NATIONAL HEALTH MULTIHAZARD PLAN
SAINT VINCENT AND THE GRENADINES

HEALTH EMERGENCY AND DISASTER MANAGEMENT UNIT
HEDMU
NATIONAL HEALTH MULTIHAZARD PLAN

SAINT VINCENT AND THE GRENADINES

October 2019
Table of Contents

ACKNOWLEDGEMENTS .................................................................................................................. 7
DOCUMENT HISTORY .................................................................................................................... 8
SIGNATURE SHEET .......................................................................................................................... 9
GLOSSARY .................................................................................................................................... 10
MESSAGE FROM HEALTH EXECUTIVE ....................................................................................... 12
MAP OF SAINT VINCENT AND THE GRENADINES ....................................................................... 13
1 INTRODUCTION .......................................................................................................................... 14
  1.1 Brief Background on St. Vincent and the Grenadines ................................................................. 14
    1.1.1 GENERAL CONTEXT ........................................................................................................... 14
    1.1.2 Demography ........................................................................................................................ 15
  1.2 Impact of Climate Change on Health ......................................................................................... 16
2 HEALTH DISASTER MANAGEMENT PROGRAMME .................................................................... 20
3 HEALTH EMERGENCY AND DISASTER MANAGEMENT PLAN PURPOSE AND OBJECTIVES .... 22
  3.1 Purpose ..................................................................................................................................... 22
  3.2 Objectives .................................................................................................................................. 22
  3.3 Scope of the plan .......................................................................................................................... 22
  3.4 The legal framework .................................................................................................................... 23
4 THE NATIONAL CONTEXT .......................................................................................................... 24
  4.1 Health Care Services .................................................................................................................. 24
  4.2 Overview of the National Emergency Management Organization .......................................... 25
    4.2.1 Role of NEMO ....................................................................................................................... 25
  4.3 The National Disaster Management System (NDMS) ................................................................. 26
    4.3.1 The National Emergency Council ....................................................................................... 26
  4.4 Definition of a Disaster ............................................................................................................... 30
  4.5 Levels of Emergencies and Disaster ............................................................................................ 30
  4.6 Structure of the Ministry of Health Emergency and Disaster Management System .................. 31
    4.6.1 Health Services Sub Committee (National) .......................................................................... 32
    4.6.2 Ministry of Health Wellness and Environment Disaster Management Committee ............. 32
  4.7 POST-DISASTER RESPONSE PLAN ....................................................................................... 36
    4.7.1 The Chief Medical Officer: .................................................................................................. 36

October 2019
Contents

4.7.2 The Health Emergency Operations Centre: ................................................................. 36
5 RISK ASSESSMENT ........................................................................................................... 38
  5.1 Qualitative Risk Assessment ....................................................................................... 39
6 ROLES AND RESPONSIBILITIES .................................................................................... 49
  6.1 Role of NEMO ............................................................................................................ 49
  6.2 THE MINISTRY OF HEALTH WELLNESS AND THE ENVIRONMENT ...................... 50
  6.3 THE HEALTH EMERGENCY OPERATION CENTER ..................................................... 51
  6.4 COMMUNITY HEALTH SERVICES ............................................................................. 52
  6.5 NATIONAL SURVEILLANCE COMMITTEE ................................................................. 54
  6.6 HEALTH PROMOTION ............................................................................................... 55
  6.7 NATIONAL MEDICAL LABORATORY .......................................................................... 56
  6.8 HOSPITAL SERVICES ................................................................................................. 57
  6.9 ENVIRONMENTAL HEALTH SERVICES .................................................................... 58
  6.10 NUTRITION UNIT AND NUTRITION SUPPORT PROGRAMME ............................... 59
  6.11 PHARMACEUTICAL SERVICES AND CENTRAL MEDICAL STORES ....................... 60
  6.12 ANIMAL HEALTH AND PRODUCTION DIVISION .................................................. 61
  6.13 MENTAL HEALTH SERVICES .................................................................................. 62
  6.14 GERIARIC CARE SERVICES .................................................................................... 63
  6.15 RADIOLOGY DEPARTMENT ..................................................................................... 64
  6.16 ROYAL ST. VINCENT AND THE GRENADINES POLICE FORCE ............................. 65
  6.17 MEDICAL SCHOOLS ............................................................................................... 66
  6.18 HEALTH EMERGENCY AND DISASTER MANAGEMENT UNIT ............................... 68
7 THE RESPONSE MECHANISM ....................................................................................... 70
8 COORDINATING MECHANISM ..................................................................................... 74
9 EMERGENCY TELECOMMUNICATION ......................................................................... 77
10 CONCEPT OF OPERATION .............................................................................................. 78
  10.1 Emergency Operations .............................................................................................. 78
  10.2 Activation .................................................................................................................. 78
  10.3 Organization for Operations ....................................................................................... 79
  10.4 Emergency Operations Centre at Ministry of Health ................................................ 79
    10.4.1 Purpose ................................................................................................................ 80
    10.4.2 Functions .............................................................................................................. 80
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.4.3</td>
<td>Structure</td>
<td>80</td>
</tr>
<tr>
<td>10.4.4</td>
<td>Operations</td>
<td>81</td>
</tr>
<tr>
<td>10.4.5</td>
<td>Composition</td>
<td>81</td>
</tr>
<tr>
<td>10.4.6</td>
<td>Alternate Command Centre</td>
<td>81</td>
</tr>
<tr>
<td>11</td>
<td>MEDIA STRATEGY</td>
<td>84</td>
</tr>
<tr>
<td>12</td>
<td>RESOURCE MOBILISATION</td>
<td>85</td>
</tr>
<tr>
<td>12.1</td>
<td>Staff Welfare</td>
<td>85</td>
</tr>
<tr>
<td>13</td>
<td>NEEDS ASSESSMENT</td>
<td>87</td>
</tr>
<tr>
<td>14</td>
<td>ACTION PLAN</td>
<td>88</td>
</tr>
<tr>
<td>15</td>
<td>STAND DOWN OPERATIONS</td>
<td>89</td>
</tr>
<tr>
<td>16</td>
<td>EXTERNAL ASSISTANCE, BILATERAL ARRANGEMENTS AND MOUs</td>
<td>90</td>
</tr>
<tr>
<td>1</td>
<td>LIST OF ANNEXES</td>
<td>91</td>
</tr>
<tr>
<td>1.1</td>
<td>Specific Ministry of Health Function, plans to be Upgraded and used following a disaster</td>
<td>91</td>
</tr>
<tr>
<td>1.1.1</td>
<td>Rapid Assessment and Needs Analysis</td>
<td>91</td>
</tr>
<tr>
<td>1.1.2</td>
<td>Mass Casualty Management</td>
<td>91</td>
</tr>
<tr>
<td>1.1.3</td>
<td>Epidemiological Surveillance</td>
<td>91</td>
</tr>
<tr>
<td>1.1.4</td>
<td>Food safety</td>
<td>91</td>
</tr>
<tr>
<td>1.1.5</td>
<td>Water sanitation</td>
<td>91</td>
</tr>
<tr>
<td>1.1.6</td>
<td>Solid Waste Management</td>
<td>91</td>
</tr>
<tr>
<td>1.1.7</td>
<td>Stress Management</td>
<td>91</td>
</tr>
<tr>
<td>1.1.8</td>
<td>Vector Control</td>
<td>91</td>
</tr>
<tr>
<td>1.1.9</td>
<td>Port Health</td>
<td>91</td>
</tr>
<tr>
<td>1.1.10</td>
<td>Public Information</td>
<td>91</td>
</tr>
<tr>
<td>1.1.11</td>
<td>Electrical Power Loss</td>
<td>92</td>
</tr>
<tr>
<td>1.1.12</td>
<td>Communications Loss</td>
<td>93</td>
</tr>
<tr>
<td>2</td>
<td>Hazard Specific Plans</td>
<td>94</td>
</tr>
<tr>
<td>2.1.1</td>
<td>Natural Hazards</td>
<td>94</td>
</tr>
<tr>
<td>2.1.2</td>
<td>Floods</td>
<td>95</td>
</tr>
<tr>
<td>2.1.3</td>
<td>Earthquakes</td>
<td>96</td>
</tr>
<tr>
<td>2.1.4</td>
<td>Hurricanes</td>
<td>97</td>
</tr>
<tr>
<td>2.1.5</td>
<td>Volcano</td>
<td>101</td>
</tr>
<tr>
<td>2.1.6</td>
<td>Fire</td>
<td>102</td>
</tr>
</tbody>
</table>
2.1.7 Tsunami

2.1.8 Droughts and Heat Waves

3 Health threats

3.1.1 Influenza Pandemic

**General infection control procedures**

RECOMMENDATIONS FOR AMBULATORY CARE SETTINGS:

3.1.2 Staff Medical Emergencies

4 Man-made hazards

4.1.1 Bio Terrorism

4.1.2 Accidents (road, air, sea and rail)

4.1.3 Bombings

4.1.4 CBRNE

4.1.5 Hazardous Material

4.1.6 Dangerous or Threatening Situation

5 Developing a Plan

6 **APPENDIX A: LIST OF COMMITTEE MEMBERS AND THEIR CONTACT NUMBERS**

7 **APPENDIX B: ACTION CARDS**

7.1 MINISTER OF HEALTH, WELLNESS AND THE ENVIRONMENT

7.2 PERMANENT SECRETARY

7.3 CHIEF MEDICAL OFFICER

7.4 HEALTH DISASTER COORDINATOR

7.5 MEDICAL OFFICER OF HEALTH

7.6 HEALTH PLANNER

7.7 ADMINISTRATIVE OFFICER

7.8 MANAGER, CENTRAL MANAGEMENT STORES

7.9 CHIEF HEALTH PROMOTION OFFICER

7.10 SENIOR ASSISTANT SECRETARY – HUMAN RESOURCES FOR HEALTH

7.11 SENIOR ASSISTANT SECRETARY - ACCOUNTS

7.12 SENIOR DIETITIAN/NUTRITIONIST

7.13 HOSPITAL ADMINISTRATOR

7.14 DEPUTY HOSPITAL ADMINISTRATOR

7.15 SENIOR NURSING OFFICER – HOSPITAL SERVICES

October 2019
7.16  REGISTRAR OF ACCIDENT AND EMERGENCY DEPARTMENT ............................................. 138
7.17  EPIDEMIOLOGIST ........................................................................................................... 139
7.18  CHIEF ENVIRONMENTAL HEALTH OFFICER ................................................................. 140
7.19  CHIEF NURSING OFFICER .............................................................................................. 142
7.20  SENIOR NURSING OFFICER - COMMUNITY NURSING SERVICE ............................. 143
7.21  COMMUNICATION OFFICER .......................................................................................... 144
7.22  CHIEF PHARMACIST ...................................................................................................... 145
7.23  MEDICAL SCHOOL REPRESENTATIVE .......................................................................... 146
7.24  MEDICAL DIRECTOR ..................................................................................................... 147
7.25  DIRECTOR OF OPERATIONS (HEOC) .......................................................................... 148
7.26  SENIOR DIETITIAN/NUTRITIONIST .............................................................................. 149
7.27  TRANSPORT SUPERVISOR .............................................................................................. 150

8  APPENDIX C: SAMPLE SITUATION REPORT FORM (SITREP) ............................................. 151
9  APPENDIX D: EMERGENCY MESSAGE FORM ..................................................................... 153
10 APPENDIX E: Results of Tool used in Risk Assessment ...................................................... 154

1  APPENDIX E......................................................................................................................... 154

11 APPENDIX F: Hospital Capacity .......................................................................................... 162
12 APPENDIX G  Responsibility Matrix .................................................................................... 165
13 Kingstown General Hospital Disaster Plan................................................................. Error! Bookmark not defined.
ACKNOWLEDGEMENTS

The Ministry of Health, Wellness and the Environment Executive Management team acknowledges the immense contributions of all who in diverse ways contributed to the successful revision of this National Emergency and Disaster Management Plan. The plan has been completely revised and updated in content and lay out. Additionally, the plan is now an interactive document with links to sub plans and annexes.

This significant upgrade could not have happened without the hard work and dedication of the staff of the HDEMU and the leadership of the Health Disaster Coordinator, Mrs. Donna Joyette- Bascombe. The contributions and support of the various stakeholders within the MOHWE, NEMO, SVGRCS, TUSOM, SVGPF, other government agencies, nongovernmental organizations and individuals have been invaluable.

The significant support provided by the PAHO throughout the process has been tremendous. The provision of continued expert technical assistance in the persons of Dr. Dana Van Aphen, Dr. Miriam DuCasse and Dr. Elizabeth Ferdinand has been key to producing what is undeniably a practical and appropriate framework document that will serve to reduce the risk of disasters in the health sector of St. Vincent and the Grenadines and guide the MOHWE.

The following persons would have in one way or the other offer significant support to the development of this plan;

- Dr. Simone Keizer Beache
- Mrs. Donna Joyette-Bascombe
- Mr. Deroy Ferdinand
- Mr. Andrew Williams
- Dr. Frances Jack
- Dr. Charles Wood
- Dr. Lennox Adams
- Sr. Cecile James Samuel
- Mr. Carlos Wilson
- Mr. Levi Walker
- ACP Richard Browne
- Mr. Elliot Samuel
- Ms. Tamara Bobb
- Sr. Peggy DaSilva
- Ms. Rachel Williams

- Mr. Cuthbert Knights
- Ms. Idinger Miller
- Ms. Whilma Ryan
- Ms. Sally Ann Hinds
- Dr. Naaje Peters
- Sr. Viola Richardson
- Sr. Elizabeth Medford
- Mr. Danville Toney
- INS Curtis Clarke
- Dr. Franklyn James
- Mr. Neri James
- Dr. Charmaine Bailey Rogers
- Ms. Michelle Forbes
- Ms. Nathifa Nimblett

October 2019
<table>
<thead>
<tr>
<th>PLAN DEVELOPMENT</th>
<th>DATE</th>
<th>VERSION NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Draft</td>
<td>June 2011</td>
<td>Version No. 1</td>
</tr>
<tr>
<td>Update</td>
<td>February 2012</td>
<td>Version No. 2</td>
</tr>
<tr>
<td>Update</td>
<td>June 2015</td>
<td>Version No. 3</td>
</tr>
<tr>
<td>Update</td>
<td>2017</td>
<td>Version No. 4</td>
</tr>
<tr>
<td>Update</td>
<td>October 2019</td>
<td>Version No. 5</td>
</tr>
</tbody>
</table>
SIGNATURE SHEET

Minister of Health

Permanent Secretary

Chief Medical Officer

Health Disaster Coordinator

Director

National Emergency Management Organization
**GLOSSARY**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>API</td>
<td>Agency for Public Information</td>
</tr>
<tr>
<td>CC</td>
<td>Climate Change</td>
</tr>
<tr>
<td>CDM</td>
<td>Comprehensive Disaster Management</td>
</tr>
<tr>
<td>CICOM</td>
<td>The EMT Medical Information and Coordination Cell</td>
</tr>
<tr>
<td>CMO</td>
<td>Chief Medical Officer</td>
</tr>
<tr>
<td>CWSA</td>
<td>Central Water and Sewage Authority</td>
</tr>
<tr>
<td>DEO</td>
<td>Director of Emergency Operations</td>
</tr>
<tr>
<td>DMO</td>
<td>District Medical Officer</td>
</tr>
<tr>
<td>ECAT</td>
<td>Emergency Care and Treatment</td>
</tr>
<tr>
<td>EMT</td>
<td>Emergency Medical Team</td>
</tr>
<tr>
<td>EOC</td>
<td>Emergency Operations Centre</td>
</tr>
<tr>
<td>HDC</td>
<td>Health Disaster Coordinator</td>
</tr>
<tr>
<td>HEDMU</td>
<td>Health Emergency and Disaster Management Unit</td>
</tr>
<tr>
<td>HEOC</td>
<td>Health Emergency Operations Centre</td>
</tr>
<tr>
<td>HSSC</td>
<td>Health Services Sub-Committee</td>
</tr>
<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
</tr>
<tr>
<td>ICC</td>
<td>Incident Command Centre</td>
</tr>
<tr>
<td>ICS</td>
<td>Incident Command System</td>
</tr>
<tr>
<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
</tr>
<tr>
<td>MCI</td>
<td>Mass Casualty Incident</td>
</tr>
<tr>
<td>MCM</td>
<td>Mass Casualty Management</td>
</tr>
<tr>
<td>MCMH</td>
<td>Milton Cato Memorial Hospital</td>
</tr>
<tr>
<td>MISP</td>
<td>Minimum Initial Service Package</td>
</tr>
<tr>
<td>MMDC</td>
<td>Modern Medical and Diagnostic Centre</td>
</tr>
<tr>
<td>MOH</td>
<td>Medical Officer of Health</td>
</tr>
<tr>
<td>MOHWE</td>
<td>Ministry of Health Wellness and the Environment</td>
</tr>
<tr>
<td>NEMO</td>
<td>National Emergency Management Organization</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>NEOC</td>
<td>National Emergency Operations Centre</td>
</tr>
<tr>
<td>NHMP</td>
<td>National Health Multihazard Plan</td>
</tr>
<tr>
<td>PAHO</td>
<td>Pan American Health Organization</td>
</tr>
<tr>
<td>PS</td>
<td>Permanent Secretary</td>
</tr>
<tr>
<td>RN</td>
<td>Registered Nurse</td>
</tr>
<tr>
<td>SITREP</td>
<td>Situation Report</td>
</tr>
<tr>
<td>SOP</td>
<td>Standard Operating Procedures</td>
</tr>
<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
</tr>
<tr>
<td>VINLEC</td>
<td>St. Vincent Electricity Services Limited</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
MESSAGE FROM HEALTH EXECUTIVE
MAP OF SAINT VINCENT AND THE GRENADINES

Ministry of Health Wellness and the Environment
St. Vincent and the Grenadines
National Health Multihazard Plan

October 2019
1 INTRODUCTION

As part of the overall disaster risk reduction and response programme for the Ministry of Health, the Health Disaster Operational Plan has been revised and the following areas have been outlined:

- Command and Coordination
- The roles and functions of the Districts services, MOHWE General Administration, Vertical Services, etc.
- Execution and activation
- Communications
- Alert and warnings
- Triggering mechanisms
- The HEOC, HSEOC, DEOC, NEOC
- Information flow in an emergency
- Media strategy
- Others

1.1 Brief Background on St. Vincent and the Grenadines

1.1.1 GENERAL CONTEXT

St. Vincent and the Grenadines is a multi-island state in the Eastern Caribbean situated at approximately 13º 15’ N and 61º 12’ W. The country is divided into six parishes, including a single parish for all the Grenadine islands. The country extends for 389 km2 with St. Vincent, the largest island, being 344 km2 long. St. Vincent is a volcanic island, mountainous and rugged, with numerous rivers flowing in deep, narrow valleys over short distances to the sea. The highest peak, Mount La Soufrière standing at 4049 ft. (1,234 m) in the northern part of the island, is associated with a stratovolcano, the La Soufrière volcano.

The Grenadine islands extend south for forty-five (45) miles and include eight (8) inhabited islands, Bequia, Canouan, Mayreau, Union Island, Mustique, Palm Island, Young Island and Petit St. Vincent. There are
airport facilities on St. Vincent, Bequia, Mustique, Canouan and Union Island. All other islands are linked by sea transport.

