Article 6 and Annex 2 and to inform WHO as required pursuant to Article 7 and paragraph 2 of Article 9.

Public health response.

The capacities:

- (a) to determine rapidly the control measures required to prevent domestic and international spread;
- (b) to provide support through specialized staff, laboratory analysis of samples (domestically or through collaborating centres) and logistical assistance (e.g. equipment, supplies and transport);
- (c) to provide on-site assistance as required to supplement local investigations;
- (d) to provide a direct operational link with senior health and other officials to approve rapidly and implement containment and control measures;
- (e) to provide direct liaison with other relevant government ministries;
- (f) to provide, by the most efficient means of communication available, links with hospitals, clinics, airports, ports, ground crossings, laboratories and other key operational areas for the dissemination of information and recommendations received from WHO regarding events in the State Party's own territory and in the territories of other States Parties;

- (g) to establish, operate and maintain a national public health emergency response plan, including the creation of multidisciplinary/multisectoral teams to respond to events that may constitute a public health emergency of international concern; and
- (h) to provide the foregoing on a 24-hour basis.

B. CORE CAPACITY REQUIREMENTS FOR DESIGNATED AIRPORTS, PORTS AND GROUND CROSSINGS

At all times

The capacities:

- (a) to provide access to (i) an appropriate medical service including diagnostic facilities located so as to allow the prompt assessment and care of ill travellers, and (ii) adequate staff, equipment and premises;
- (b) to provide access to equipment and personnel for the transport of ill travellers to an appropriate medical facility;
- (c) to provide trained personnel for the inspection of conveyances;
- (d) to ensure a safe environment for travellers using point of entry facilities, including potable water supplies, eating establishments, flight catering facilities, public washrooms, appropriate solid and liquid waste disposal services and other potential risk areas, by conducting inspection programmes, as appropriate; and
- (e) to provide as far as practicable a programme and trained personnel for the control of vectors and reservoirs in and near points of entry.

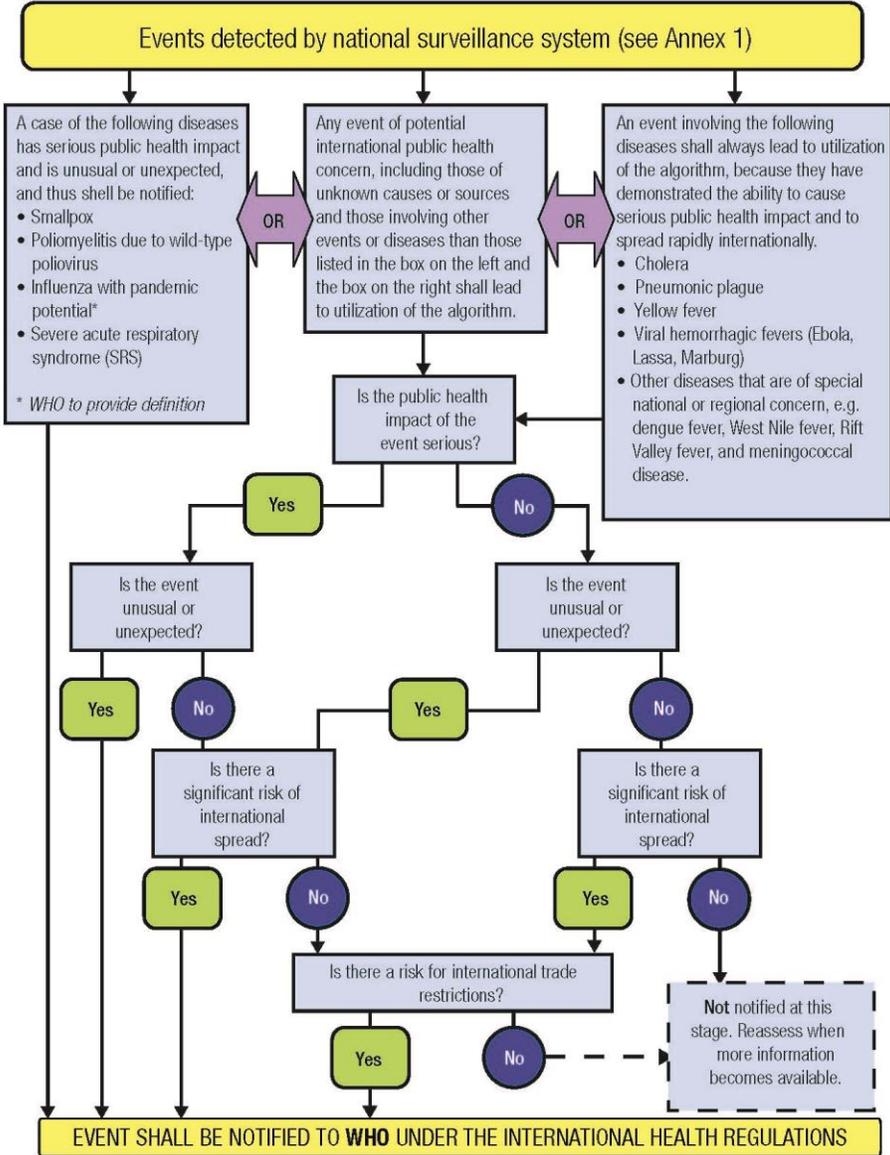
For responding to events that may constitute a public health emergency of international concern