St. Vincent and the Grenadines has a tropical marine climate, being affected by the prevailing Northeast Trade winds throughout the year. Annual temperatures range from 18°C to 33°C. The dry season is from January to May and the wet season from June to December. St. Vincent and the Grenadines is affected by weather associated with the passage of the Inter Tropical Convergence Zone (ITCZ), tropical storms and hurricanes, mainly from June to November, during the wet season. The central part of the island is covered by tropical rainforest vegetation, montane forest and secondary rain forest that provide habitats for a wide range of flora and fauna.

St. Vincent and the Grenadines is vulnerable to the impacts of several natural and man-made hazards. The country has been affected by volcanic eruptions in 1789, 1812, 1902, 1971 and 1979. Additionally, it has been impacted by numerous hurricanes and storms, the most recent being Hurricane Tomas in 2010 and the floods of December 2013. The presence of the active submarine volcano, Kick 'em Jenny, also constitutes a permanent threat to the islands as it is located to the southern part of the Southern Grenadine Islands in St. Vincent and the Grenadines. Apart from these natural events, the multi-island state lies in a major shipping channel making it vulnerable to the impacts of hazards such as oil spills. Other potential disasters include earthquakes, landslides, tidal surges, droughts, chemical, radiological and nuclear events, major transportation accidents (land, sea and air), fires, civil strife and epidemics.

1.1.2 Demography

The mid-year (2019) population estimate from the Central Statistical Department indicates that the total population now stands at 110,049, compared with 109,022 in 2001 and 107,598 in 1991. Additionally, the statistics indicated that our indigenous people constituted 3280 or 3.0% of the population in 2012. Most of the land areas and ninety-one (91%) percent of the country’s population are on the island of St. Vincent. Of that population, 24.7% is under 15 years old, compared to 37.2% in 2001. The 15-29 year age group accounted for 24.6% of the total population in 2019, compared to 27.8% in 2001. The age group 30-44 years old remained relatively stable accounting for 20.7% compared to 21.1% in 2001. The 45-64 year old age group rose from 13.2% in 2001 to 20.9% in 2019. Persons 65 and older represented 9.2% of the total population in 2019, compared to 7.3% in 2001. Total life expectancy at birth is 73 years (2016) compared to 73.5 years in 2012. Life expectancy for males is 71 years compared to 70.9 years in 2012. Life expectancy for females is 75.2 years compared to 76.5 years in 2012. The Total Fertility Rate is 2.2 children per woman age 15 to 49 years old, with similar total fertility rates recorded over the last five years.
The demographic changes noted in St. Vincent and the Grenadines over the last two decades are not unlike those in the developed world. St. Vincent and the Grenadines is going through a demographic transition, which features an increase in the elderly population, a decline in fertility rate, a growing dependency ratio and a decline in the rate of population growth (Figure 1-1).

![Comparison of 2001 and 2012 Population Pyramids](image)

*Figure 1-1 Population by age group and sex 2001 and 2012*

*Source: Central Statistical Department.*

1.2 Impact of Climate Change on Health

The direct effects of climate change are increases in air and sea temperatures, increase in hurricanes or more intense storm activity, sea level rise, increase drought or rain in geographical regions, damage to tourism infrastructure, reduce fish catch, loss of beaches, and mangrove migration inland. The indirect effects are Vector Control Disease transmission, heat stress, allergies, dermatitis, water borne disease
transmission, food borne disease transmission, food and water security, social and economic dislocation and population displacement.

Although the Caribbean contributes very little to climate change in terms of greenhouse gases, we are or will be greatly impacted on negatively by the forces of nature. Already there is a rise in sea level; islands like Caymans and the Grenadines of St. Vincent are likely to be affected by this sea level rise and bleaching of the coral reefs, as result of increase in ocean temperatures.

In 2009 St. Vincent had an increase in rainfall during the dry season. With more rains we can have more landslides and floods leading to a loss of life, less rains we will have water shortages and low food production.

**Key facts**

- Climate change affects the fundamental requirements for health – clean air, safe drinking water, sufficient food and secure shelter.
- The global warming that has occurred since the 1970s is projected to be directly responsible for over 140 000 excess deaths annually by the year 2004.
- Many of the major killers such as diarrheal diseases, malnutrition, malaria and dengue are highly climate-sensitive and are expected to worsen as the climate changes.
- Areas with weak health infrastructure – mostly in developing countries – will be the least able to cope without assistance to prepare and respond.
- Reducing emissions of greenhouse gases through better transport, food and energy-use choices can result in improved health.

Source: WHO, Fact sheet N°266, January 2010

According to the USEPA, (http://epa.gov/climatechange/effects/health.html), throughout the world, the prevalence of some diseases and other threats to human health depend largely on local climate. Extreme temperatures can lead directly to loss of life, while climate-related disturbances in ecological systems, such as changes in the range of infective parasites, can indirectly impact the incidence of serious infectious diseases. In addition, warm temperatures can increase air and water pollution, which in turn harm human health. Human health is strongly affected by social, political, economic, environmental and technological factors, including urbanization, affluence, scientific developments, individual behaviour and individual vulnerability (e.g.: genetic makeup, nutritional status, emotional well-being, age, gender and economic status). The extent and nature of climate change impacts on human health vary by region, by relative vulnerability of population groups, by the extent and duration of exposure to climate change itself and by society’s ability to adapt to or cope with the change.
The Intergovernmental Panel on Climate Change (IPCC, 2007) concluded:

“Human beings are exposed to climate change through changing weather patterns (for example, more intense and frequent extreme events) and indirectly through changes in water, air, food quality and quantity, ecosystems, agriculture, and economy. At this early stage the effects are small but are projected to progressively increase in all countries and regions.”

Given the complexity of factors that influence human health, assessing health impacts related to climate change poses a difficult challenge. Furthermore, climate change is expected to bring a few benefits to health, including fewer deaths due to exposure to cold. Nonetheless, the IPCC has concluded that, overall (globally), negative climate-related health impacts are expected to outweigh positive health impacts during this century (IPCC, 2007).

WHO response

In 2009, the World Health Assembly endorsed a new WHO work plan on climate change and health. This includes:

- Advocacy: to raise awareness that climate change is a fundamental threat to human health.
- Partnerships: to coordinate with partner agencies within the UN system, and ensure that health is properly represented in the climate change agenda.
- Science and evidence: to coordinate reviews of the scientific evidence on the links between climate change and health, and develop a global research agenda.
- Health system strengthening: to assist countries to assess their health vulnerabilities and build capacity to reduce health vulnerability to climate change.

Climate change has become over the years a very important issue for small island developing states, as seen in the information above. Apart from its physical and economic impacts, it also indirectly and directly impacts the health of a population. Thus, this issue is included in a national health plan. In developing the health disaster programme, Climate change has to be considered in the preparedness and mitigation components, looking at the location of facilities as well as the impact on the population. The WHO
response provides a guide on how the local programme will address the issue, and work in tandem with the local climate change committees and other related agencies.

ECLAC (2011) and Simpson et al. (2012), discuss that SVG is already being impacted by some climate variability and climate change through damages caused by severe meteorological conditions and other extreme occurrences in addition to more elusive changes in rainfall and temperature patterns. Climate modeling projects for SVG forecast: rise in the mean atmospheric temperature; a reduction in average yearly rainfall and a rise in the intensity of tropical storms. Furthermore, the extent of such changes is anticipated to be worse than is being experienced presently.
2 HEALTH DISASTER MANAGEMENT PROGRAMME

In keeping with the International Health Standards and National Disaster Management requirements, the Health Emergency and Disaster Management Programme incorporates four specific focus areas for planning and management. These are Mitigation, Preparedness, Response and Recovery.

The Mitigation Programme focuses on building sector resilience through the strengthening of the health sector facilities in a manner that reduces and avoids the impact of hazards or transfers the risk. It includes renovating or refurbishing hospitals and health centres to improve their structural resistance to the hazards identified. Most of these activities would be undertaken in the short, medium to long term period. It also includes non-structural management actions to reduce risks. Risk Assessment is another element of the programme. To appropriately orient the activities of the disaster management program, the Health Disaster Coordinator must have an understanding of the risks (hazard and vulnerability) present in the country under his or her responsibility. Hazard probability and vulnerability of systems change constantly, depending on scientific information and development processes of the country (for example, growth of cities, changes in building codes, and installation of new industries). The activities of the preparedness and mitigation subprograms are heavily dependent on risk assessment. The identification of risks posed by natural hazards and those caused by human activity requires collaboration of the health sector with the scientific community (seismologists, meteorologists, social scientists); environmental specialists; engineers; urban planners; fire brigades; private industry; and in the case of complex emergencies, political entities.

The Preparedness Programme focuses on testing and upgrading the existing draft Health Sector Disaster Plans, developing specific institutional Emergency Operation Plans, addressing issues such as maintaining emergency equipment and supplies, quarantine zones or safe areas and training of staff to deal with the impact of a hazard. Though some of these activities can be undertaken in the short term most will be undertaken in the medium to long term. Health promotion and wider training of related personnel in health issues is also recommended. Health Promotion Programme should include Health and social aspects and benefits of disaster management with other sectors, including the private sector:

- Inclusion of disaster reduction into development activities of other programs and divisions of the ministry of health and other health sector institutions; and
- Public education through mass media and health educators.

Training Programme: Training in all components of the disaster management program is necessary if activities are to be properly implemented. The failures in disaster mitigation, preparedness, and response
are largely due to the gaps that exist between different professions and a lack of specific training for health care and public health personnel.

In-service training of health personnel (from disaster prevention to response): Promotion of disaster management in the curricula of undergraduate and graduate schools in health sciences (such as schools of medicine, nursing, and environmental health); and

- Inclusion of health related topics in disaster management training for other sectors (e.g.: planning and foreign affairs).

The Response Programme focuses on the coordination and management of an emergency. This applies to the implementation of emergency operation plans, the activation of the HEOC and deployment of resources, the saving of lives by triage and/or treatment and the maintenance of a sanitary condition amongst others. The time period for this programme can be at any time a hazard strikes.

The Recovery Programme focuses on the means and mode of rehabilitation and reconstruction after an impact. The objectives are to rebuild in a manner that reduces the negative impact the next time the hazard strikes. The role of the national health disaster committee is to work in collaboration with other stakeholders especially NEMO to provide advice, support and monitoring during the recovery phase of a disaster.
3 HEALTH EMERGENCY AND DISASTER MANAGEMENT PLAN
PURPOSE AND OBJECTIVES

3.1 Purpose

The purpose of this plan is to identify the actions to be taken by Health Sector Departments to reduce disaster risks, build health sector resilience and respond to emergencies and disasters. This plan is designed as a Multi-hazards management plan.

3.2 Objectives

The objectives of this plan are:

- To outline a coordinating mechanism for health sector response.
- To outline preparedness, mitigation and recovery measures and mechanisms.
- To identify the roles and responsibilities of key health sector departments.
- To outline a response mechanism that returns the impacted population to a state of normalcy in the shortest possible time.

Each division, institution/hospital within the health sector must have a Disaster Contingency Plan that works in tandem with the National Health Multihazard Plan. Some guidelines for the preparation of plans are provided in the attached annexes and are referenced in later sections.

3.3 Scope of the plan

This plan covers the general actions to be undertaken by the MOHWE, the Community Health Services, Hospital Services, Geriatric Services, Mental Health Centre, Environmental Health Services and other programmes of the MOHWE and affiliated services. It follows the guidelines and protocols established by NEMO and covers specific issues related to DRR and the management and coordination of response to disasters/emergencies within the health sector. These include command and coordination, execution and activation, communications, alert and warnings and triggering mechanisms.
3.4 The legal framework

As with all Ministries under the Public Service the Ministry of Health, Wellness and the Environment takes authority from the National Disaster Response Plan on the authority of Emergency Powers Act (45) (1970) and the Nation Disaster (Relief) Act (1947).

The following lists the legislative framework under which this plan operates:

The Public Health act of 1977:

I. Part IV and V addresses communicable diseases

II. Part IX and X addresses Port Health and food and water safety

III. Part XI addresses management of dead bodies

IV. Essential Services Act

V. National Emergency and Disaster Management Act #15, 2006 (June 1)

In addition to the above St. Vincent and the Grenadines also abide by International agreements namely; International Health Regulations (2005), International Atomic Energy Agency, International Maritime Organizations, International Federation of Red Cross and Red Crescent Societies among others.
4 THE NATIONAL CONTEXT

4.1 Health Care Services

Health care in St. Vincent and the Grenadines is provided through a network of forty-seven (47) health care facilities including, thirty-nine (39) health centres, three (3) polyclinics scattered throughout the country in nine (9) health districts. This network of health centres is complemented by five (5) rural hospitals with a combined capacity of 95 beds. The Milton Cato Memorial Hospital, located in the capital Kingstown and the Modern Medical Diagnostic Centre (MMDC) in Georgetown provide secondary and tertiary care. The MCMH has a total bed capacity of 206, and MMDC provides a bed capacity of 62. The country’s lone psychiatric facility is the Mental Health Rehabilitation Centre while the Lewis Punnett Home provides care to the elderly and the indigent. The total acute and chronic bed capacity is approximately 506, with room for expansion if necessary.

Each Health Centre is typically staffed by a Registered Nurse (RN), a Nursing Assistant (NA) and a Community Health Aide (CHA), and receives weekly visits from a District Medical Officer (DMO) and Pharmacist. A typical health district serves a population of approximately 5000 persons in Bequia to approximately 21,000 persons in Kingstown. A Family Nurse Practitioner (FNP) and Health Nursing Supervisor are assigned to each health district.

The three polyclinics, strategically located in the Calliaqua, Marriaqua and Pembroke districts, they provide extended hours of service with a doctor present from 7am to 7pm. Specifically scheduled clinic days are also part of the services offered.

There are five (5) district hospitals, four of which are capable of providing basic secondary health care. The fifth district hospital is the Georgetown Smart Hospital, which along with the Modern Medical & Diagnostic Centre form the Georgetown Medical Complex. Primary health care is provided on the same compound by the Health Centre and secondary and few tertiary health care services are provided at complex including the only public haemodialysis treatment and oncology services.

MCMH is the sole full service public secondary health care facility. Limited tertiary health care is also provided by this health facility. It is located in the country’s capital, Kingstown.

Mainly the RN, DMO or FNP does referrals to the MCMH and MMDC. Community and social participation in the planning and provision of health care services is the policy of the Ministry of Health, Wellness and the Environment and is the guiding principle of the district health teams in the Community.

There are dental services offered by the Government in eight (8) health facilities. They offer mainly preventive and curative treatments as well as interventions for any dental emergencies.

There are two private hospitals with an approximate capacity of sixteen (16) beds along with operating theatre facilities. There are also a number of private clinics and facilities with a range of diagnostic and
treatment capacities. The use of these facilities during events has been tried and tested but can only be guaranteed according to Memoranda of Understanding between the MOHWE and those concerned.

4.2 Overview of the National Emergency Management Organization

Established in 2002, as part of the Government’s initiative to enhance disaster preparedness, the National Emergency Management Organization (NEMO) is the national coordinating agency for Disaster Management in St Vincent and the Grenadines, and is responsible for the preparation of the National Disaster Plan 2005. This plan is currently under revision. The National Health Multihazard Plan will form an integral component of the National Disaster Plan.

The NEMO is the authority responsible for the coordination of all national activities related to emergency/disaster preparedness, response and recovery. NEMO’s role is also to facilitate the preparation of response and recovery plans and hazard mitigation programmes by agencies having principal responsibility in those areas. The guiding principle is that of Comprehensive Disaster Management (CDM). NEMO also seeks to improve the capacity of the population of St. Vincent and the Grenadines to prepare for, respond to and recover from disasters, as well as to protect the economic development plans of the government, to enhance the development process.


4.2.1 Role of NEMO

The National Emergency Management Organization is responsible for the management of the National Response Plan, to include the conducting of annual simulations, maintaining of an updated resource list and Memoranda of Understandings, demographic statistics, the identification of vulnerable locations and working with communities to prepare local disaster response plans. Additionally, NEMO shall perform all coordinating functions related to the management of the event. The general direction and control of the Organization resides with the Honourable Prime Minister.

In the context of the National Disaster plan, Disaster Preparedness means preparing the community to react promptly to save lives and protect property, if the island is impacted by a disaster or major emergency of any kind. In this regard, the role of the National Emergency Organization is that of providing training for the various agencies involved in disaster management. The functions of the National Emergency Organization, as specified in this plan, can be divided into six categories:

Training: The identification of skills necessary to implement a national disaster management programme and the sourcing of the necessary trainers to prepare and conduct the relevant training.
Informing: The development and dissemination of information packages to enhance the capability of individuals, government entities and the private sector to cope with emergencies.

Warning: The analysis and forecasting of the nature of potential hazards.

Coordinating: The development and implementation of systems to coordinate the work of the various agencies involved in disaster preparedness, response, and rehabilitation, and the enabling of resources to be effectively applied during and after a disaster.

Warehousing: The provision and maintenance of extraordinary resources and stocks to meet emergency needs. The Ministry of Health, wellness and the environment HDEMU has been allocated storage space in Rose Hall, Mesopotamia, Georgetown, Sandy Bay and Union Island.

Evaluating: Conducting an annual review of the agency’s performance and designing measures to improve its performance.

4.3 The National Disaster Management System (NDMS)

4.3.1 The National Emergency Council

This Council is responsible for ensuring that the functions of the Organization, as a whole, are effectively carried out. Membership of the Council is as follows:
a. The Prime Minister, who shall be the Chairperson;

b. The Deputy Prime Minister;

c. The Attorney General;

d. The Ministers responsible for –
   i. disaster management,
   ii. national security,
   iii. works,
   iv. housing,
   v. telecommunications,
   vi. health and the environment,
   vii. social development or mobilization,
   viii. energy;

e. The Permanent Secretaries in the Ministries responsible for –
   i. disaster management, national security and energy,
   ii. works,
   iii. agriculture,
   iv. tourism,
   v. education,
   vi. social development or mobilization;

f. The Secretary to Cabinet;

g. The Director General of Finance and Planning;

h. The Director of Planning;

i. The Director of the National Emergency Management Organization;

j. The Commissioner of Police;

k. The Chief Medical Officer;

l. The Chief Engineer;

m. The Manager of the Saint Vincent and the Grenadines Port Authority;

n. The Director of the Government agency responsible for public information;

o. The Director of Airports;

p. The Managers of –
   i. Flow/ Columbus Communications;
   ii. Digicel Saint Vincent and the Grenadines Ltd;
iii. Any other company providing telecommunication services;

q. The Chief Executive Officer of the Saint Vincent and the Grenadines Electricity Services Ltd;

r. The Manager of the Central Water and Sewerage Authority; who shall be ex officio members, or their nominee;

s. A representative, who shall be chosen by a recognized worker’s organization representing workers employed by the Government;

t. A representative from the Saint Vincent and the Grenadines Chamber of Industry and Commerce;

u. A representative from the National Youth Council;

v. A representative from the Saint Vincent and the Grenadines Red Cross Society;

w. Representatives from:

   i. Mayreau,
   ii. Canouan,
   iii. Bequia,
   iv. Union Island
   v. Mustique

x. A representative designated by Cabinet from a volunteer organization.

The Emergency Executive Committee will carry out the supervisory functions of the National Emergency Council, this committee comprises:

a. The Director of NEMO, Chairperson

b. The Permanent Secretary in Ministry responsible for disaster management (Deputy Chair)

c. The Director General of Finance and Planning

d. The Chief Engineer

e. The Chief Medical Officer

f. The Commissioner of Police

g. The Director of the Government agency responsible for Public Information

h. The Chief Agricultural Officer

i. The Chief Education Officer

j. The Director of Social Development

k. The Environmental Services Coordinator

l. The representative from CWSA

m. The Representative from VINLEC

n. The representative of the Red Cross

o. The representative from the rainbow radio league
This committee will also monitor the activities of all the Sub-Committees as well as implementing the plans and policies of the National Emergency Council.

The National Disaster Management System as outlined in the National Disaster Plan refers to the National Emergency Management Organization which is made up of 15 Sub Committees/ groups from both private and public sector organization with specific responsibilities in planning for, mitigating against and responding to disasters.

The Health Services Committee is one of the sub-committees and is chaired by Chief Medical Officer. The main tasks of this group are summarized in the National Plan into three (3) main phases:-

**Phase 1 – before an emergency or hazard strikes:**

- Reduce the vulnerability of health facilities and health services to hazards.
- Ensure the readiness of the health sector to respond to the impact of a hazard.
- Ensure immediate activation and implementation of the response plan when necessary.

**Phases 2 – during an event:**

- Protect the health and safety of the public.
- Minimize illness, injury or death resulting from the impact of the hazard.

**Phase 3 - after an event**

- Assist in the recovery of individuals or localities affected by an event.

Ensure that the population at risk is capable of taking effective action to mitigate the possible effects of an event/hazard.
4.4 Definition of a Disaster

A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.

4.5 Levels of Emergencies and Disaster

The response of the Ministry of Health Wellness and the Environment depends on the severity of the situation and the type of assistance required. There are three levels of emergency/disaster response:

**Level 1**
Localized emergency events can be managed within the regular operating mode of the protective and health services.

**Level 2**
Emergency/disaster events that overwhelm the capacity of the resources in a district, but which *do not* overwhelm the capacity of the national resources to respond and recover (such zones of impact can be declared *Disaster Areas*).

**Level 3**
Emergency/disaster events that *overwhelm the capacity of the national resources* to respond and recover (such an event may be designated as a *National Disaster*).

To ensure that there is some level of clarity between the terms “emergency” and “disaster” the following has been noted.

**Emergency**

An emergency is any event requiring immediate and urgent attention. These are usually life threatening situations such as vehicular collisions, collapse buildings, which will entail emergency functions – medical treatment and search and rescue. In the context of disaster management, there can be level 1 and level 2 emergencies, which are well within the capacity of the first responders. Level 2 emergencies can be of a higher or lower order depending on the extent of resources required to carry out emergency functions.
National Disaster

In accordance with the definition noted above, a national disaster can only occur when all resources have been used/consumed/exhausted and international aid is required. The definition of a disaster is tied to the ability and capacity of responders to address and return to a state of normalcy.

Therefore, there are levels 1 and 2 emergencies but only a national disaster when there is a level 3 emergency and international aid is required.

Figure 4-2 Levels of Emergencies – Scaling up from a health sector perspective

4.6 Structure of the Ministry of Health Emergency and Disaster Management System

In order to achieve the objectives of the Health Emergency and Disaster Management Programme the following Disaster Preparedness Committees were established:
4.6.1 Health Services Sub Committee (National)

4.6.1.1 Membership:

- Chief Medical Officer (Chairperson)
- Medical Officer of Health (Deputy Chair)
- CEO Hospital Services
- Permanent Secretary
- Chief Nursing Officer
- Chief Environmental Health Officer
- Medical Storekeeper
- Hospital Administrator
- Health Disaster Coordinator
- Representative from Red Cross
- Representative from Medical Schools

4.6.2 Ministry of Health Wellness and Environment Disaster Management Committee

4.6.2.1 Membership

- Chief Medical Officer – Chairperson
- Health Disaster Coordinator – Deputy Chair
- Medical Officer of Health
- CEO Hospital Services
- Permanent Secretary – Financial Advisor
- Medical Director
- Nutritionist
- Chief Nursing Officer
### Functions

1. To develop DRR programs and maintain a state of readiness in the Health Sector for disasters/emergencies situations.

2. To appoint/co-opt members to the Disaster Management Committee.

3. To ensure that the roles of members of the Disaster Management Committee are clearly defined and known by all officers concerned.

4. To ensure the establishment and functioning of the health sectorial disaster committees and the development of clear, well defined plans.

5. To ascertain that all health personnel know and understand the plans for Disaster Management and are ready to fulfil their assigned roles at short notice.
6. To ensure that all health departments have updated specific disaster management plans and conduct regular Disaster Preparedness drills (according to plan).

7. To prepare a directory and inventory regarding infrastructural and human resources available including location and type of all health facilities.

8. To prepare and issue necessary directives and circulars regarding disaster preparedness.

9. To ensure that the required supplies of drugs, medical supplies and kits are available for nationwide distribution.

10. To ensure that methods of communication and emergency lighting systems are in place and in working order throughout the health services. Particular attention should be paid to radio-telecommunications, flashlights, storm lanterns and standby generators.

11. To prepare a list of vehicles which are available for emergency use in the event of disaster.

12. To ensure that the Ministry of Health Disaster Plan is revised and updated regularly and is in harmony with and forms a part of the National Plan for Disaster Preparedness.

13. To liaise with National and International Agencies involved in DRR and response.

14. To mount a public health education program for disaster preparedness.

15. To promote and assist in first-aid training by NGO’s throughout St Vincent and the Grenadines.

16. To promote the inclusion of and monitor training in Disaster Preparedness in relevant faculties of all training institutions.

4.6.2.3 **Action Plan**

1. The Committee will meet as determined to review the program of the Ministry and set goals as appropriate. At this meeting, procedures will be reviewed for ensuring that all health personnel are familiar with revised plans; that necessary circulars are prepared and issued, that necessary drugs, equipment and supplies have been acquired and are ready for issue.

2. The Committee meetings in January and April will focus on necessary preparations for the onset of the hurricane season.
3. The Committee will meet monthly to ensure that a state of alertness is maintained nationwide.

4. The Committee will meet at any other time at the request of the Chairman.

5. The Committee maintains constant contact with the National Emergency Management Organization (NEMO) through its representative on that Agency.

4.6.2.4 Pre-Disaster Response Plan

1. The Committee will meet punctually at the time determined by the Chairman.

2. The Chairman will appoint an appropriate officer to record all decisions taken by the Committee, and to present a written record to the convener as soon as possible after the meeting.

3. The Chairman will inform the Committee of the latest information concerning the emergency/disaster.

4. The Committee will review the disaster preparedness arrangements made by the DRR Committee and ensure that the disaster plan is activated. Assignments will be given as necessary.

5. The Committee will decide when and where a Health EOC, will be established, if necessary and the hours during which it will operate in the pre-disaster phase. The Chairman will designate the officer to take charge – The Director of Emergency Operations – (DEO).

6. The committee will communicate with health sectorial stakeholders through their representatives.

7. The Committee will approve health messages prepared for the Media. The Chief Medical Officer or alternate will approve such messages in emergency situations. All presentation to the media on plan or ongoing operation must be cleared by the CMO or designate.

8. If a disaster occurs, the Committee will meet as soon as possible to evaluate the implementation of the plan.
4.7 POST-DISASTER RESPONSE PLAN

All Ministry of Health Staff, including those on leave at the time, must report for duty at their assigned area. If the assigned area is not accessible, they will report to the health facility nearest to their location at the time of the disaster.

4.7.1 The Chief Medical Officer:

- In consultation with the PS activates the Health EOC and advises on the activation on the HSEOC and DEOC, in accordance with the standing procedures and gives the designated person full authority to direct the emergency operations.

- Ensures that the Ministry is represented at the NEMO.

- Ensures that meetings are called daily or as often as necessary to receive reports, evaluate the situation and plan further action.

4.7.2 The Health Emergency Operations Centre:

- Determines and maps areas and populations that are affected by the disaster.

- Determines the extent of the disaster from reports received and by conducting actual surveys of the areas is necessary.

- Establishes means of communication with senior health personnel in the disaster area.

- Assesses reports of casualties and evaluates the ability of local health staff to deal with the situation. Arranges for the deployment of additional health personnel into the area, if necessary. Alerts hospitals and other facilities outside the area to receive casualties, if necessary.

- Notes the estimated number of homeless or vulnerable persons and ensures that measures necessary for the protection of health are established and implemented in the reception centres.
- Implements preparedness plans for ensuring the provision of safe drinking water and sanitary facilities.

- Liaises, through the Ministry representative, with the NEMO to give all possible assistance to all agencies to ensure that they function efficiently.

- Identifies and mobilizes transport for emergency use if needed.

- Publicizes the telephone numbers of the Health EOC and ensures that all requests for assistance and all health relief measures, are channelled through the various EOC’s.

- Through the CICOM approves requests for the acceptance, postponement or rejection of international assistance for health.

- Verifies that effective and appropriate diseases surveillance is established in the disaster area.

- Decides when the emergency situation is over, program the phasing out of relief operations for health, and the prompt return to normal procedures.
Available records show that St Vincent has never suffered large numbers of casualties from any catastrophic event. However, due to the small size of the islands, and the geographic location, the country continues to be vulnerable to various natural hazards. The following is a preliminary risk analysis for the health sector. This has been undertaken further to the hazard and vulnerability assessment documented in an earlier version of the plan.

The risk assessment is a method for identifying hazards and vulnerability, and for determining their possible effects on a community, health facility, or the environment. The information provided by the risk assessment is essential for:

- **Sustainable development** - which will be at risk without programs and strategies to reduce vulnerability;
- **Emergency prevention and preparedness** - if you don’t know what is likely to go wrong, and what the effects will be, you can’t be effectively prepared;
- **Emergency response** - many emergencies cause major disruption to transport and communications - under these conditions where information is either unreliable or non-existent, risk assessment will suggest where the damage may occur;
- **Emergency recovery** - vulnerability assessment can provide a ‘baseline’ against which to compare the effectiveness of recovery work, by describing the prior condition of the community.

Historical impact and occurrences have been taken into consideration.

Arising from the assessment, the information will be plugged into the prevention and preparedness programme of the Ministry, used to guide response and emergency recovery as well.
5.1 Qualitative Risk Assessment

<table>
<thead>
<tr>
<th>Natural/ Man-made Phenomena</th>
<th>Hazard/Threat</th>
<th>Potential impact from a Health perspective</th>
<th>Frequency of Occurrence</th>
<th>Areas of Potential Damage</th>
<th>Health Facility/Institution at Risk</th>
<th>Risk Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hurricanes/ Storms</td>
<td>Strong winds. Powerful, fast-moving bodies of water, land slide/mud slides</td>
<td>Death and injuries. Damage to equipment and buildings Displaced persons</td>
<td>At least once per year</td>
<td>Entire country</td>
<td>Potentially all facilities, with some more vulnerable.</td>
<td>F – High S - High</td>
</tr>
<tr>
<td>Floods</td>
<td>Powerful, fast-moving bodies of water. Inundation</td>
<td>Death and injuries. Damage to equipment and buildings Contamination of water and food</td>
<td>Several times each year</td>
<td>Low lying areas: Calliaqua, Rose Place, Layou, Hamilton and Paget Farm, Marraqua, Colonarie, Kingstown, Arnos Vale, Mespo</td>
<td>MCMH. Kingstown Clinic, Calliaqua HC, Layou HC, Paget Farm, Levi Latham HC, South Rivers HC, Colonarie HC, Spring Village HC, Retreat HC, Mental Health</td>
<td>F –Low S - High</td>
</tr>
<tr>
<td>Natural/ Man-made Phenomena</td>
<td>Hazard/Threat</td>
<td>Potential impact from a Health perspective</td>
<td>Frequency of Occurrence</td>
<td>Areas of Potential Damage</td>
<td>Health Facility/Institution at Risk</td>
<td>Risk Assessment</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------</td>
<td>------------------------------------------</td>
<td>-------------------------</td>
<td>---------------------------</td>
<td>------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Storm Surges</td>
<td>Powerful, fast-moving bodies of water. Inundation</td>
<td>Vector proliferation Displaced persons</td>
<td>At least once per year</td>
<td>Calliaqua, Rose Place, Layou, Hamilton and Paget Farm, Port Elizabeth Colonarie, Buccament Bay, Sandy Bay, Byrea and Langley Park</td>
<td>MCMH. Kingstown Clinic, Calliaqua HC, Layou HC, Paget Farm, Colonarie HC, Buccamant Bay HC, Mental Health Centre, Bequia Hosp, Canouan HC, Ashton HC</td>
<td>F – Low S – Medium to High; some facilities will be inaccessible</td>
</tr>
</tbody>
</table>

F=Frequency S=Severity
<table>
<thead>
<tr>
<th>Natural/ Man-made Phenomena</th>
<th>Hazard/Threat</th>
<th>Potential impact from a Health perspective</th>
<th>Frequency of Occurrence</th>
<th>Areas of Potential Damage</th>
<th>Health Facility/Institution at Risk</th>
<th>Risk Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquakes</td>
<td>Shaking, Landslippage Soil liquefaction</td>
<td>Death and injuries. Damage to buildings and other infrastructure Displaced persons</td>
<td>Infrequent</td>
<td>Entire country.</td>
<td>All Facilities</td>
<td>F – Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S – Medium to High</td>
</tr>
<tr>
<td>Landslides</td>
<td>Land slippage</td>
<td>Death and injuries. Damage to buildings and other infrastructure Displaced persons</td>
<td>Multiple times each year</td>
<td>Entire country but especially hilly terrains.</td>
<td>Poorly sited facilities. Facilities are more likely to be rendered inaccessible than damaged</td>
<td>F – High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S – Medium to Low</td>
</tr>
<tr>
<td>Natural/ Man-made Phenomena</td>
<td>Hazard/Threat</td>
<td>Potential impact from a Health perspective</td>
<td>Frequency of Occurrence</td>
<td>Areas of Potential Damage</td>
<td>Health Facility/Institution at Risk</td>
<td>Risk Assessment</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------</td>
<td>--------------------------------------------</td>
<td>-------------------------</td>
<td>--------------------------</td>
<td>-----------------------------------</td>
<td>----------------</td>
</tr>
</tbody>
</table>
| Volcanic Eruptions          | Toxic gases   | Death, injuries, and aggravation of pre-existing respiratory conditions. Damage to buildings and other infrastructure. Displaced persons | Approximately once every 50-75 years | Entire island but red zone would be more impacted | All facilities | F – Low  
S – Medium to Low |
| Tsunamis                   | Powerful, fast-moving body of water. Inundation | Death and injuries. Damage to buildings and other infrastructure. | Infrequent | All coastal areas. | Facilities sited on low-lying ground up to 1.5 km of coastline | F – Low  
S - High |
| Natural/ Man-made Phenomena | Hazard/Threat                           | Potential impact from a Health perspective | Frequency of Occurrence | Areas of Potential Damage | Health Facility/Institution at Risk | Risk Assessment  
|                           |                                       |                                         |                           |                             |                                 | F=Frequency  
|                           |                                       |                                         |                           |                             |                                 | S=Severity      |
| Chemical Releases        | Toxic gases                           | Death and injuries. Aggravation of pre-existing Medical Conditioned (asthma) Environmental damage | No history of significant release but can happen at any time. | All facilities located within the projected impact zone for baseline release. | | F – Low  
|                           |                                       |                                         |                           |                             |                                 | S – Medium to High |
| Explosions/Fires          | Excessive heat, toxic fumes (Chemical), soot Concussive force | Death and injuries. Aggravation of pre-existing medical conditions (asthma) Damage to buildings and | No history of significant explosions but can happen at any time. | Gas stations and gas storage depots | Potential industrial risks in particular areas, health facilities store and use explosive gases. Can occur when gasses are being transported. | F – Low  
<p>|                           |                                       |                                         |                           |                             |                                 | S – Low to medium |</p>
<table>
<thead>
<tr>
<th>Natural/ Man-made Phenomena</th>
<th>Hazard/Threat</th>
<th>Potential impact from a Health perspective</th>
<th>Frequency of Occurrence</th>
<th>Areas of Potential Damage</th>
<th>Health Facility/Institution at Risk</th>
<th>Risk Assessment</th>
<th>F=Frequency</th>
<th>S=Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft crashes</td>
<td>Crushing forces.</td>
<td>Death and injuries.</td>
<td>Rare occurrence, but can happen at anytime</td>
<td>Areas falling within designated air corridors/flight paths</td>
<td>Facilities falling within designated air corridors/flight paths</td>
<td>F – Low</td>
<td></td>
<td>S - High</td>
</tr>
<tr>
<td></td>
<td>Excessive heat</td>
<td>Burns</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toxic fumes</td>
<td>Damage to infrastructural and property damage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fire and Explosion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation accidents (land/sea)</td>
<td>Concussive forces.</td>
<td>Death and injuries.</td>
<td>But can happen at anytime</td>
<td>Anywhere in St Vincent</td>
<td>Health facilities serving area in which incidents occurs</td>
<td>F – Low</td>
<td></td>
<td>S - Low</td>
</tr>
<tr>
<td></td>
<td>Crushing forces</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excessive heat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epidemics/Pandemics</td>
<td>Contagion</td>
<td>Death.</td>
<td>Unpredictable</td>
<td>Entire country</td>
<td>Can overwhelm existing capacity of national health services</td>
<td>F – Low to medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural/ Man-made Phenomena</td>
<td>Hazard/Threat</td>
<td>Potential impact from a Health perspective</td>
<td>Frequency of Occurrence</td>
<td>Areas of Potential Damage</td>
<td>Health Facility/Institution at Risk</td>
<td>Risk Assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------</td>
<td>------------------------------------------</td>
<td>------------------------</td>
<td>--------------------------</td>
<td>-----------------------------------</td>
<td>----------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Terrorism</strong></td>
<td>Explosive</td>
<td>Death and injuries. Mass casualties</td>
<td>Never occurred</td>
<td>Anywhere in St Vincent</td>
<td>Can overwhelm Health facilities</td>
<td>F=Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chemical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S – Medium to High</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biological</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Radiation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electromagnetic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IC Radiation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mass Gatherings</strong></td>
<td>Concussive</td>
<td>Death and injuries. Mass casualties</td>
<td>Very few incidents involving significant casualties but can happen at any time.</td>
<td>Anywhere in St Vincent</td>
<td>Can overwhelm Health facilities serving area in which incident occurs</td>
<td>F – Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>forces.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S - Medium to High</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crushing forces.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Suffocation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## SUMMARY OF MEDICAL CENTER HAZARDS ANALYSIS

<table>
<thead>
<tr>
<th></th>
<th>Natural</th>
<th>Technological</th>
<th>Human</th>
<th>Hazmat</th>
<th>Total for Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability</td>
<td>0.58</td>
<td>0.44</td>
<td>0.43</td>
<td>0.41</td>
<td>0.48</td>
</tr>
<tr>
<td>Severity</td>
<td>0.57</td>
<td>0.54</td>
<td>0.53</td>
<td>0.60</td>
<td>0.56</td>
</tr>
<tr>
<td>Hazard Specific Relative Risk:</td>
<td>0.33</td>
<td>0.24</td>
<td>0.23</td>
<td>0.24</td>
<td>0.26</td>
</tr>
</tbody>
</table>

### Hazard Specific Relative Risk to Medical Center

- **Natural**: 0.33
- **Technological**: 0.24
- **Human**: 0.23
- **Hazmat**: 0.24

## Relative Threat to Facility

- **Natural**: 0.30
- **Technological**: 0.20
- **Human**: 0.10
- **Hazmat**: 0.10
For the purposes of this Qualitative Risk Assessment the following terms are given the meaning as outlined:

*Phenomena* (natural/manmade) are unwanted events that can act upon the world and cause some form of harm if they should take place.