The capacities:

- (a) to provide appropriate public health emergency response by establishing and maintaining a public health emergency contingency plan, including the nomination of a coordinator and contact points for relevant point of entry, public health and other agencies and services;
- (b) to provide assessment of and care for affected travellers or animals by establishing arrangements with local medical and veterinary facilities for their isolation, treatment and other support services that may be required;
- (c) to provide appropriate space, separate from other travellers, to interview suspect or affected persons;
- (d) to provide for the assessment and, if required, quarantine of suspect travellers, preferably in facilities away from the point of entry;
- (e) to apply recommended measures to disinsect, derat, disinfect, decontaminate or otherwise treat baggage, cargo, containers, conveyances, goods or postal parcels including, when appropriate, at locations specially designated and equipped for this purpose;
- (f) to apply entry or exit controls for arriving and departing travellers; and
- (g) to provide access to specially designated equipment, and to trained personnel with appropriate personal protection, for the transfer of travellers who may carry infection or contamination.

ANNEX 2

Decision Instrument for the Assessment and Notification of Events that may constitute a Public Health Emergency of International Concern



APPENDIX 2: PROCEDURES FOR PUBLIC HEALTH EMERGENCIES AND DISASTERS

GENERAL PUBLIC HEALTH EMERGENCIES

Once a Public Health Emergency is declared all Department of Health staff will be placed on call. PHERT members will assume their designated responsibilities. Clinical functions and health services will continue as determined by the Director of Health, however, Department of Health staff must be prepared to provide their best care possible given any limited resources and adverse conditions under which they may be working.

In the event that the Bermuda Hospitals Board (BHB) implements its disaster plan, clinic functions will continue as determined by the Director of Health or designate. Public health resources may be called upon to support the efforts of the hospital and to protect the health of the public. The Disaster Call Out procedures will then be followed as required, understanding that Department of Health staff who are also members of PHERT will be notified first.

In consultation with BHB, the CMO will designate emergency and ambulatory care facilities in the community, ensure that medical services are provided to the public: on site, in the hospital and in the community as necessary, and coordinate the assignment of private physicians, hospital based physicians, Medical Officers and other health care providers as necessary. Responsibility for disaster casualty clearance and treatment will be delegated to BHB.

BHB will notify the CMO if the resources of the hospital are likely to be overwhelmed by the volume of casualties or the nature of the emergency. The CMO and Director of Health will work with BHB and other relevant agencies to identify needs and determine how to obtain the required resources.