*Hazard* refers to the adverse consequences of some primary event, sequence of events or combination of circumstances.

(The Royal Society, 1992 p 4)

*Risk* is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence.

(The Royal Society, 1992)

*Frequency* refers to the degree of probability that the phenomenon will occur and is a qualitative estimate. *Severity* refers to the degree of probability that the impact of such an occurrence will be severe. The ascribed (qualitative) values are as follows:

- **High:** 41% and greater
- **Medium:** 21-40%
- **Low:** 0 – 20%
The tool analysis indicates that the human hazard has a 40% relative threat to the health services, with a technological being second at 38%.
6 ROLES AND RESPONSIBILITIES

The roles and responsibilities of each unit/agency are categorized under 3 phases. These phases are described below. In addition, a matrix identifying the overall role according to specific emergency function is also included as Annex G.

Phase I – Before the Disaster strikes (these are the proactive/preventative and preparedness and mitigation activities to be undertaken).

Phase II – During the emergency (these are the response actions to be taken immediately after impact).

Phase III – activities to be undertaken after the emergency phase (these are the short term and long-term rehabilitation and recovery activities).

6.1 Role of NEMO

The NEMO is the lead agency for coordination and in times where there is a district or national emergency/disaster will establish the National Emergency Operations Centre (NEOC) to coordinate the efforts of all stakeholders towards saving lives and restoring normalcy.
### 6.2 THE MINISTRY OF HEALTH WELLNESS AND THE ENVIRONMENT

**PHASE I; BEFORE THE EVENT**
- Develop Disaster Plans for each Unit
- Ensure administrative and vertical services are staffed and equipped
- Establish a Health Disaster Coordination Unit
- Assists the efforts of the HEDMU

**PHASE II; DURING THE EVENT**
- Provide recovery and response through HEOC
- Access funding and other resources

**PHASE III; AFTER THE EVENT**
- Provide recovery and response through HEOC
- Access funding and other resources
6.3 THE HEALTH EMERGENCY OPERATION CENTER

**PHASE I; BEFORE THE EVENT**
- Facilitate planning meeting for all committees
- Review and revise NHDP
- Conduct general orientation and awareness of the NHDP
- Conduct training and upgrade skill in disaster management and response
- Conduct cycle of tests and revision of NHDP
- Support MOH to keep updated plans
- Maintain close relationship with DEOC, HSEOC and NEOC
- Assist with assessment of Health Facilities infrastructure
- Coordinate mitigation measures (structural/non-structural) for all facilities
- Coordinate needs assessment for resource capabilities
- Establish and maintain a command center
- Establish emergency telecommunication system

**PHASE II; DURING THE EVENT**
- Assume authority and responsibility for health services and will be based at the MOHWE
- Be the health focal point for coordinating with the NEMO or NEOC
- Coordinate official daily Situation Reports (SITREPs)
- Authorizes Action Plan
- Liaise with international health organizations through the CICOM (PAHO WHO, IAEA etc.).

**PHASE III; AFTER THE EVENT**
- Assists with the rehabilitation process
- Access funding for the rehabilitation and recovery process
- Ensure continuity to recovery and rehabilitative efforts
- Conduct an after action review process
### 6.4 COMMUNITY HEALTH SERVICES

#### PHASE I; BEFORE THE EVENT
- Establish District Emergency Operation Center or Committee
- Develop and update disaster plan
- Monitor communicable diseases and report
- Monitor and assess airborne diseases
- Conduct Health Education programs
- Conduct both structural and non-structural assessments
- Conduct disaster training with staff
- Conduct simulation exercises
- Ensure that contraceptives and MISP kits are stockpiled
- Ensure that antiretroviral drugs are stockpiled
- Decrease mortality, morbidity and disability in crisis affected populations IDP’s or host populations
- Protection systems in place, especially for young women and girls

#### PHASE II; DURING THE EVENT
- Activate Disaster Plan
- Activate District Emergency Operation Center if needed - DEOC
- Assess health conditions in emergency Shelters
- Assess drinking water, food supplies and nutritional status
- Assess sanitation
- Monitor vector and diarrheal diseases, implement heightened communicable disease surveillance
- Inform HEOC daily with SitReps
- Follow-up in shelters persons attending Family Planning clinics and that they have adequate supplies
- Heighten reproductive health surveillance
- Follow-up in shelters HIV/AIDS/STI persons
- Heighten HIV/AIDS/STI surveillance and awareness
- Free and accessible barrier protection (condoms)

#### PHASE III; AFTER THE EVENT
- Assess population for spread of airborne diseases or other communicable disease, water supply, infrastructural damage, deaths and injuries.
- Conduct heightened communicable disease surveillance
- Conduct rehabilitation and recovery activities
- Conduct after action review process
- Maintain record of death and injuries
- Inform HEOC daily with SitReps
- Continue reproductive health awareness campaign and surveillance
Continue HIV/AIDS/STI awareness campaign and surveillance

During conflicts, natural disasters and other emergencies sexual and reproductive health needs can be overlooked with dire consequences. Pregnant women risk life threatening complications, women and girls lose access to family planning, women and young people become more vulnerable to sexual violence, exploitation and HIV infection and the hygiene needs of women and girls are often neglected.
6.5 NATIONAL SURVEILLANCE COMMITTEE

**PHASE I; BEFORE THE EVENT**
- Develop National Plan for Disease Surveillance in disasters
- Develop national plan for visitor base surveillance
- Collaborate with Health District Teams to monitor and assess communicable/infectious water-borne, food-borne and air-borne diseases
- Conduct national surveillance for NCD, CD (emerging and re-emerging), accidents, and violence/ violent crimes.
- Conduct visitor base surveillance

**PHASE II; DURING THE EVENT**
- Activate the National Disease Surveillance Plan
- Activate the National Disease Surveillance Plan
- Geo-reference (GIS) maps of affected individuals, disease pathogen, healthcare and diagnostic facilities.
- Liaise with HDCC
- Conduct site visits
- Ensure timely, accurate, and reliable epidemiologic information is disseminated
- Representative in **HEOC**

**PHASE III; AFTER THE EVENT**
- Maintain National Disease Surveillance System
- Complete reports in a timely manner

The National Surveillance Committee is the primary arm for monitoring communicable and non-communicable diseases in St. Vincent and the Grenadines.
### 6.6 HEALTH PROMOTION

#### PHASE I; BEFORE THE EVENT
- Develop plan for Health Promotion in disasters
  - Establish staff call-out list
  - Prepare messages to be used in emergencies
  - Assign staff roles and responsibilities
  - Contribute to sensitization drive
  - Liaison between MOHWE and API through NEMO
  - Prepare and communicate health messages
  - Work with relevant stakeholders to foster community participation and mobilisation

#### PHASE II; DURING THE EVENT
- Activate the Disaster plan
  - Secure office supplies/property
  - Representative in HEOC
  - Record information from community services
  - Coordinate incoming and outgoing communication
  - Disseminate health messages
  - Assist with relief efforts
  - Assist with SITREPS

#### PHASE III; AFTER THE EVENT
- Maintain vigorous health promotion and information dissemination programs
  - Assist with preparing final reports
### PHASE I; BEFORE THE EVENT

- Develop Disaster plan.
- Develop sample taking protocol for infectious diseases.
- Establish emergency communication.
- Increase blood collection from Non-remunerated donors (NRD).
- Train staff on sample taking for infectious diseases.
- Maintain IATA certification.
- Maintain a Quality Assured Laboratory Service.
- Maintain field epidemiology kits and supplies.
- Maintain mobile blood bank.

### PHASE II; DURING THE EVENT

- Activate disaster plan.
- Situation assessment.
- Communicate with hospital EOC and staff.
- Monitor adherence to sample taking protocol.
- Estimate blood and blood product requirements.
- Coordinate selection, collection, storage and dispatch of blood and blood products from NRD.
- (using mobile blood bank where necessary)
- Collect and test samples for (level 2 and under) suspected communicable infectious disease Pathogens.
- Collect, package and transport (level 3 and above) suspected communicable infectious disease Pathogens according to IATA regulations.
- Ensure timely, accurate, and reliable report/information dissemination.

### PHASE III; AFTER THE EVENT

- Post disaster assessment.
- Restock blood bank supplies.
- Stress management for staff.
- Restock field epidemiology kits.
- Assess IATA training and certification needs.
6.8 HOSPITAL SERVICES

**PHASE I; BEFORE THE EVENT**
- Develop Hospital Disaster Plans
- Conduct training and awareness
- Conduct simulation exercises
- Acquire resources
- Assess risks and mitigate as necessary
- Establish emergency communication

**PHASE II; DURING THE EVENT**
- Activate Hospital Disaster Plans
- Activate Hospital Services Emergency Operations Center - HSEOC
- Communicate with HEOC
- Discharge non-critical patients
- Assess situations, treat emergencies
- Check for hazards on the premises of the Hospitals
- Maintain core operating staff and make provisions for next shift of staff
- Provide safe shelter, food, transportation and water for patients and staff

**PHASE III; AFTER THE EVENT**
- Assess post disaster situation and provide feedback to HEOC
- Debriefing and evaluation of the execution of the Hospital Disaster Plans
- Provide stress management for staff and patients
- Restock supplies and equipment
### 6.9 ENVIRONMENTAL HEALTH SERVICES

#### PHASE I; BEFORE THE EVENT
- Develop Disaster Plan
- Sensitize and train staff on the plan
- Collaborate with the agencies
- Conduct public awareness exercises
- Acquire resources to conduct environmental health services
- Communicate with staff and the stakeholders

#### PHASE II; DURING THE EVENT
- Activate the disaster plan
- Communicate with staff and all stakeholders
- Deploy assessment teams
- Deploy response teams

#### PHASE III; AFTER THE EVENT
- Collaborate with other agencies
- Evaluate the effectiveness of the Disaster Plan
- Collaborate with stakeholders for restorative and rehabilitative processes
6.10 NUTRITION UNIT AND NUTRITION SUPPORT PROGRAMME

**PHASE I; BEFORE THE EVENT**
- Develop Disaster Plan
- Train all staff about plan
- Ascertain and document normal food distribution systems
- Ascertain and document food stock levels at the MSP
- Ascertain and document disaster food distribution systems
- Ascertain and document capacity for food storage
- Ascertain and document capacity for meal preparation
- Develop education material for public education
- Train shelter managers

**PHASE II; DURING THE EVENT**
- Activate the plan
- Deploy senior staff to the **HEOC**
- Monitor nutrition screening
- Conduct nutrition assessment

**PHASE III; AFTER THE EVENT**
- Prepare end of disaster reports
6.11 PHARMACEUTICAL SERVICES AND CENTRAL MEDICAL STORES

### PHASE I; BEFORE THE EVENT
- Develop disaster plan /ESC
- Train all staff about plan
- Develop MOUs to access pharmaceutical and supplies from NGOs
- Prepare forecast for priority events
- Develop SOP for customs clearance
- Identify non-owned storage sites, transport and support staff
- SUMA training for staff
- Maintain support mechanisms

### PHASE II; DURING THE EVENT
- Activate disaster plan
- Alert national financing mechanism
- Activate MOUs with local and regional suppliers
- Provide relevant supplies to affected areas
- Monitor usage/ stock levels
- Activate MOUs to commission temporary warehousing at non-owned storage sites
- Institute security at non-owned storage/distribution sites
- Review estimates required to continue emergency response
- Communicate resupply frequency and needs to vendors
- Initiate payments to vendors
- Verify stock availability with secondary vendors
- Activate SOP for expedited customs clearance
- Commission additional warehousing and transport staff (Ministry of Transport and Police)
- Restock central storage
- Update consumption rate of “key” supplies
- Report to EOC
- Advise on needs

### PHASE III; AFTER THE EVENT
- Maintain adequate stock levels
- Restock
- Complete payments to all suppliers
- Review forecast
- Liaise with Environmental Health Department to activate waste management procedures
- Evaluate effectiveness of implementation of the Disaster Plan

October 2019
6.12 ANIMAL HEALTH AND PRODUCTION DIVISION

PHASE I; BEFORE THE EVENT

- Maintain and update Disaster Plan
- Maintain and update databases
- Georeferenced maps of livestock farms, livestock facilities, Government aviary, animal health clinics and processing facilities.
- Liaise with HDCC
- Conduct simulation exercises
- Conduct surveillance for animal diseases
- Conduct zoonosis assessments
- Conduct emerging animal diseases assessments
- Conduct farm visits
- Conduct community meetings

PHASE II; DURING THE EVENT

- Activate National ADEP
- Activate the AHPD
- Conduct damage assessment to animals, livestock farms and livestock facilities
- Conduct damage assessment to Government aviary
- Conduct damage assessment to animal health clinics
- Conduct damage assessment to processing facilities
- Monitor animals, livestock farms and livestock facilities
- Monitor Government aviary
- Monitor animal health clinics
- Monitor processing facilities and feed processing facilities
- Ensure proper disposal of affected animals
- Maintain surveillance activities
- Liaise and assist HEOC

PHASE III; AFTER THE EVENT

- Continue to monitor livestock farms etc.
- Continue surveillance activities for disease outbreaks and threats
- Provide technical assistance
- Evaluate effectiveness of implementation of disaster plan
### 6.13 MENTAL HEALTH SERVICES

#### PHASE I; BEFORE THE EVENT
- Develop contingency plan
- Train all staff about plan
- Establish emergency communication
- Stockpile supplies
- Work out logistics for staff welfare

#### PHASE II; DURING THE EVENT
- Activate disaster plan
- Communicate with HEOC
- Update on situation assessments
- Work out meals logistics for staff and clients
- Maintain frequent communication with HEOC

#### PHASE III; AFTER THE EVENT
- Deactivate contingency plan
- Report on post disaster assessment
- Restock supplies
- Psychosocial support for clients and staff
### 6.14 GERIATRIC CARE SERVICES

#### PHASE I; BEFORE THE EVENT
- Develop contingency plan
- Train all staff about plan
- Establish emergency communication
- Stockpile supplies
- Work out logistics for staff welfare

#### PHASE II; DURING THE EVENT
- Activate disaster plan
- Communicate with **HEOC**
- Update on situation assessments
- Work out meals logistics for staff and clients
- Maintain frequent communication with **HEOC**

#### PHASE III; AFTER THE EVENT
- Deactivate contingency plan
- Report on post disaster assessment
- Restock supplies
- Psychosocial support for clients and staff
6.15 RADIOLOGY DEPARTMENT

**PHASE I; BEFORE THE EVENT**
- Develop and update the Radiology department emergency management plan
- Sensitize staff about the plan
- Establish staff call out list
- Maintain current contact information on staff
- Participate in training for disaster management
- Maintain personal protective equipment and supplies
- Maintain backup power supply

**PHASE II; DURING THE EVENT**
- Activate and deactivate the RDEMP
- Allocate resources and deploy response staff according
- Conduct situation/impact assessment
- Function on Hospital services EOC
- Perform diagnostic procedures
- Communicate results in a timely manner

**PHASE III; AFTER THE EVENT**
- Evaluate the effectiveness of implementation of the RDEMP
- Restock supplies
- Advice on restorative and rehabilitative process
- Provide staff support especially psychosocial counseling
6.16 ROYAL ST. VINCENT AND THE GRENADINES POLICE FORCE

PHASE I; BEFORE THE EVENT

- Develop and update the RSVGPF Multi-hazard Disaster Management Plan
- Sensitize staff about the plan
- Establish a staff call out List
- Identify key response personnel
- Participate in training for key response personnel in DRM
- Participate in meetings of Health Services Stakeholders
- Participate in Exercises involving Health Services Stakeholders
- Procure emergency supplies, equipment and accessories
- Facilitate training in Crowd control and Evacuation
- Facilitate training in Fire suppression, Evacuation and rescue operations

PHASE II; DURING THE EVENT

- Activate and deactivate the Plan
- Allocate resources and deploy response personnel accordingly
- Provide initial first response including search and rescue, scene safety, preservation of Life and property
- Preservation of evidence
- Activate Incident Command system
- Provide traffic and crowd control
- Provide initial assessment team at scene
- Provide security services to Healthcare facilities and staff
- Provide reports /updates to NEOC
- Report to MOH any health threats identified

PHASE III; AFTER THE EVENT

- Evaluate the effectiveness of implementation of the Plan
- Advise on restorative and rehabilitative processes
- Provide staff welfare including psychosocial counselling
- Monitor potential threats and report accordingly
6.17 MEDICAL SCHOOLS

**PHASE I; BEFORE THE EVENT**
- Develop and update the TMSU Multi- Hazard Disaster Emergency Management Plan (TMSUMDEMP)
- Sensitize staff about the TMSUMDEMP
- Establish staff call out List
- Identify response personnel to serve on Emergency Medical Response Teams
- Participate in Disaster Risk Management Trainings, exercises and Workshops
- Participate in Sectoral and National Exercises
- Conduct internal emergency drills including evacuation of facilities
- Conduct periodic Safety Assessment of facilities
- Develop and Implement Safety Improvement measures
- Participate in Health Services Committee meetings and Surveillance Committee meetings
- Provide training for Healthcare Stakeholders in various areas of Emergency Response
- Procure and maintain stock of essential emergency medical, pharmaceutical, domestic and food supplies
- Maintain emergency supplies of water and fuel
- Conduct routine checks and maintenance of emergency equipment, vehicles and physical plant
- Maintain communication equipment and accessories
- Establish MOU’s with MOH and Other Stakeholders. *An informal arrangement currently exist between TMSU and MOH

**PHASE II; DURING THE EVENT**
-Activate and Deactivate TMSUMDEMP
- Activate MOU’s with Stakeholders
- Allocate resources and deploy Emergency Response Personnel accordingly
- Conduct Situation/Impact assessments and report to HEOC and NEOC
- Provide emergency Medical, Diagnostic and other support Services
- Maintain communication with HEOC and NEOC
- Assess and request assistance needed
- Protect equipment, vehicles, medical records, physical plant and other supplies
- Provide reports to MOH and others Stakeholders

**PHASE III; AFTER THE EVENT**
- Evaluate the effectiveness of implementation of the TMSUMDEMP
- Advise on recovery and rehabilitative efforts
- Implement Business Continuity Plan
- Restore critical health services
- Provide Staff welfare including psychosocial support

October 2019
National Health
Multihazard Plan

- Replenish stock of Emergency Medical, Pharmaceutical and Domestic supplies
- Service equipment and vehicles
- Monitor and Evaluate implementation of recovery and rehabilitative initiatives
# 6.18 HEALTH EMERGENCY AND DISASTER MANAGEMENT UNIT

## PHASE I; BEFORE THE EVENT

- Promote the full integration of comprehensive disaster management in the programmes and operations of the MOHWE and the health services of SVG
- Ensure that all plans throughout the system are updated and tested
- Assist with plan development
- Utilize the yearly corporate plan submission, operational plan and M&E reports for the HEDMU to strategically plan and implement
- Assist with training MCM, ECAT, EOC, ICS
- Collaborate with the programmes of the MOHWE to enhance the emergency care services including training in ACLS, BLS, ATLS and PALS, the development of AED protocols and emergency transportation services.
- Coordinate plan sensitization sessions among staff
- Coordinate simulation exercises
- Coordinate external and internal health risk assessments
- Liaise with NEMO
- Liaise with other external health agencies such as PAHO/WHO, IAEA
- Assist with further development of governance for comprehensive disaster management in health
- Ensure that the health disaster risk reduction program is robust and on going
- Ensure that allocated funds are utilized towards building resilience in health
- Assist with procurement of needed supplies
- Assist with stockpiling supplies
- Assist with logistics of transfer of patients, clients and staff
- Assist with CICOM as needed
- Coordinate mitigation and preparedness mechanisms in health

## PHASE II; DURING THE EVENT

- Serve as deputy chair on the health disaster committee
- Serve as health representation at the NEOC
- Serve as Director or deputy director of operation on the HEOC
- Assist with Informing staff of the progress of the event
- Assist with preparation of situation reports
- Coordinate response efforts in health

## PHASE III; AFTER THE EVENT

- Assist with rapid damage assessment in health
- Assist with business continuity systems
- Coordinate health rehabilitation efforts
- Prepare reports

October 2019
The HEDMU was established in 2014 and was one of the first in the Sub Region to do so. The aim of having a dedicated Unit is to focus on the coordination of Disaster Management and Disaster Risk Reduction mechanisms in health and to maintain a constant link with the National Authority.
7 THE RESPONSE MECHANISM

The response mechanism is tied to the varying levels of emergencies identified above (section 4.5) and itemized below.