The CMO and Director of Health will declare the formal closure of any public health emergency.

EMERGENCY PROCEDURES: OTHER DISASTERS AND HURRICANES

The Emergency Measures Organization will notify the Chief Medical Officer of any pending disaster or emergency. The Chief Medical Officer will inform the Director of Health. The Director of Health will place all Department of Health staff on call. Clinical functions and health services will continue as determined by the Director of Health, however, Department of Health staff must be prepared to provide their best care possible given any limited resources and adverse conditions under which they may be working.

The Director of Health will immediately and in the following order cause to be notified:

- Chief Nursing Officer
- Senior Medical Officer
- Medical Officers
- Nursing Coordinators
- Stores Officer
- Nurse Epidemiologist
- Chief Environmental Health Officer
- Senior Environmental Health Officer
- Health and Safety Inspector

The Chief Nursing Officer will assess the basic medical equipment and supplies of the Department of Health clinic facilities. All vaccines in outer clinics are to be returned to the Hamilton Health Centre for storage.

Emergency boxes should be fully stocked in all clinics. The Shelter Disaster Box should also be prepared. Community Health Nurses should be prepared to relocate to ensure continuity of services in the various clinic locations. All Government vehicles and Government-issued mobile phones should be fully charged. All sensitive electronic devices such as computers, printers, copiers, scanners, etc. should be unplugged and covered.

Shelter resource persons should be aware of their roles and responsibilities pre-event, during the event, and post-event. Shelter resource persons should secure their homes, made arrangement for their family, and packed their personal items prior to attending to the shelter.

Following the hurricane or other disaster, and once an “all-clear” has been given, all designated staff must report to the pre-determined relocation site for a situational assessment. A Post-Disaster meeting will be convened with lead persons to address:

- Health Centre Facility Assessment
- Status of Shelters
- Population Health/Enhanced Surveillance
- Staff availability
- Plans for follow-up and return to normal functioning

EMERGENCY PROCEDURES: BIOTERRORISM

Police Operations will notify the Chief Medical Officer of emergency situations involving biological or chemical agents or that suggest the possibility of bioterrorism. Immediately on being informed of an emergency situation the Chief Medical Officer will notify the core members of the Public Health Emergency Response Team (Dir. of Health, SMO, CNO, CEHO, NE, and AO) and the Senior Public Health Analyst. In addition, the Chief Medical Officer will notify the Permanent Secretary, the Chief of Staff of the Bermuda Hospitals Board and the Director of Emergency Services of the incident.

An official of the appropriate emergency service will be designated as the incident commander and will control and direct response efforts on site during the emergency. The Chief Medical Officer (or designate) will serve as the Public Health Manager (PHM) for the emergency situation. The PHM directs and coordinates all public health action and activities on site.

The Public Health Manager will complete a preliminary assessment of the situation and determine the nature of the incident and the threat to public health and potential consequences of the incident. In addition, the manager will determine the need for:

- Further on-site assessment
- On-site consultation and advice to the emergency services
- Control and preventive measures
- Monitoring and follow-up of affected persons and emergency responders.

A Rapid Response Team (RRT) will be deployed to the site under the direction of the C. The team will include the Nurse Epidemiologist, a Public Health Analyst and an Environmental Health Officer. All other PHERT members will perform their respective responsibilities as during other public health emergencies.

The RRT will assist where appropriate with:

- Defining an exposed zone and a safety zone
- Sample collection
- Laboratory diagnosis

- Handling of exposed persons

The RRT will assume responsibility for:

- Case finding
- Preventing secondary spread
- Epidemiological sampling
- Post-exposure prophylaxis
- Follow up of exposed persons

Where appropriate the Assessment Officer will notify the public through the Public Affairs Officer of the emergency situation and advise of any necessary preventive and/or protective measures.