Level I

For emergencies at Level 1 the response stays within the First response agencies which are responsible for daily emergency service.

Level II

Where the emergency exceeds the capacity of the First Response agencies and the management span of the Incident Manager, the particular health EOC may be activated to support operations.

Level III

Where the emergency triggers activation of multiple department plans and may exceed national capacity, the MOH EOC will be activated in coordination with the National EOC to support operations.

The response mechanism is intricately tied to the type of hazard or threat and involves the following:

1. Alert and Notification
   - Call Out Procedures
2. Activation and deactivation
3. Mobilization and deployment
4. Resource allocation
5. Incident management procedures
6. Scene stabilization
7. Triage and Treatment
8. Transport and hospital care

Alert and Notification

This generally describes a call out of all responsible persons to alert them on the existing or impending hazard and/or emergency. There are different categories of alert and notification, it can be horizontal, top down or bottom up depending on the hazard. It should always follow a chain of command.
Response Mechanism

Ministry of Health Wellness and the Environment

St. Vincent and the Grenadines

National Health Multihazard Plan

Figure 3 Call out Cascade
Activation and Deactivation

Once the responsible persons have been alerted, and the triggering mechanisms identified, the NHDP plan may be activated and the MOHWE will go into emergency operations for a particular hazard. This means activating the Emergency Operations Centre or Disaster Command Centre. (See section 10.2)

Deactivation procedures (see section 15.0)

Mobilization and Deployment

The provision of human and material resources in an emergency requires a considerable amount of organization. Systems must be put in place beforehand as part of pre-disaster activities to ensure efficient and effective response. This includes the identification and zoning of on-call staff, vehicles, equipment, materials and supplies. There should be a list of all staff, place of work and their residence to facilitate the call out system in the event that they are needed in a disaster.

On-site medical treatment is required for multiple casualties, such as a road traffic accidents, collapsed buildings, landslides and large scale food poisoning hospitals which exceeds eight (8), the Mass Casualty Management Plan will be activated and resources mobilized and deploy MCM teams to the scene.

In addition the HEOC may or may not be activated but the relevant departments will react as per their Standard Operating Procedures and plans.

Resource allocation

This process involves the identification of the necessary personnel, equipment and other resources required to respond.

Incident management procedures

The Incident Command System would be used for coordinating the response effort.
Scene Stabilization

This is primarily the role of the Police and Fire Service.

Triage and Treatment

This refers to the sorting and treatment of victims. This is usually undertaken at the scene of the incident, Hospital or any other health facility to which the victims are referred. (Refer to the Mass Casualty Management plan).

Transport and Hospital care

The identification and coordination of appropriate vehicles to transport casualties, personnel and equipment is critical to the response. Hospitals also need to be prepared and organized to receive and manage the patients from mass casualty events. They should activate their emergency plan to respond to any mass casualty incident.
8 COORDINATING MECHANISM

The MOHWE emergency coordination mechanism is as laid out in the diagram below. The main coordinator for MOHWE is the HDC. This person has responsibility for the day-to-day management of the Health Emergency and Disaster Management programme. The HDC may also be the MOHWE EOC director. Alternates will be other EOC Senior officers including, the CNO, and SNOs.

At the national level, MOHWE liaison with the NEOC will be the CMO and the alternate is the HDC, Medical Officer of Health and any other EOC trained officers designated by CMO.
Coordinating Mechanism

Ministry of Health Wellness and the Environment

St. Vincent and the Grenadines

National Health Multihazard Plan

Figure 8.1: Health Coordinating Structure during a Disaster

Prime Minister

Natl. Emergency Council

NEMO NEOC

MOHWE HEOC

Permanent Secretary, Minister of Health

Pvt Hospitals, Labs, Homes, Pharmacies

Service clubs, Red Cross Volunteer groups, Reps from Medical Schools

9 HEALTH DISTRICTS EOCs

NEMO District Disaster Committee

Mental Rehabilitation

Lewis Punnett Home

Hospitals

Health Centers / Polyclinic
Ministry of Health Wellness and the Environment
St. Vincent and the Grenadines
National Health Multihazard Plan

Cabinet
- National Emergency Council (NEC)
- Emergency Executive Committee
- Health Subcommittee
- NEOC

Minister of Health, Wellness and the Environment
- Health Disaster Management Committee
- HEOC
- Hospitals EOC
- District EOC

Figure 8-2 National Coordinating Structure
9 EMERGENCY TELECOMMUNICATION

The Ministry of Health currently operates normal means of communications via the land base telephone, fax and email. In times of emergency the wireless communications network of the Ministry of Health would be activated.
10 CONCEPT OF OPERATION

The concept of operation aims to cover specific areas of operations. These areas of operation include:

- The plan of action (according to levels of emergency)
- The triggering mechanism (the activation and deactivation of the plan)
- The Emergency Operations Centre at the Ministry of Health – structure and internal operation

10.1 Emergency Operations

There are three main modes of Emergency Operations.

Pre emergency – activities to be undertaken just before impact, these includes activating during the alert phase (e.g. during heavy rains prior to floods or before the tail end of a storm hits). The pre-emergency phase describes a stand by or alert mode. Systems are mobilized or pre-positioned for impact but not yet deployed.

Emergency – this phase describes full activation of the plan, response systems have been deployed and are in the process of containing, eliminating, protecting, rescuing or treating the affected populace. The priority in this phase is saving lives, therefore rescue operations, medical management such as first, second and third triage, etc are activities in this phase. This phase generally is intended to last for a maximum of 72 hours however; the duration is dependent on the nature of the emergency and the geographical location.

Post emergency – after the emergency phase, the priority of this mode is Stabilization. Examples of activities in this phase include medical treatment, setting up or revamping a surveillance system after impact.

10.2 Activation

The Chief Medical Officer on the advice of the Health Disaster Coordinator WHO after collaboration with the various sectors of the MOHWE will recommend activation will activate the National Health Multihazard Plan.
Triggering mechanisms for the National Health Multihazard Plan.

The triggering mechanisms for the activation of the National Health Multihazard Plan are as follows:

- Where the impact of a disaster is large enough to require the resources from health facilities (hospitals, health centres) and is beyond the capacity of the first responders e.g. aircraft crashes, ferry/vehicular accidents, floods.

- Where the disaster or impending disaster is one that cannot be managed without the activation of national and/or international support e.g. pandemic.

- Where the threat or hazard is large enough that the predicted or actual impact warrants a national or international response e.g. tropical storm or hurricane, heavy or persistent rainfall with the potential for massive flooding, landslide that may damage or destroy several structures with possible fatalities.

10.3 Organization for Operations

The MOHWE HEOC will be established at the Ministry of Health; The Hospital Services will establish HSEOC and Health districts may also establish EOCs at the district level if necessary to maintain a state of readiness in the Health Sector for disaster situations.

Standard Operating Procedures

When a disaster alert is declared, or a disaster is reported, the HEOC will immediately become active through the process outlined in the HEOC SOP’s.

10.4 Emergency Operations Centre at Ministry of Health

The Emergency Operations Centre (EOC) is the coordinating hub for emergencies and disasters for the MOHWE. Once the National Health Multihazard Plan has been activated then the HEOC will also be activated to support the implementation of the plan. The HEOC will work in close collaboration with the National Emergency Operation Centre (NEOC) at the NEMO. The Chief Medical Officer will select the designated person to be stationed at the NEMO.
10.4.1 Purpose

The Purpose of the HEOC is as follows;

- To facilitate the management of the health disaster
- To ensure that all information regarding the threats or impacts to health are consolidated in one place
- To evaluate the effectiveness of management of the disaster

10.4.2 Functions

The functions of the HEOC are as follows:

- To generate an overall health situation report (SITREP) from the MOHWE,
- To devise a plan of action in close collaboration with the Hospitals, Health Districts and support services
- To devise the methodology for the implementation of the action plan
- To implement through the various sectors of the MOHWE the plan of action to ensure that the management of health resources are coordinated (this includes personnel, equipment, vehicles, etc.)
- To prioritize the health impact and allocate resources as required
- To provide the NEOC with information on the national status of health before, during and after impact
- To make decisions (in collaboration with the NEOC) on the use of national resources

10.4.3 Structure

The Command Centre is located in the Ministry of Health conference room, and there are other nearby rooms designated for briefing (PS’s Office), rest (Health Promotion) and Media Room (Epidemiologist...
October 2019

Office). The neighbouring office will be used as a communication centre and operations room for information collection and management.

10.4.4 Operations

**Level III**

In a National disaster this facility will operate on a 24-hour basis and maintain close collaboration with the NEOC/NEMO. It will primarily be responsible for coordinating the Health response to an incident/hazard.

All information regarding the impact of the hazard on health in the RHA’s will be forward to the HEOC. It is outfitted with emergency telecommunications such as radios, and normal communication facilities such as phones, fax, and e-mail.

**Level II**

For a district emergency, the disaster plan and subsequently the health EOC may or may not be activated. This is dependent on the scale of the response operation and the capacity of the impacted district to respond.

**Level I**

The health EOC will not be activated for Level I emergencies.

10.4.5 Composition

When there is a national emergency or Level III the composition of the HEOC will be that of the Health Disaster Management Committee Section 4.6.2.1.

10.4.6 Alternate Command Centre

Where the primary HEOC is no longer able to function an alternate command centre will be activated. The location is the Health Emergency and Disaster Management Unit. The relocation procedures would include the transfer of documents, maps, equipment such as radios, phones, computers etc.
10.4.7 Information management system at the Command Centre

Record and Reporting System

All information regarding the impact of the hazard coming into the command centre via phone or radio must be documented on the prescribed message incoming form (Annex D). This information should be documented on triple copy. All three copies are to be provided to the operations officer at the command centre. The command centre will report consolidated information to the NEMO and vice versa.

The following diagram illustrates the manner in which incoming and outgoing information will be managed within the Command Centre.

![Message Handling Diagram]

*Figure 10-1 Message Handling – Incoming*
Concept of Operation
Ministry of Health Wellness and the Environment
St. Vincent and the Grenadines
National Health Multihazard Plan

Figure 10-2 Message Handling – Outgoing

Message Origin:
- Complete Message Form;
- Indicate Dispatch Method;
- Sign Form;

Log Recorder:
- Assign Number
- Log in on Message Log

Agency:
- Review Form
- Sign Form

Message Controller:
- Dispatch Message;
- Initial Form;
- Record Time Dispatched;

Log Recorder:
- Close Out on Log
11 MEDIA STRATEGY

The Ministry’s Health Promotion Unit will handle all matters related to the sharing of information with the media. Health sensitive communication will be prepared in conjunction with the technical experts in the area and the Health Promotion Unit through the CMO.

This Unit will develop a media strategy through the designated national liaison for communicating with the media. He or she will be part of the planning committee and will advise the API of the situation. The Minister or any member of the Health Executive may also address the media dependant on the event and its severity.

The communication Unit will work along with the health promotion unit to gather onsite intel and to assist with the dissemination of approved information, through the established channels.
12 RESOURCE MOBILISATION

A list of medical resources currently available at the HEDMU, Hospitals and other health institutions are enclosed in Annex F. This list includes personnel, equipment and vehicles, beds ICU, X-ray, labs etc. The inventory is not finalized and may need corrections; it is to be revised and updated regularly.

Additionally, in a National Disaster where international assistance is required, International Organizations will be contacted and resources accessed based on an approved needs list through the HEDMU or CICOM via the national mechanism.

Where resources are not available innovation and improvising will have to be undertaken, for example in the absence of adequate morgue capacity cold storage containers may be considered.

12.1 Staff Welfare

The ripple effects after the impact of any hazard on the population may be significant. These effects may include physical injuries, displacement, damage to property and even loss of lives. Individuals as well as their loved ones can be severely affected. The emotional, physical and financial tolls can be jarring and traumatizing and no one in the community is immune. Healthcare providers and staff who maintain facility operations are no exception and yet they are a critical component in the emergency response phase. They are expected to care not only for their own loved ones but for community members at large as well as the Health Services facilities.

Leadership plays a vital role in ensuring health services staff and their loved ones feel cared for and are safe. Therefore, provisions must be made to cater for the immediate and short-term needs of staff including emergency first response personnel. The immediate needs of healthcare providers to be catered for, include but are not limited to Shelter, Transportation, Food, Water, Hygiene, Care for loved ones, Behavioral health care, Funding, Communication/charging stations, Flexible working hours and Daycare facilities and services. The short-term needs may include Clothing/Laundry, Transportation, and Nourishment, Home improvement, Pay emoluments, Leave and Volunteers assistance, among other. Notwithstanding the impact of the hazard on the general population, priority consideration for welfare assistance, including psychosocial support, should be given to healthcare providers and emergency first response personnel since they would still be expected to maintain the provision and delivery of healthcare services despite being impacted themselves.
In the current health system dormitories are provided for staff at MMDC, other provisions are in the pipeline to develop staff quarters with necessary amenities. Through the national mechanism transportation is provided for both staff and clients. Additionally, efforts are being made to provide more than adequate psychosocial support for all staff but especially those on the frontline.

Affected staff will be given expedited processing through the national mechanism for the necessary support (food, clothing, shelter). The MOHWE will also work along with other agencies to ensure that affected staff needs have been addressed.
13 NEEDS ASSESSMENT

For the purposes of the health disaster/emergency management, the Needs Assessment process includes the following:

- Define the affected population - geographic areas affected; estimate size of the population; sex, age and distribution; no. of deaths, no. of casualties, types of injuries,

- Determine the immediate health needs of the population - this will vary depending on the hazard (water, food, medical resources such as re-hydration salts, first aid for scratches and bites, casts and other materials for broken limbs, ventilators, types of drugs needed etc).

From this a fairly detail listing of needs must be generated as part of the overall “Action Plan”. This information must be forwarded to the health EOC for processing. The information transferred as part of the basic SITREPs mentioned earlier or by maps, charts or simple word documents.

Means of acquiring this information

- Aerial observation
- Reports from Health Centres, DMO, etc.
- Reports from the Media (NB not always accurate)
- Surveys

Responsible Parties

- Health Centres / DMO
- HDC

This will be coordinated and forwarded to the DEOC or other relevant authority in the coordinating mechanism. The information must reach the HEOC. The HDC will finalize and authorize the Health Needs List and circulate to international partners.

---

1 The National Damage and Needs Assessment system should be able to assist with the acquisition of this information.
14 ACTION PLAN

The Action Plan as defined in the National Mass Casualty Management Plan, will be developed for on scene management.

The Action Plan is part of the overall Health Disaster Plan but is much more specific to dealing with the immediate situation.
15 STAND DOWN OPERATIONS

As agencies continue to implement the action plan and monitor, the health state of affairs recommendations can be made to close operations.

Only after the emergency conditions have been addressed, and there is some semblance of normalcy the Director of the EOC, after consulting with the PS and CMO will give the all clear to stand down operations and deactivate EOCs.

The standing down will relate to the EOCs and emergency response. The recovery process will continue utilizing the normal procedures and policies, in order to get a full return to normalcy.
16 EXTERNAL ASSISTANCE, BILATERAL ARRANGEMENTS AND MOUs

Before the disaster, a list of the resources available would have been compiled and available to the HEOC. However, in a disaster especially of a level 111 magnitude that requires international assistance, much of these may not be available and a rapid needs assessment would have to be done. The mechanism for external assistance is that the local agencies as part of their regular reporting to the NEOC would indicate the help needed in their area. The HEOC will collate this information for the health sector of the entire country and inform NEMO about what is required. NEMO will then inform CDEMA who will inform the international donor agencies, such as PAHO, accordingly.

However, the system allows for direct interface between the HEOC and external agencies such as PAHO/WHO or IAEA. Additionally, following the PAHO Emergency Medical Team Initiative the Ministry has adopted the guidelines and protocols for humanitarian assistance when required through the formation of the new cell in the health EOC the CICOM. The person or persons in the CICOM cell will act on advise from the HEOC to facilitate the processes involved with requesting humanitarian assistance which may be simple Type 1, Type2 and Type3 depending on the event or highly specialized teams such for epidemiological events.

During the preparedness phase, there is need to plan and have discussions with interested parties and establish MOU’s and agreements that would take effect should a level 111 disaster impact the Country. These MOU’s would be between local entities e.g. Private hospital, medical clinics and distributors of pharmaceuticals. The idea would be for their products and facilities to be accessed and made available to the HEOC for use as needed. Included in these MOU’s would be some form of compensation for the resources used. Having an MOU would greatly facilitate the rapid deployment of resources in a disaster.

Bilateral agreements with neighboring states will help to initiate and simplify the process of obtaining any assistance from these Countries in a rapid and less cumbersome manner.

In the case of St. Vincent and the Grenadines, there are bilateral agreements with quite a few countries however the regional mechanism must be activated through the national mechanism of the NEMO who has the authority to liaise with CDEMA and the Ministry of Foreign Affairs.
1 LIST OF ANNEXES

1.1 Specific Ministry of Health Function, plans to be Upgraded and used following a disaster

1.1.1 Rapid Assessment and Needs Analysis
1.1.2 Mass Casualty Management
1.1.3 Epidemiological Surveillance
1.1.4 Food safety
1.1.5 Water sanitation
1.1.6 Solid Waste Management
1.1.7 Stress Management
1.1.8 Vector Control
1.1.9 Port Health
1.1.10 Public Information
1.1.11 Electrical Power Loss

GENERAL INFORMATION

Power outages can last from minutes to days. A long lasting power outage can have a major impact on any Health Facility. The Health Facility may/may not have an emergency generator that will allow critical operations and functions to continue should a power outage occur.

When a power outage occurs, the following procedures should be followed:

Save all work being done on computers before computer backup power is also lost.

Contact the St. Vincent Electricity Services Limited (VINLEC) for information as to why and how long the power outage may last. Remember that the land line telephones may not work without power and alternative sources of communication should be utilized such as the use of mobile phones.

Have a qualified person start the backup generator and transfer power feeds from the generator to the Health Facility.

Conserve power usage while on backup generator.

If the backup generator is going to be used for long periods, plan for refueling and maintenance requirements.
1.1.12 Communications Loss

GENERAL INFORMATION

Communications loss for the Health Facility may include, land line phones, cell phones, Internet, and radios.

If the communications loss is due to equipment failure within the Health Facility, alternative equipment sources such as personal mobile phones may be utilized.

For a localized event occurring at the Health Facility, the following procedures should be followed:

Loss of landline phone communication
- Use cell phones, radios, or internet
- Contact provider for information as to why and how long service may be down
- Advise personnel and external individuals and organizations

Loss of cell phone communication
- Use land line phones, radios, or internet
- Contact provider for information as to why and how long service may be down
- Advise personnel and external individuals and organization

Loss of Internet communication
- Use landline phones, cell phone or radios.
- Contact provider for information as to why and how long service may be down
- Advise personnel and external individuals and organizations

Loss of Radio communication
- Use land line phones, cell phone, or internet
Advise personnel and external individuals and organizations
2 Hazard Specific Plans

2.1.1 Natural Hazards
2.1.2 Floods

**FLOODING OR WATER DAMAGE**

**GENERAL INFORMATION**

Flooding or water damage can come from internal or external sources. Internal sources are usually from a leak in a water pipe, the cistern or machinery like an air-conditioner. External sources can come from heavy rains, leaks in domestic water supply or rising water. If water and electricity mix it can be a very dangerous situation. Extreme care should be taken when dealing with this scenario.

If flooding is from an internal source and above the lowest floor of the building, the floors below should be checked for flooding also and the ceiling covering them for possible collapse.

If flooding is from an external source, other areas may be impacted and other guidelines, national plans and EOC procedures should be reviewed and followed for actions to be taken if needed. When flooding or water damage is discovered, the following procedures should be followed to minimize the impact:

- Investigate to determine the source of the water.
- Assess the situation and determine if outside assistance is needed.
- Have qualified person shut water supply off to the area or building if needed.
- Have a qualified person shut down power to the area or building.
- Take action such as moving or covering equipment to protect it from water damage.
- Take action to prevent water intrusion to phone and ethernet lines.
- Build a channel to redirect water away from equipment and to the outside of building.
- Conduct a personnel accountability check.
- Advise all personnel and external individuals and organizations.
- Conduct survey of area around the facility to determine possible hazards and accessibility to and from the facility.
2.1.3 Earthquakes

**EARTHQUAKE**

**GENERAL INFORMATION**

Usually there is no forewarning of an impending earthquake but if there are procedures in place when an earthquake strikes and drills have been performed, personnel will know how to react in a real situation and lives could be saved. Drills will give some idea of what to expect and will help prepare for any situation.

It is unlikely that an earthquake will occur and be just a localized incident. If an earthquake should strike, personnel should follow these procedures to help reduce their exposure.

If you are inside:

- If you can exit the building, do so quickly and proceed to a location away from the building, trees, and power lines.
- Watch for falling objects.
- Crawl under a table or desk and hold on to it.
- Brace yourself in an inside corner of the building.
- Stay away from windows, mirrors, overhead fixtures, bookcases and electrical equipment.

If you are outside:

- Stay outside.
- Move to an open area away from buildings, trees and power lines.
- If forced to stand near building, watch for falling objects.

Immediately After the earthquake:

- Be prepared for aftershocks.
- Conduct a personnel accountability check.
- Do a damage assessment to the facility
- Help injured and provide first-aid. Do not move seriously injured persons unless they are in immediate danger of further injury.
- Turn off appropriate utilities. DO NOT USE matches, lighters or open flames, appliances or electrical switches until you are sure that it is safe to do so.
- Conduct survey of area around the facility to determine possible hazards and accessibility to and from the facility.

Important Note: It is important to note that each situation is going to be different, and that a situation may not allow for the above procedures to be implemented in this specific order.
2.1.4 Hurricanes

HURRICANES

GENERAL INFORMATION
Storms and hurricanes can cause both wind and water damage to the physical buildings and their contents. Fortunately, they can be predicted in many cases so that several preparedness measures can be taken in advance of an approaching storm to minimize destruction.

BEFORE

On first notice of an approaching storm:

The building and grounds:
Inspect the building for structural deficiencies.
Make sure all windows and doors are closed and securely locked.
Check grounds and remove loose-lying objects.

Inside:
Unplug all lights and electrical appliances and turn off electricity at main switch.
Close and lock windows and doors.
Set alarm if present.

AFTER

Once personal and family needs are taken care of, try to report to your designated position if it is safe to do so. Staff should have been assigned locations before the hurricane. For safety, do not venture out into the storm affected area unless absolutely necessary and after the all clear has been issued. When doing so proceed with caution while making your way to the Office/Department premises. Hurricane movement and early warnings are to be monitored at the National and International levels by listening to radio and television broadcasts.

Hurricane Warning

If the situation warrants it, the following procedures will be implemented before a hurricane is expected to impact the area. These procedures are applicable on regular working days, weekends or holidays.

Inside the Building

Furniture, Equipment and Materials

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>RESPONSIBLE PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>All equipment and materials must be placed or wrapped in plastic bags and securely tied to ensure water does not penetrate.</td>
<td>All Staff</td>
</tr>
<tr>
<td>Furniture and equipment too large for plastic bags must be covered with plastic sheeting if possible.</td>
<td>All Staff</td>
</tr>
<tr>
<td>Plastic sheeting must be rendered waterproof by securing the ends and edges with masking or waterproof tape.</td>
<td>All Staff</td>
</tr>
</tbody>
</table>

**Electrical Equipment**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>RESPONSIBLE PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>All electrical equipment must be disconnected, placed in large heavy duty garbage bags and tightly fastened to prevent water penetration.</td>
<td>Staff directing using the equipment</td>
</tr>
</tbody>
</table>

**Files, loose documents, books and other printed materials.**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>RESPONSIBLE PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Files, loose documents, books and other printed materials must be placed in metal filing cabinets whenever possible.</td>
<td>Staff in these specific areas with assistance from Medical Records and Accounts</td>
</tr>
<tr>
<td>If this is not possible then loose files and paper must be placed in large garbage bags fastened and labeled with a list of their origin and content.</td>
<td>Staff in these specific areas with assistance from Medical Records and Accounts</td>
</tr>
<tr>
<td>They should then be raised from the floor to prevent water penetration.</td>
<td>Staff in these specific areas with assistance from Medical Records and Accounts</td>
</tr>
</tbody>
</table>

**Offices**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>RESPONSIBLE PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>The contents of any given office should not be moved to another location unless their removal will ensure their safety.</td>
<td>Staff assigned to that area</td>
</tr>
<tr>
<td>Filing cabinets must be locked and turned so that their drawers are facing a wall.</td>
<td>Staff assigned to that area</td>
</tr>
<tr>
<td>Louvers windows must be closed tightly.</td>
<td>Staff assigned to that area</td>
</tr>
<tr>
<td>All office doors must be kept closed and where possible locked to minimize the entry of water or wind within the building.</td>
<td>Staff assigned to that area</td>
</tr>
<tr>
<td>The keys for the doors leading to these offices will be kept in their usual location or given to a designated officer.</td>
<td>Most senior staff in assigned area or staff assigned to carry out Admin functions or Hospital Administrator or Deputy</td>
</tr>
</tbody>
</table>
Outside the building

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>RESPONSIBLE PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hurricane shutters, if available, must be secured on the outside of the windows by the staff members designated to do so.</td>
<td>Admin staff and BRAGSA team</td>
</tr>
<tr>
<td>Vulnerable radio antenna must be removed from the roof and placed in a protected area.</td>
<td>Admin staff and Maintenance staff</td>
</tr>
<tr>
<td>Tree limbs which may become dangerous to the building must be pruned.</td>
<td>Admin staff and Forestry Team</td>
</tr>
<tr>
<td>Debris and other materials which are potentially dangerous should be cleared away.</td>
<td>Admin staff Grounds men and BRAGSA team</td>
</tr>
<tr>
<td>Gutters should be inspected and cleared if necessary.</td>
<td>Admin staff Grounds men and BRAGSA team</td>
</tr>
</tbody>
</table>

Procurement of non perishable items

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>RESPONSIBLE PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-perishable items such as batteries, sanitation products and non-perishable food and drinks shall be purchased and then stored within the premises for use as necessary in the period following the aftermath</td>
<td>Manager CMS</td>
</tr>
<tr>
<td></td>
<td>Deputy Hospital Admin</td>
</tr>
<tr>
<td></td>
<td>SAS Accounts</td>
</tr>
</tbody>
</table>

Electrical Power and LPG Gas

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>RESPONSIBLE PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>The facility electrical supply and if applicable LPG Gas must be turned off to prevent possible short circuits and fires.</td>
<td>Deputy Admin</td>
</tr>
<tr>
<td></td>
<td>SAS Accounts</td>
</tr>
</tbody>
</table>

Staff Personal Safety

Hurricanes provide sufficient warning for the evacuation of the office building or for hospitals to activate their hurricane specific plan. Staff members’ main responsibility once they have returned home is to make the necessary preparedness arrangements to protect themselves and their property.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>RESPONSIBLE PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal effects including documents, clothes, valuables, which are not kept in cupboards, must be secured in plastic bags or other waterproof containers.</td>
<td>SNO Community Services</td>
</tr>
<tr>
<td></td>
<td>SNO Hospital services</td>
</tr>
<tr>
<td></td>
<td>Hospital Admin</td>
</tr>
<tr>
<td></td>
<td>HEDMU</td>
</tr>
<tr>
<td>A stock of drinking water, batteries, hurricane lanterns, flashlights, canned food and other non-perishables must be kept. This stock should be sufficient food and water to last for at least seven days.</td>
<td>CMS</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>The officer in charge must be provided with the address or location of all staff members, during and immediately after the hurricane strikes.</td>
<td>HSEOC, HEOC</td>
</tr>
</tbody>
</table>
2.1.5 Volcano

Volcanic Eruption

GENERAL INFORMATION

A volcanic eruption can be an awesome and destructive event. Here are some tips on how to avoid danger and what to do if you are caught near an eruption.

Safety Tips

- Stay away from active volcanoes.
- If you live near an active volcano, keep goggles and a mask in an emergency kit, along with a flashlight and a working, battery-operated radio.
- Know your evacuation route. Keep gas in your car.

If a Volcano Erupts in Your Area

- Evacuate only as recommended by authorities to stay clear of lava, mud flows, and flying rocks and debris.
- Avoid river areas and low-lying regions.
- Before you leave, change into long-sleeved shirts and long pants and use goggles or eyeglasses, not contacts. Wear an emergency mask or hold a damp cloth over your face.
- If you are not evacuating, close windows and doors and block chimneys and other vents, to prevent ash from coming into the house.
- Be aware that ash falls may put excess weight on roof and need to be swept away. Wear protection during clean-ups.

Ash can damage engines and metal parts, so avoid driving.
2.1.6 Fire

FIRE IN THE BUILDING

GENERAL INFORMATION

In the health sector there are many different types of equipment that use electricity and an increasing emphasis being placed on the use of computers and other electrical equipment. This places a greater risk for an electrical fire occurring. In addition, health facilities by their very nature have a vast amount of combustible and flammable materials in the facility be it a hospital or a health clinic. Oxygen is often in use and other flammable gasses are on the compound. With this in mind, all staff must be aware of what to do in the event that fire is ignited.

Upon discovery of a fire, the following procedures should be followed:

- Immediately report the fire to the local fire department.
- The manual alarms should be activated and all personnel notified of the fire.
- If the fire is small in size, an attempt should be made to extinguish it with the use of a portable extinguisher.
- For electrical fires, shutting down the power to the area or facility should be considered.
- If the fire cannot be extinguished locally, all personnel including patients should vacate the building by way of the nearest exit, which should be clearly marked and report to the designated assembly area immediately. These should be clearly marked.
- At the assembly area a personnel accountability check (PAC) should be conducted.
- Advise external individuals and organizations.

NOTE: HOWEVER, IF THE FIRE IS LARGE, AND RAPIDLY SPREADING, DO NOT TRY TO EXTINGUISH IT - LEAVE THE BUILDING!

All health facilities should be outfitted with smoke detectors and a sprinkler system and these should be tested periodically. In the event that the smoke detectors or manual alarms are activated, everyone should proceed with the evacuation procedure. It is highly beneficial to everyone to test these procedures occasionally, and determine the efficiency of this routine. Everyone in the building should be aware of the nearest alarms, extinguishers and exits. Following these procedures will help facilitate the manner in which a small fire is extinguished, as well as help expedite a calm and speedy evacuation of the premises in the event of a larger fire. Evacuation of in patients is of concern as many of them maybe bed ridden or immobile and many staff is needed to evacuate them to safety.

FIRE DRILL PROCEDURES

Fire drills are necessary features of the disaster preparedness and emergency planning programmes and should be practiced on a regular basis. These drills enable all involved to react quickly and sensibly when confronted with a real fire or other emergencies which may require the building to be evacuated.
immediately. Practice drills are therefore necessary and all possible safe routes, which lead to open air safety, must be used.

Fire and evacuation drills should be done with the support and supervision of the local fire departments.

The sequence of a Fire drill is as follows:

1. Alarm sounded.
2. Building evacuated
3. Assembly at pre-determined point (previously identified muster points check facility plans)
4. Head count taken (by person identified in facility plan)
5. Briefing takes place
6. All staff waits until the all clear is given before re-entering the building.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Alarm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Extinguisher</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.1.7 Tsunami

**TSUNAMI**

**GENERAL INFORMATION**

It is unlikely that a Tsunami will occur and be just a localized incident to any health facility. The threat from a tsunami is mainly to coastal and low lying areas. The standard procedure for every person is to reach high ground before the impact of the Tsunami. An elevation of 100 Ft. above sea level has been set as the safety mark in most small islands.

Depending on the location of the health facility evacuation of the facility may/may not be required.

After a Tsunami:

- Conduct a personnel accountability check (PAC).
- Conduct survey of area around the facility to determine possible hazards and accessibility to and from the facility.

The closest tsunami evacuation point or **Muster Point** should be identified, labeled and evacuation routes clearly marked.
2.1.8 Droughts and Heat Waves

Droughts and Heat Waves

GENERAL INFORMATION

Should a drought occur it is expected that it would normally affect the entire country as St. Vincent and the Grenadines is a small island and vulnerable to this situation when rainfall is reduced. St. Vincent and the Grenadines relies on rainfall for its water for potable, irrigation and washing purposes.

Before

Measures should be put in place before these conditions occur to store and preserve rain water, to reduce usage and prevent wastage. All citizens and corporate entities should practice these, as it would need to be a national effort. The health sector would need to have a plan to deal with persons suffering from dehydration and elevated body temperatures. These would include use of IV fluids with the increased need for purchase and storage of IV fluids, giving sets and other necessary paraphernalia. Air conditioning of vital areas may need to be considered especially at the hospital or clinics.

During

The above preservation measures would have to be continued along with legal rules and regulations to prosecute persons breaching these regulations. Alternate cleaning and sanitizing methods may have to be employed. The importation of potable water would have to be considered depending on the extent of the drought. Work conditions and times may have to be adjusted but should be guided by the NEMO. Welfare for staff and their families must be addressed in all facilities as well as at headquarters.

All health facilities will be expected to open and deliver the necessary services. This means that staff will be expected to report for work unless ordered otherwise. The regular services may have to be reduced or altered but this will be the decision of the health services committee.
3 Health threats

3.1.1 Influenza Pandemic

Highly Infectious Diseases (e.g. Pandemic Influenza and Ebola)

GENERAL INFORMATION

In any situation when a highly infectious disease is likely to occur or does occur in St. Vincent and the Grenadines the health sector has to be ready to respond in a quick and efficient manner in order to save lives and to reduce morbidity. They must therefore be prepared for any likely/imminent threat. The preparation phase is critical and includes Surveillance and Alerting.

Surveillance

Public health personnel should continuously monitor international surveillance and implement programmes to enhance local surveillance for highly infectious diseases (HID), as may become necessary from time to time.

The alerting process

The level of the threat of human cases of HID, should be based on international and local epidemiological profiling.

There are several protocols that have to be adopted when a HID occurs. These should all be included in the respective HID plan. An outline of these is as follows:

- Protocol for Patient Screening Area
- Protocol for Layout & Outfitting of Examining Room
- Checklist for Examination Room
- Protocols for hand washing
- Protocol for Correct Usage of PPE
- Putting on the PPE
- Removal of PPE
- Protocol for Sanitizing the Triage Room
- Protocol for general cleaning

General infection control procedures

RECOMMENDATIONS FOR AMBULATORY CARE SETTINGS:
• Patients with symptoms suggestive of HID should proceed to the designated screening area.
• Patients in the screening area should be provided with mask and tissues to contain respiratory secretions when coughing or sneezing.
• No-touch receptacles/ uncovered bins should be provided for disposal of used tissues.
• Automatic anti-viral hand sanitizers should be provided in all waiting areas and hand hygiene encouraged after contact with respiratory secretions.
• Eliminate or decrease the use of items shared by patients such as pens, clipboards, and telephones.
• Clean and disinfect surfaces in waiting room when visibly soiled (e.g. chairs, doorknobs) and patient care areas between patients.
• Ensure that medical devices are appropriately cleaned and disinfected between patients.
• Healthcare workers should use standard hygiene precautions when working with patients with suspected HID.
• If a patient with a suspected HID is referred to another health care facility, notify the receiving facility.

Protocol for Contact Management of HID
SYMPTOMATIC

TRIAGE

SUSPECTED

YES

SUSPECTED CASE PROTOCOL

NO

ASYMPTOMATIC

COMPLETE CONTACT TRACING FORM

NOTIFY

ISSUE HID KIT:
- Information package
- Masks
- Thermometer
3.1.2 Staff Medical Emergencies

Staff Medical Emergencies (Internal)

GENERAL INFORMATION

While a medical emergency is not an uncommon hazard that to which the Health Facility can provide response, a serious medical emergency or death of a co-worker or visitor to the Health Facility could have a major impact on all personnel. Therefore it is important to have procedures in place should one occur.

A list of staff known allergies and medical conditions should be included on the emergency contact list of the Health Facility. This list should be checked if the medical emergency involves any of the Health Facility’s personnel and priority medical attention should be given to these personnel.

When any person at the facility has a medical emergency or accident, the following procedures should be followed.

Notify others of the situation.

Activate the Emergency Medical Response System.

Provide emergency medical assistance to the individual if qualified to do so.

Notify the Administrator / Manager or most Senior Staff on duty, of the incident.

Based on the incident, crisis counseling should be considered for all of the personnel.
4 Man-made hazards

4.1.1 Bio Terrorism
4.1.2 Accidents (road, air, sea and rail)

Accidents- Land, Sea and Air (Mass Casualty Incident- MCI)

GENERAL INFORMATION

MCI is any single event that impacts negatively on a community, causing a number of casualties that overwhelms that community’s ability to respond using its normal arrangements and resources. Mass casualty management involves many agencies working together in an unfamiliar environment to preserve life. It may be caused by incidents/accidents on sea land or air.

Before

A mass casualty management plan should have been developed and tested involving the working of all agencies.

After

1. All agencies and personnel should carry out their responsibilities as determined under the laws of St. Vincent and the Grenadines
2. Coordination of the activities within the incident command center (ICC) will be the responsibility of the commissioner of police in coordination with other senior representatives of NEMO.
3. All requests/information should be channeled through the ICC, which will communicate these requests to the relevant authorities.
4. All agency officers in the ICC should have direct radio contact with their operations personnel.
5. Agency personnel shall await the “area is safe” before entering the impact zone.
6. All agency personnel should clearly display their official identification badge.
7. Only designated information officers will be authorized to issue press statements.
8. Written records of the proceedings must be sent to the NEMO and the MOH at the end of the event.
9. All staff involved, especially the first responders, must be debriefed and given psychosocial support.

All staff within respective health facilities will be expected to respond according to their role and responsibilities.
4.1.3 Bombings

Bomb Threat

GENERAL INFORMATION

Upon receipt of a bomb threat, it is impossible to know if it is real or a hoax. Therefore, precautions need to be taken for safety.