EMERGENCY PROCEDURES: SUSPICIOUS LETTERS/PACKAGES

Police Operations will notify the Chief Medical Officer of situations involving suspicious letters or packages. Immediately on being informed of an emergency situation the Chief Medical Officer will notify the core members of the Public Health Emergency Response Team (Dir. of Health, SMO, CNO, CEHO, NE, and AO) and the Senior Public Health Analyst. In addition, the Chief Medical Officer will notify the Permanent Secretary, the Chief of Staff of the Bermuda Hospitals Board and the Director of Emergency Services of the incident.

An official of the appropriate emergency service will be designated as the incident commander and will control and direct response efforts on site during the emergency. The Chief Medical Officer (or designate) will serve as the Public Health Manager (PHM) for the emergency situation. The PHM directs and coordinates all public health action and activities on site.

The Public Health Manager will complete a preliminary assessment of the situation and determine the nature of the incident and the threat to public health and potential consequences of the incident. In addition, the manager will determine the need for:

- Further on-site assessment
- On-site consultation and advice to the emergency services
- Control and preventive measures
- Monitoring and follow-up of affected persons and emergency responders.

A Rapid Response Team (RRT) will be deployed to the site under the direction of the Public Health Manager. The team will include the Nurse Epidemiologist, a Public Health Analyst and an Environmental Health Officer. All other PHERT members will perform their respective responsibilities as during other public health emergencies.

The RRT will assist where appropriate with:

- Defining an exposed zone and a safety zone
- Sample Collection
- Laboratory Diagnosis
- Handling of Exposed Persons

The RRT will assume responsibility for:

- Case Finding
- Preventing Secondary Spread
- Epidemiological Sampling
- Post-exposure Prophylaxis
- Follow up of Exposed Persons

The RRT will conduct an investigation ensuring to:

- Record the name and contact details of the person/s who received the letter or package.
- Determine the reasons why the package was considered to be suspicious.
- Determine whether the letter was received opened or sealed.
- Determine whether the letter was opened on site.
- Determine the number of people who were exposed.
- Record the names and contact details of those persons who were exposed.

Persons possibly exposed at the site should be removed from the exposed zone to a safety zone and decontaminated where appropriate. The exposed zone will be defined according to the time and place of release. The RRT will advise on the decontamination of exposed persons. Decontamination may include:

- Removal of contaminated clothing and possessions (clothing should be stored in sealed, labelled double plastic bags until exposure to anthrax has been ruled out).
- Instructing exposed persons to shower thoroughly with soap and water.

In addition, all exposed persons should be provided with information on anthrax and post-exposure prophylaxis, as well as monitoring and follow-up procedures.

Emergency Services will collect suspicious letters and packages as required. Public health will provide advice on the collection, handling and transport of samples. Emergency Services will transport the samples to the designated laboratory utilising established procedures. Samples should be placed in three plastic bags; each bag should be sealed, using tape or a heat sealer. The bags should be placed in a leak proof second container. The secondary container should be externally disinfected with 10% hypochlorite.

The laboratory will be informed prior to collection of the planned arrival of the letter or samples taken from the environment. All letters and packages should be opened as soon as possible and within 24 hours after receipt in the laboratory. The laboratory will test the letter or samples and complete appropriate laboratory isolation and identification tests.

The laboratory will notify the PHM of the test results. The PHM will then cause the following persons to be advised of the results:

- The Chief Fire Officer
- The Commissioner of Police
- Affected persons (including all exposed persons)

Where appropriate the Assessment Officer will notify the public through the Public Affairs Officer of the emergency situation and advise of any necessary preventive and/or protective measures.

APPENDIX 3: RESPONSIBILITIES OF PHERT CORE* AND ADDITIONAL MEMBERS

Job Title	Responsibility
Permanent Secretary (PS)	Liaison between PHERT and Minister of Health and Seniors
Chief Medical Officer (CMO)*	<p>Direct and coordinate all public health action and activities</p> <p>Inform the appropriate agencies and other external partners</p> <p>Ensure that the International Health Regulations are used as appropriate to assess the situation (Appendix 4)</p> <p>Communicate with IHR UK Focal Point as required</p>
Director of Health (DoH)*	Ensuring and obtaining the necessary infrastructures and resources are available to adequately support investigations (human, monetary, supply, etc.)
Senior Medical Officer (SMO)*	<p>Provide and disseminate case management guidelines</p> <p>Reallocate and mobilize resources as required</p>
Chief Nursing Officer (CNO)*	Assign and manage staff involved
Chief Environmental Health Officer (CEHO)*	<p>Assign and manage staff involved</p> <p>Coordinate any necessary inspections</p>

Job Title	Responsibility
Nurse Epidemiologist (NE)*	<p>Lead the investigation, under the direction of the Chief Medical Officer, and with support from Department of Health Public and Community Health Nurses and Environmental Health Officers</p> <p>Provide support and recommendations, as required, to PHERT.</p> <p>Assist with the development of consistent, key national educational information and guidelines for public health measures.</p> <p>Act as a liaison to other applicable agencies, as designated by Chief Medical Officer.</p> <p>Development and/or acquisition of an information management tool if required</p>
Assessment Officer (AO)*	<p>Provide summary of the descriptive epidemiology of the situation including regular and timely analysis of the data</p> <p>Interpretation of the data to determine interventions</p> <p>Track status of the situation reports (initial, update and final reports)</p> <p>Receive all final reports including evaluations and ensure they are reviewed and acted upon by the Ministry of Health, Seniors and Environment.</p> <p>Provide operational support, information exchange, and coordination as required</p>