If you receive a bomb threat over the phone, follow these procedures:

- Keep the caller on the line as long as possible.
- Ask the caller to repeat the message.
- Ask the caller his name.
- Ask the caller where the bomb is located.
- Record every word spoken by the person making the call.
- Record time call was received and terminated.
- Inform the caller that the building is occupied and the detonation of a bomb could result in death or serious injury to many innocent people.
- Complete the bomb threat form in the attachments to record the caller’s characteristics.
- If possible, during the call, alert another staff member, who should assist with the following actions:
  - Call the Police Department.
  - Notify all personnel of the event
  - Evacuation of the building
  - Conduct a personnel accountability check.

If a suspected bomb is located within the building, the responsibility for investigation will be that of the law enforcement officials having jurisdiction over such matters.

After the threat has been dealt with and the building has been evaluated. The next steps may follow:

- If the threat was not real:
  - Return to building.
  - Assume normal activities.
  - Prepare a report for police on the incident.
- If the threat was real:
  - Evacuate the area.
  - Activate Contingency and Continuity Plan.
  - Follow directives from Police.

Advise external individuals and organizations.
4.1.4 CBRNE

CBRNE INCIDENTS

GENERAL INFORMATION

The acronym CBRNE stands for chemical, biological, radiological, nuclear and enhanced conventional weapons. Presently these hazards are rare in St. Vincent and the Grenadines but planning for anyone of them needs to be done and staff must be prepared to assume their respective role if such an event should occur. Exposure to hazardous chemicals is probably the most likely one to occur and as such much of this SOP will address this.

**SOP for handling hazardous chemicals or substances**

There are a set of rules that should be followed when handling hazardous chemicals or substances. Outlined below are 11 such step that all should follow:

1. Follow all established procedures and perform job duties as you have been trained
2. Be cautious and plan ahead. Think about what could go wrong and pay close attention to what you are doing while you work
3. Always use required PPE—and inspect it carefully before each use to make sure it is safe to use. Replace worn out or damage PPE; it will not provide adequate protection.
4. Make sure all containers are properly labeled and that the material is contained in an appropriate container. Do not use any material not contained or labeled properly. Report any damaged containers or illegible labels to your supervisor right away.
5. Read labels and the material safety data sheet (MSDS) before using any material to make sure you understand hazards and precautions.
6. Use all materials solely for their intended purpose. Do not, for example, use solvents to clean your hands, or gasoline to wipe down equipment
7. Never eat or drink while handling any materials and if your hands are contaminated, do not use cosmetics or handle contact lenses.
8. Read the labels and refer to MSDSs to identify properties and hazards of chemical products and materials.
9. Store all materials properly, separate incompatibles, and store in ventilated, dry, cool areas.
10. Keep you and your work area clean. After handling any material, wash thoroughly with soap and water. Clean work surfaces at least once a shift so that contamination risks are minimized.
11. Learn about emergency procedures and equipment. Understanding emergency procedures means knowing evacuation procedures, emergency reporting procedures, and procedures for dealing with fires and spills. It also means knowing what to do in a medical emergency if a co-worker is injured or overcome by chemicals.

**General Procedures that need to be followed should a CBRNE incident occur**
There are 4 main areas that need to be considered. These are:

1  Information gathering, assessment and dissemination. The procedure involves
   - Recognizing that a CBRN incident has or may occur
   - Gathering, assessing, and disseminating all available information to First Responders
   - Establishing an overview of the affected area
   - Providing and obtaining regular updates to and from first responders

Actions by First Responders:

   - Approach scene with caution and upwind (the wind at your back and blowing to the incident)
   - Carry out scene assessment
   - Establish Incident Command (each responding agency)
   - Recognize the signs and indicators of CBRN
   - Determine whether CBRN or Hazmat
   - Estimate number of casualties/victims
   - Estimate resource requirements
   - Consider specialist advice/resources requirements
   - Provide situation report to emergency control rooms etc and request assistance if necessary
   - Carry out risk assessment
   - Undertake Hazard identification
   - Do not approach or touch suspect objects/packages—do not operate radios, mobile phones, or other electronic devices within vicinity
   - Consider secondary devices/target
   - Establish and agree multiagency response plan
   - Identify safe rendezvous point for additional first responder vehicles
   - Search for secondary devices
   - Consider critical infrastructure

2  Scene management. It is important to isolate the scene

   - Initially:
     - Consider wind direction
     - Established multi-agency command point in safe area (cold zone)
     - Establish inner and outer cordon (hot/warm/cold zone)

   - Containment:
     - Contain contaminant material/liquid
     - Establish quarantine(holding) area for contaminated victims/casualties (where necessary)
     - Establish decontamination and triage areas
     - Cordon off contaminated areas
3 Saving and protecting life. Saving of life is the first priority of all responding agencies and should include the following:

- Determine immediate actions and priorities
- Evacuate inner cordon (to quarantine area)
- Restrict inner cordon access (protected first responders only)
- Provide safe system of work for rescuers
- Carry out necessary rescues
- Implement decontamination as appropriate (emergency, mass, clinical)
- Consider decontamination of personal property
- Implement medical triage and treatment
- Implement responder/rescuer decontamination
- Consider requirements and provide transport for victims/casualties
- Provide timely warning and advice to the public (immediate vicinity and beyond as necessary)
- Consider evacuation (immediate vicinity and beyond as necessary)
- Consider utility shutdown
- Consider public order
- Consider hospital defense (self-presenters)

4 Additional/specialist support. Following the immediate operational response, specialist advice should be sought to assist with consequence management

- Notification:
  - Notify appropriate authorities at local, regional, and national level (governmental and responder agencies)
  - Notify specialists (chemical, biological, radiological/nuclear, medical)
  - Consider international support and conventions (IAEA, WHO, OPCW)
  - Provide situation report to all notifications

- Assessment:
  - Prepare impact assessment (en-route/on site)
  - Establish effect on population
  - Establish effect on critical infrastructure
  - Establish effect on environment
  - Carry out incident specific and environmental sampling
  - Hazard prediction
  - Dispersion modeling
  - Radiation monitoring
  - Consider emergency provision requirements for immediate and wider area

Other areas that should be considered are:

- Integration of support:
- Substance identification:
• Victim/casualty support
• Information to public
• Site decontamination/ restoration and remediation

Post incident and long term considerations.
4.1.5 Hazardous Material

Hazardous Material

GENERAL INFORMATION

A hazardous material is any item, product or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by it or through interaction with other factors.

A hazardous material may come from many different sources, such as materials used in construction of the building, common products used in everyday activities or systems, the burning of certain substances, terrorist acts, nature, and others. Hazardous materials can be found in all states of matter; solid, liquid, and gas. Some hazardous materials cannot be seen or smelt. Physical contact, air movement, water movement, and radiation can transmit hazardous materials from one place to another.

Based on the source and form of the product, such as an accidental spill of a bottle of hydrochloric acid or a powder found in an envelope received in the mail from an unknown person, different actions should be taken. It is impossible to foresee every possible scenario that could involve a hazardous material. Therefore, anytime an unknown product or suspected hazardous material is of concern, the following procedures should be followed.

If the type of hazardous material is known:

- Secure the area and notify all personnel of the situation.
- If there is no immediate danger to the safety of personnel, contact a qualified person to remove the hazardous material.

If the type of hazardous material is unknown or there is concern for the safety of personnel:

- Leave the area immediately
- Secure the area and notify all personnel of the situation
- If unsure of the risk, secure and evacuate the building to an up wind location
- Contact the local fire and police departments

If the hazardous material is thought to be able to travel through air currents, consider having a qualified person shut down the air conditioning system to the building from outside.

If any person has been exposed to the product, decontamination may be required.

If any person has been exposed to the product, isolation may be required. If any person is showing signs of a reaction from exposure to the product, do not expose yourself to also becoming contaminated by providing first aid. Conduct a personnel accountability check.
4.1.6 Dangerous or Threatening Situation

Dangerous and Threatening Situations

GENERAL INFORMATION

This section will consider all types of dangerous and threatening situations that may face the Health Facility and its personnel. These would include such examples as irate and disoriented person or personnel, as well as armed and unstable individuals off the street. Due to the fact that there are many circumstances that may be placed in this category, it would be virtually impossible to address them all. Therefore, the following is a list of suggested procedures to be utilized in one of these crisis situations.

Some things to consider are:

- Have someone (more than one person is suggested) designated to alert the local authorities of the problem.
- Make sure that everyone is always prepared for this type of crisis (the last thing needed is a panicked state that may "light the fuse" of this person).
- Make it known that the personnel should never argue with these people, in fact it is recommended that personnel keep a smile on their face and do everything in their power to appease them.
- An attempt should be made to reason with the person and portray a feeling of understanding towards them.
- Consideration should be given to the possibility of evacuating the building.
- Having people seek shelter is a final option.
- Conduct a personnel accountability check (PAC).
5 Developing a Plan

Each Institution will have their own Disaster Plan that will be triggered as necessary. These will include:

- Sector Plans
- Hospital Plans
- EOC SOPs
- CMOH Plans
- Vertical Services
APPENDIX A: DIASTER MANAGEMENT COMMITTEE MEMBERS

<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Designation</th>
<th>Telephone Nos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dr. Simone Keizer-Beache</td>
<td>Chief Medical Officer - Chair</td>
<td>784 493 9796</td>
</tr>
<tr>
<td>2.</td>
<td>Mrs. Donna Joyette Bascombe</td>
<td>Health Disaster Coordinator- Deputy Chair</td>
<td>784 527 0365</td>
</tr>
<tr>
<td>3.</td>
<td>Dr. Roger Duncan</td>
<td>Medical Officer of Health</td>
<td>784 533 1274</td>
</tr>
<tr>
<td>4.</td>
<td>Mr. Cuthbert Knights</td>
<td>Permanent Secretary</td>
<td>784 495 3779</td>
</tr>
<tr>
<td>5.</td>
<td>Dr. Charles Wood</td>
<td>Medical Director</td>
<td>784 528 6992</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td>Chie Executive Officer</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Mr. Neri James</td>
<td>Chief Environmental Officer</td>
<td>784 530 4784</td>
</tr>
<tr>
<td>8.</td>
<td>Mrs. Andrea Robin</td>
<td>Chief Nutritionist</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Ms. Peggy DaSilva</td>
<td>Chief Nursing Officer</td>
<td>784 492 4463</td>
</tr>
<tr>
<td>10.</td>
<td>Ms. Grace Walters</td>
<td>Hospital Administrator Hospital Services</td>
<td>784</td>
</tr>
<tr>
<td>11.</td>
<td>Ms. Tamara Bobb</td>
<td>Epidemiologist</td>
<td>784 530 1557</td>
</tr>
<tr>
<td>12.</td>
<td>Mrs. Elizabeth Medford</td>
<td>Senior Nursing Officer MHC (Ag)</td>
<td>784 498 5075</td>
</tr>
<tr>
<td>13.</td>
<td>Mr. Elliot Samuel</td>
<td>Chief Laboratory Technologist</td>
<td>784 530 4929</td>
</tr>
<tr>
<td>14.</td>
<td>Mr. Levi Walker</td>
<td>Chief Pharmacist</td>
<td>784 593 2421</td>
</tr>
<tr>
<td>15.</td>
<td>Mr. Steve Millington</td>
<td>Manager Central Medical Stores</td>
<td>784</td>
</tr>
<tr>
<td>16.</td>
<td>Ms. Patsy Wyllie</td>
<td>Chief Health Educator</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>Mr. Roald Shallow</td>
<td>Biomedical Engineer</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Ms. Sally Ann Hinds</td>
<td>Chief Radiographer (Ag)</td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>Mrs. Cecile James Samuel</td>
<td>Senior Nursing Officer Community Services</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. Marie Davis</td>
<td>Senior Nursing Officer Lewis Punnett Home (Ag)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mrs. Viola Richardson</td>
<td>Senior Nursing Officer Hospital Services (Ag)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Representative from Medical Schools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Representative of Federation of Red Cross</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7 APPENDIX B: ACTION CARDS

7.1 MINISTER OF HEALTH, WELLNESS AND THE ENVIRONMENT

The Disaster Management policy of the Ministry of Health, Wellness and the Environment is in concert with the policy of the Government of St Vincent and the Grenadines and with that of the other Government Agencies involved in Disaster Management.

1. Is a member of The National Emergency Council

2. Considers for approval, policy recommendations of the Health Disaster Management Committee (HDMC) and the Health Services Sub-Committee (HSSC).

3. Consults regularly with the Permanent Secretary, Chief Medical Officer and the Health Disaster Coordinator, to ensure that a continuous state of readiness exists in the Ministry of Health, Wellness and the Environment in the event of a disaster.

4. Informs the Prime Minister and his Cabinet colleagues of the Disaster Management Policy of the Ministry of Health, Wellness and the Environment.

5. Ensures that funds for Disaster Management are included in the annual budget of the Ministry before submission to the Minister of Finance.

6. In the event of a disaster, submits status reports to the Prime Minister and Minister of Finance.

7. Requests funds from the Minister of Finance for emergency, extraordinary expenditure.

8. Submits reports to Cabinet describing the performance of the Ministry of Health, Wellness and the Environment during the post-disaster period.
7.2 PERMANENT SECRETARY

1. Is a member of the Health Disaster Management Committee (HDMC)

2. Ensures that Disaster Management is taken into consideration when the annual estimates of expenditure of the Ministry of Health are being prepared.

3. Monitors the financial aspects of the Disaster Preparedness Plan to ensure that while funds are made available to support the plan, strictest economy is maintained and unnecessary expense avoided.

4. Ensures that sufficient funds are made available to advance subsistence allowance to staff sent on temporary duty.

5. Ensures that, in an emergency, arrangements are in place to obtain supplies not routinely stocked by the Ministry of Health e.g. gasoline.

6. Remains available to the HEOC at all times.

7. Keeps the Minister of Health informed about the emergency and the action being taken by the Ministry

8. Liaises with the Minister of Health, Chief Medical Officer, and Health Disaster Coordinator to determine whether requests for assistance will be sent to international agencies.
7.3  CHIEF MEDICAL OFFICER

1. Is Chairman of the Health Disaster Management Committee
2. Chairs the National Health Services Sub-Committee (HSSC)
3. Member of The National Emergency Council
4. Member of National Emergency Executive Committee
5. Lead IHR Focal Committee
6. Approves the schedule of disaster preparedness meetings in January of each year.
7. Calls a meeting of the Health Disaster Management Committee (HDMC) in January of each year and arranges follow-up action as necessary. Activates the disaster plan when an “ALERT” is declared or a disaster occurs.
8. Designates the Director of Operations to take charge of the Health Emergency Operations Centre (HEOC)
9. Ensures that the Health Emergency Operations Centre (HEOC) is established according to guidelines
10. Authorizes all releases to be made to the Media.
11. Is responsible for implementing the decisions of the Disaster Preparedness Committees as they relate to technical matters.
12. Reviews the disaster preparedness plan with Heads of Technical Divisions before the start of the hurricane season, and ensures that all preparations have been made.
13. Keeps informed of all plans, proposals and decisions of the National Emergency Management Agency as they relate to health, and ensures that this information is conveyed to the appropriate Technical Officers.
14. Has final responsibility for the technical aspect of health relief services.
15. Evaluates data collected after the disaster and determines what internal and external assistance is required for health.
7.4 HEALTH DISASTER COORDINATOR

1. Is the deputy chair of the Health Disaster Management Committee (HDMC)
2. Is a member of National Health Services Sub-Committee
3. Is a member of National Search and Rescue (Land/Sea) Sub-Committee
4. Serves as alternate to the CMO at the NEOC
5. Is a member of IHR Focal Committee
6. Is IAEA Focal Point in Health
7. Lead health DRR
8. Advises Chief Medical Officer, Permanent Secretary and Honourable Health Minister in all the technical matters related to Disaster Preparedness and Health sector response coordination.
9. Assists and coordinates all the activities carried out by different units and agencies related to Health Sector Disaster preparedness and response coordination.
10. Coordinates all efforts to ensure that before the hurricane season commences, all district authorities and institutions have reviewed their disaster preparedness plans and arrangements, and that all necessary actions have been taken.
11. Ensures that the Plans for all types of Disasters are prepared, reviewed, updated and tested annually.
12. Advises honourable Health Minister to ensure that the Disaster Management policy of the Ministry of Health is in concert with the policy of the Government of St Vincent and the Grenadines and with that of the other Government Agencies involved in Disaster Management.
13. Assist in preparing budget for Disaster Management and ensure that budget is included in the annual budget of the Ministry before submission to the Minister of Finance.
14. In the event of a disaster, prepares status reports in order to submit to the Minister of Health, Wellness and the Environment.
15. Ensures that the decisions of the Disaster Preparedness Committees related to technical matters are implemented by respective units/agencies.
16. Coordinate the activities to review, revise and update the Plans for all types of Disasters and tested annually.
17. Prepares the issues of an annual calendar of disaster preparedness meetings in January of each year.
18. Prepare for the meeting of the Health Disaster Management Committee (HDMC) in January of each year and take follow-up action as necessary.
19. Prepares reports to Cabinet describing the performance of the Ministry of Health, Wellness and the Environment during the post-disaster period.

20. Coordinate with CMO and PS to determine whether requests for international assistance are needed.


22. Prepares annual work plan for the Ministry of Health, Wellness and the Environment and presents if for approval to the January meeting of the Standing Committee.

23. Assists in the planning and evaluation of Disaster Preparedness simulation exercises.

24. Advises the Permanent Secretary and Chief Medical Officer on technical matters related to the relief effort of the Ministry of Health.

25. Coordinates Medical and Public Health relief activities.

26. Is responsible for coordinating health relief services with the relief services of NEMO.

27. Coordinates the post disaster damage and needs assessments of health sector.

28. Advises on the need for, and coordinates foreign health personnel and relief teams, through the coordination of the CICOM.

29. Evaluates the response of the Health Sector to a disaster.

7.5 MEDICAL OFFICER OF HEALTH

1. Is a member of the Health Disaster Management Committee (HDMC)
2. Is deputy chair of National Health Services Sub-Committee (HSSC)
3. Serves as alternate to CMO at the HEOC
4. Serves as alternate to the CMO at the NEOC
5. Heads Community Public Health
6. IS Chemical Management Focal Point
7. Lead IHR or Focal Point
8. Coordinates the development, revision/update and implementation of the Highly Infectious Diseases Management Plan and Community Health Services Contingency Plans
9. Assists in the identification and procurement of essential emergency equipment and accessories, domestic, sanitary, medical and pharmaceutical supplies.
10. Identifies and recommends District Medical Officers to serve on the National Emergency Medical Response Team and on Medical Teams established for events.
11. Provides disaster/ emergency management related information to District Medical Officers
12. Receives reports from District Medical Officers on situations of public health significance
13. Submits disaster/emergency related reports from Community Health Services to the Chief Medical Officer and Health Disaster Committee
14. Initiates and implements Community Health Services disaster management measures
15. Monitor, evaluate and report on implementation of disaster management initiatives throughout the Community Health Services.
16. Advises on post-event recovery and continuity of Community Health Services
17. Coordinates staff welfare and psychosocial support for community health first response personnel
7.6 HEALTH PLANNER

1. Represents the MOHWE Administrative Department on the Health Disaster Management Committee (HDMC)

2. Represents the MOH Administrative Department at the HEOC

3. Ensures the development, revisions /updates and implementation of the National Multi-Hazard Disaster and Emergency Management Plan and respective Contingency plans.