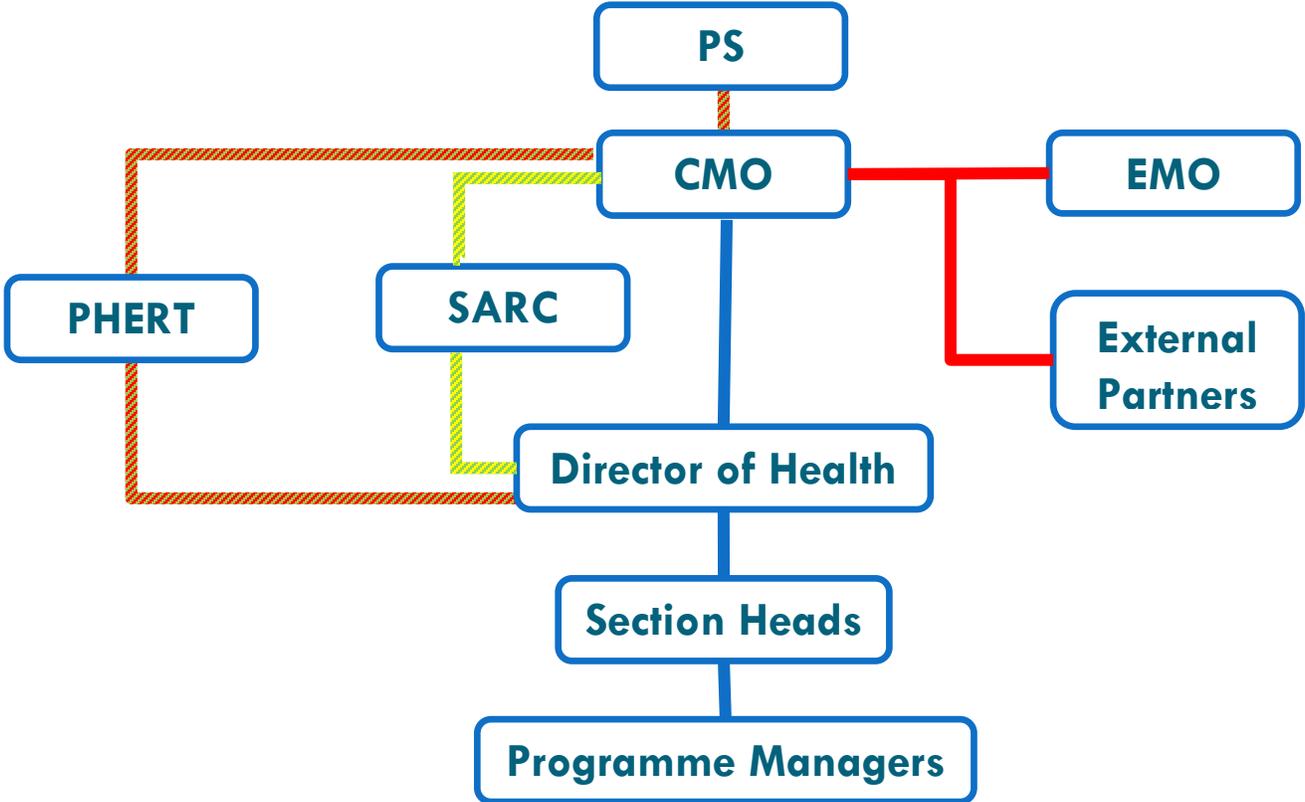
Job Title	Responsibility
Senior Public Health Analyst (Central Government Laboratory)	<p>Providing input into testing recommendations</p> <p>Completing laboratory testing (in consultation and discussion with the physicians as required)</p> <p>Notifying immediately by telephone (with follow-up in writing), all positive lab results related to the emergency situation</p> <p>Reporting negative lab results related to the emergency situation</p>
Clinical Laboratory Supervisor	<p>Making early decisions regarding saving of specimens and/or isolates</p> <p>Working with investigators to link cases</p> <p>Reviewing case findings with PHERT and recommending further testing</p> <p>Acting as a liaison with other laboratories involved with testing (e.g., CARPHA, reference laboratories, etc.)</p> <p>Coordinating the sharing of surveillance- related testing as required</p>
Environmental Health Officer (Vector Control and Port Health)	<p>Ensure that essential materials for disinfection, decontamination and vector control are available at relevant sites</p> <p>Assign and manage staff involved</p>
Veterinary Officer (Department of Environmental Protection)	<p>Provide support and recommendations related to animal health, as required, to PHERT.</p>
Hospital Infectious Disease and Epidemiology (BHB)	<p>Liaison between BHB Infection Control and PHERT</p> <p>Provide support and recommendations, as required, to PHERT.</p> <p>Assist with the development of consistent, key national educational information and guidelines for public health measures.</p>
Manager, Expanded Programme on Immunizations	<p>Provide support and recommendations related to immunizations and vaccine-preventable diseases, as required, to PHERT.</p>

Job Title	Responsibility
Health Promotion Coordinator (HPC)	Provide communication support for initiatives to manage the public health event including media and news releases, issue management, print materials, and others as required.
Public Affairs Officer	Providing regular updates to media and district/ministerial officials Arranging and managing press conferences and interviews
Surveillance Officer (Administrative Support)	Organize and arrange meetings as required. Ensure that minutes are recorded for all meetings. Store records of minutes, details of the public health event, and other information in a secure location. Disseminate information to PHERT members, partners, and others as required

APPENDIX 4: COMMUNICATION PROTOCOL BY ALERT LEVEL

Key

- Communication at all Alert Levels
 - Communication at Alert Levels Low and Guarded
 - Communication at Alert Levels Elevated and High
 - Communication at Alert Level High
- | | |
|-------|--|
| CMO | Chief Medical Officer |
| EMO | Emergency Measures Organization |
| PHERT | Public Health Emergency Response Team |
| PS | Permanent Secretary |
| SARC | Surveillance Assessment and Response Committee |



APPENDIX 5: PUBLIC HEALTH EMERGENCY OPERATIONS PLANS

This section to be completed by Section/Program.