4. Collaborates with the Health Disaster Coordinator in the preparation of the National Multi-Hazard Disaster and Emergency Management Plan and respective sub-plans and Policies

5. Submits budgetary proposals to the Ministry of Finance for funding the execution of the Health Disaster Risk Management Programme.


7. Advocates Staff Welfare and Psychosocial Support for the Health Services Personnel
7.7 **ADMINISTRATIVE OFFICER**

1. Is a member of both Health Disaster Management Committee (HDMC) and the HEOC.

2. Designates a Recording Secretary for the Disaster Management Committee.

3. Is responsible for receiving, preparing and dispatching all correspondence pertaining to disaster management at Head Office.

4. Liaises with the Health Disaster Coordinator in convening meetings of the Health Disaster Management Committee (HDMC).

5. Prepares distribution lists for communications concerning disaster management and ensures that these lists are continuously updated.

6. Assists with securing records, drugs, food supplies and other properties of the Ministry of Health against possible damage in the event of a disaster.

7. Ensures that items such as emergency equipment for the HEOC are ready for use at short notice.

8. During an alert or in the event of a disaster, assists the Director of Operations with coordination of the HEOC preparations.

9. Assists in establishing the Command Centre.

10. Remains available to the Command Centre at all times.
7.8 MANAGER MEDICAL STORES

1. Is a member of the Health Disaster Committee.
2. Is a member of the National Health Services Sub Committee
3. Is a member of the National Emergency Supplies Sub Committee
4. Is lead of the Emergency Supply Chain
5. Procures and maintains adequate stocks of essential emergency medical, pharmaceutical, domestic and sanitary supplies, accessories and materials
6. Distributes and pre-positions adequate stocks of essential emergency medical, pharmaceutical, domestic and sanitary supplies, accessories and materials
7. Makes quarterly or more frequent checks on emergency drugs and medical supplies, rotates them if necessary and submits written quarterly reports to the CMO.
8. Establishes procedures for immediate delivery of emergency drugs and medical supplies when required.
9. Remains available to the HEOC at all times.
10. Is responsible for cataloguing, storage and distribution of donations and emergency purchases pharmaceuticals, before, during and after a disaster.
11. Coordinates with HEDMU regarding emergency supplies before, during and after a disaster.
12. Coordinates the development, revisions/updates and implementation of a Disaster Plan
13. Ensures that a list of essential emergency medical, pharmaceutical, domestic and sanitary supplies, accessories and materials are maintained and regularly updated.
14. Coordinates and advises on the establishment of MOUs with suppliers for obtaining emergency medical supplies, accessories and materials.
15. Advises on the receipt, storage and distribution of Emergency Relief Supplies and submit reports
16. Maintains records of Emergency Relief Supplies
18. Coordinates Staff Welfare and Psychosocial Support for Central Procurement Unit Personnel
7.9 CHIEF HEALTH PROMOTION OFFICER

1. Is a member of the Health Disaster Management Committee
2. Leads disaster risk communication in the HEOC
3. Is a member of IHR Focal Committee
4. Develops the Risk Communications Plan for Health emergency disaster management. (Prepares material for a public education programme for disaster preparedness and monitors its implementation. This should include standardized health messages instantly available for pre and post disaster use).
5. Ensures that Risk Communication Plan is updated
6. Assists district authorities to motivate NGOs and other community based organizations to participate in disaster management.
7. Remains available to the HEOC at all times.
8. Liaises with the API and make arrangements for Media Releases and Press Conferences
9. Coordinates the development, revisions/updates and implementation of Unit Disaster Plan
10. Identifies and recommends Health Promotion Personnel to participate in Disaster/ Emergency Management Trainings and Exercises
11. Ensures the availability of adequate quantities of Disaster/Emergency Management related educational materials for distribution.
12. Ensures standardization of disaster related health messages.
13. Submits reports to HEOC
15. Coordinates Staff Welfare and Psychosocial Support for the Health Promotion Unit Personnel
7.10 SENIOR ASSISTANT SECRETARY – HUMAN RESOURCES FOR HEALTH

1. Is a member of the Health Disaster Committee
2. Is a member of the HEOC
4. Supervises the assignment of staff and the preparation of duty rosters for the HEOC
5. Supervises and approves necessary transfers when staff members are redeployed during an emergency.
6. Approves and supports an annual programme of workshops and seminars is prepared and submitted for approval in January of each year.
7. Supervises the timely submission of names of appropriate staff members for workshops, seminars and other training programmes locally and abroad.
8. Supports the logistics of staff deployment abroad in collaboration with the CICOM
7.11 SENIOR ASSISTANT SECRETARY - ACCOUNTS

1. Represents the MOHWE Finance Department in the HEOC.

2. Is knowledgeable with the provisions and expectations of the National Health Disaster Management Plan.

3. Ensures that Disaster Risk Management is taken into consideration when the annual estimates of expenditure of the Ministry of Health are being prepared.

4. Monitors the financial aspects of the National Health Disaster Management Plan to ensure that while funds are made available to support the plan, strictest economy is maintained and unnecessary expense avoided.

5. Ensures that, in an emergency, arrangements are in place to obtain supplies not routinely stocked by the Ministry of Health.


7. Facilitates funding for Staff Welfare and Psychosocial Support for Health Services Personnel.
7.12 CHIEF NUTRITIONIST

1. Is a member of the Disaster Management Committee
2. Is a member of the National Emergency Supplies Sub Committee
3. Is knowledgeable with the provisions of the Disaster Preparedness Plan and ensures that the Plan is understood by all members of the Nutrition Unit
4. Prepares an Action plan for the emergency distribution of food throughout the health system and supplements to priority target groups affected by a disaster
5. Liaises with the SAS Accounts and Hospital Administrator ensure that supplies will be available.
6. Actively participates in the preparation of recommendations to Government for action to be taken to meet anticipated food shortages if large areas of agricultural land are damaged or destroyed by a disaster.
7. Prepares the dietary content of health educational material produced in connection with disasters.
8. Remains available to the HEOC at all times.
7.13 HOSPITAL ADMINISTRATOR

1. Leads Hospital Services on the Health Disaster Management Committee
2. Is a member of the National Health Services Sub Committee.
3. Chair Hospital Services Disaster Preparedness Committee
4. Chair Hospital Services EOC
5. Coordinates the development, revisions/ updates and implementation of Hospital Services Disaster Plans and respective Departments Sub-plans e.g. MCM Plan, Laboratory Services Plan
6. Advises on the activation/deactivation of the Hospital Services Plans
7. Identifies and recommends Hospital Services Personnel to participate in Disaster/ Emergency Management Trainings and Exercises
8. Ensures the proper maintenance and availability of Emergency Response Vehicles and Personnel
9. Ensures the proper maintenance and safety of buildings, equipment and surroundings
10. Identifies and recommends trained Hospital Services non-medical Personnel to serve on the National Emergency Medical Response Team and on Medical Teams established for events.
11. Monitor and evaluate the involvement of Hospital Services non-medical Personnel in Disaster /Emergency Response.
12. Submits reports to the HEOC
13. Advises on post-event Recovery and Continuity of Hospital Services
14. Coordinates Staff Welfare and Psychosocial Support for Hospital Services Personnel Responsible for ensuring that all non-medical supportive staff are aware of their roles in the event of a disaster
15. Liaises with Police to maintain security, crowd and traffic control in the event of a disaster
16. Coordinates transportation requirements
17. Collaborates with other health sectors as necessary
7.14 DEPUTY HOSPITAL ADMINISTRATOR

1. When a hurricane (or other disaster) “ALERT” is declared, immediately recalls to base all vehicles attached to Hospital Services to base ensures that they are roadworthy and places them at the disposal of the HSEOC. Keeps an accurate record of their movements from the time the “ALERT” is declared and until the emergency and/or relief operations have been concluded. Transmits information to the HEOC so that a master chart of vehicle movements can be created.

2. Is a member of the Health Disaster Management Committee

3. Is a member of the Hospital Services Preparedness Committee

4. Procures and maintains adequate stocks of essential emergency medical, pharmaceutical, domestic and sanitary supplies, accessories and materials.

5. Procures and maintains adequate food supplies

6. Ensures that sufficient quantities of necessary food stuff are available in the event of a disaster

7. Liaises with the storekeeper, the telephone operators and the catering supervisor to ensure that they all know and are carrying out their functions also;

8. Ensure that needs of hospital personnel are met e.g. getting food to them, ensuring that there is a room for resting.

9. Ensures communication equipment on site and Emergency Response Vehicles are functional

10. Provides support and assistance to the Emergency Medical Response Team, where possible

11. Advises on post-event Recovery and Continuity of Services

12. Coordinates Staff Welfare and Psychosocial Support for Transport Department Personnel
7.15 SENIOR NURSING OFFICER – HOSPITAL SERVICES

1. Is a member of the Health Disaster Management Committee
2. Is a member of the Hospital Services Disaster Preparedness Committee
3. Leads Hospital Services Nursing at the Hospital Emergency Operation Centre (Hospital EOC).
4. Assists in the development, revisions/updates and implementation of Hospital Services Disaster Plan and respective Departments Sub-plans e.g. MCM Plan, Laboratory Services Plan
5. Identifies and recommends Hospital Services Nursing Personnel to participate in Disaster/Emergency Management Trainings and Exercises
6. Requisition of adequate stocks of essential emergency medical, pharmaceutical, domestic and sanitary supplies, accessories and materials.
7. Identifies and recommends trained Hospital Services Nursing Personnel to serve on the National Emergency Medical Response Team and on Medical Teams established for events.
8. Authorizes deployment of Hospital Services Nursing Personnel and medical supplies to provide medical care in Disaster/Emergency situations
9. Monitor and evaluate the involvement of Hospital Services Nursing Personnel in Disaster/Emergency Response.
10. Submits reports to the HEOC
11. Advises on post-event Recovery and Continuity of Hospital Services
12. Coordinates Staff Welfare and Psychosocial Support for Hospital Services Nursing Personnel
7.16 REGISTRAR OF ACCIDENT AND EMERGENCY DEPARTMENT

1. Is a member of the Health Disaster Management Committee
2. Is a member of the Hospital Services Disaster Preparedness Committee
3. Assists in the development, revisions/updates and implementation of Hospital Services Disaster Plans
4. Spearheads the development, revisions/updates and implementation of the MCM Plan
5. Advises on the activation/deactivation of the MCM Plan
6. Identifies and recommends Accident and Emergency Department Personnel to participate in Disaster/Emergency Management Trainings and Exercises
7. Identifies and recommends trained Emergency Medical Response Personnel to serve on the National Emergency Medical Response Team and on Medical Teams established for events.
8. Is responsible for initiating the Call out Cascade
9. Deploys Personnel and medical supplies to provide medical care at the scene
10. Sometimes Leads the Emergency Medical Response Team especially in Mass Casualty events
11. Serves as the AMP Manager
12. Submits reports to the Hospital Incident Commander and HSEOC
13. Advises on post-event Recovery and Continuity of Hospital Services
14. Coordinates Staff Welfare and Psychosocial Support for Accident and Emergency Department Personnel
7.17 EPIDEMIOLOGIST

1. Represents the Epidemiology and Surveillance Unit on the Health Disaster Management Committee (HDMC).
2. Represents the Epidemiology and Surveillance Unit at the HEOC.
3. Is member of IHR Focal Committee.
4. Coordinates the development, revisions/updates and implementation of the Communicable Disease Surveillance Manual.
5. Coordinates the development, revisions/updates and implementation of the Infectious Disease Plan.
6. Coordinates ongoing diseases surveillance activities, nationally.
7. Monitors diseases trends and identifies possible outbreaks/threats.
9. In the event of a disease threat/outbreak implement robust diseases surveillance measures.
10. Receives and analyses data and provides reports to HEOC.
11. Recommends actions to minimize disease spread and new outbreaks.
12. Advises the HEOC on return to normalcy.
13. Prepares final report for HEOC.
7.18 CHIEF ENVIRONMENTAL HEALTH OFFICER

1. Is a member of the Health Disaster Management Committee
2. Is a member of the National Health Services Sub Committee
3. Is a member of the National Damage and Needs Assessment Sub Committee
4. Is a member of the National Emergency Supplies Sub Committee
5. Is a member of the National Shelter and Shelter Management Sub Committee
6. Is a member of the IHR Focal Committee
7. Represents the Environmental Health Department at the HEOC
8. Member of Disaster Management related sub-committees such as the Hazardous Materials and Oil Spill Committees
9. Coordinates the development, revision/updates and implementation of the Environmental Health Services Plan
10. Assists in the development of Disaster Management related sub-plans such as the Mass Casualty Plan, Infectious Diseases Management Plan, Disease Surveillance Plan.
11. Identifies and recommends environmental health personnel to participate in disaster management trainings and exercises.
12. Identifies and recommends Environmental Health Officers to serve on the Emergency Medical Response Team and on Medical Teams established for events.
13. Provides technical advice on Environmental Health and or Public health issues in disaster situations and recovery activities.
14. Procures essential supplies for Environmental Health related response in disaster situations
15. Liaises with the National Water Authority, to ensure the emergency protection of water supplies and for the provision of safe drinking water after a disaster has occurred.
16. Liaises with the National Emergency Management Organisation in activities carried out for the establishment and management of shelters.
17. After the disaster, monitors the process of solid waste management.
18. Ensures for the provision of emergency sanitary arrangements when necessary following a disaster:
a. monitors the general environment for health hazards and advise on appropriate interventions

b. ensures the implementation of relevant vector control measures

c. implements food safety and protection activities

19. Remains available to the HEOC at all times.
7.19 CHIEF NURSING OFFICER

1. Is a member of the Health Disaster Management Committee
2. Is a member of the National Health Services Sub-Committee.
3. Leads the Nursing Services at the HEOC.
4. Is the Link between the HSEOC and DEOC nursing services with the HEOC
5. Is the link between the Mental Health Rehabilitative Services and the HEOC
6. Is the link between the Lewis Punnett Home and the HEOC
7. Assists in the development, revisions/updates of all disaster plans such as Infectious Disease Management Plan, Surveillance Plan, Community Health Services Plan, Hospital Services Plan
8. Identifies and recommends trained Nursing Personnel to serve on the National Emergency Medical Response Team and on Medical teams established for major events.
9. Monitor and evaluate the involvement of nursing personnel in disaster response.
10. Assists with the generation of SITREPS
11. Advises on post-event recovery and continuity of healthcare services
12. Coordinates staff welfare and psychosocial support for nursing personnel
7.20 SENIOR NURSING OFFICER - COMMUNITY NURSING SERVICE

1. Is a member of the Health Disaster Management Committee
2. Is a member of the HEOC
3. Is a member of the DEOC
4. Coordinates the development, revisions/updates and implementation of the Community Health Services Disaster Plans
5. Assists in the identification of essential emergency equipment and accessories, domestic, sanitary, medical and pharmaceutical supplies.
6. Identifies and recommends Community Health Nursing Personnel to participate in disaster management trainings and exercises
7. Identifies and recommends trained Community Health Nursing Personnel to serve on the National Emergency Medical Response Team and on Medical Teams established for events.
8. Authorizes deployment of First Response Community Health Nursing Personnel to provide medical care in Disaster/Emergency situations
9. Monitor and evaluate the involvement of Community Health Nursing Personnel in Disaster/Emergency Response.
10. Submits reports to the Chief Nursing Officer related to Community Health Nursing participation in Disaster/Emergency Management activities.
11. Advises on post-event Recovery and Continuity of Community Healthcare Services
12. Coordinates Staff Welfare and Psychosocial Support for Community Health Nursing Personnel
7.2.1 COMMUNICATION OFFICER

1. Is a member of the HEOC

2. Assist with dissemination of information from MOHWE

3. Implements the roles as established by the Risk communications plan Health Promotion with arrangements for Media Releases and Press Conferences.

4. Assists with the preparation and dissemination of Disaster/Emergency related information and Health Messages in collaboration with the Health Promotion Unit

5. Assists with identification and procurement of essential communication

6. Assists with information gathering and report generation in the HEOC
7.2.2 CHIEF PHARMACIST

1. Is a member of the Health Disaster Management Committee

2. Is a member of the HEOC

3. Lead Emergency Supply Chain Management HSC

4. Assists in the development, revisions/updates and implementation of the Health Disaster Plan

5. Coordinates the development, revisions/updates and implementation of the Pharmacy Department Plan

6. Coordinates Emergency Supply Chain Management training

7. Assists in the Identification and Procurement of essential Emergency Equipment and accessories, Sanitary, Medical and Pharmaceutical supplies as needed by the health system.

8. Ensures adequate stocks of essential medical and pharmaceuticals supplies are maintained for distribution.

9. Assists in the receipt and distribution of Emergency Relief Medical and Pharmaceutical supplies

10. Identifies and recommends Pharmacists to participate in Disaster/ Emergency Management Trainings and Exercises

11. Submits reports to HEOC


13. Coordinates Staff Welfare and Psychosocial Support for Pharmacy Department Personnel
7.23 MEDICAL SCHOOL REPRESENTATIVE

1. Is a member of the HEOC
2. Act as the link between Medical Students/ Schools and the HEOC
3. Assists with sharing event knowledge with faculty
4. Coordinates Medical Student volunteers to assist in events
5. Coordinates additional transportation to assist in events
6. Ensures that staff and students are safe and secure before during and after events.
7. Assists in the CICOM when additional external assistance in health is required
8. Assists with psychosocial intervention post events
7.24 MEDICAL DIRECTOR

1. Leads hospital services Medical and Technical Services
2. Is a member of the Health Disaster Committee
3. Lead hospital Disaster Preparedness Committee

4. Assists in the development, revisions/ updates and implementation of Hospital Services Disaster Plan and respective Departments Sub-plans e.g. MCM Plan, Laboratory Services Plan
5. Identifies and recommends Hospital Services Medical and Technical Personnel to participate in Disaster/Emergency Management Trainings and Exercises
6. Ensures that facility has adequate available beds
7. Ensure that elective services have been cancelled and Operating Rooms and staff are in a state of readiness for emergencies
8. Ensure that replacement staff in on standby and that adequate supply of food is available
9. Requisition of additional stocks of essential emergency medical, pharmaceutical, and materials.
10. Identifies and recommends trained personnel to serve on the National Emergency Medical Response Team and on Medical Teams established for events.
11. Authorizes deployment of Hospital Services Personnel and medical supplies to provide medical care in Disaster/Emergency situations in the field
12. Monitor and evaluate the involvement of Hospital Services Personnel in Disaster/Emergency Response.
13. Submits reports to the HEOC
14. Advises on post-event Recovery and Continuity of Hospital Services
15. Coordinates Staff Welfare and Psychosocial Support for Hospital Services Nursing Personnel
7.25 DIRECTOR OF OPERATIONS (HEOC)

1) Ensure a sense of calm is maintained at the HEOC
2) Direct the operations of the HEOC for smooth running and efficiency
3) Ensures that an Action Plan for the event is generated and communicated
4) Ensures that links to all facilities through the various EOC’s are maintained
5) Ensure that communication flow between EOC’S are maintained
6) Ensure that clear, verified information is transmitted throughout the system
7) Remain in constant contact with the health representative at the NEOC
8) Ensures that proper documentation is maintained in the HEOC
9) Ensures that needs of officers in the HEOC are met as much as possible
10) Ensures that officers get requisite rest and food
11) Ensures the safety and security of the officers in the HEOC
12) Ensure that information filters to health Executive
13) Ensures that SITREPS are completed accurately and timely
14) Communicate stand down orders to all EOC’s
15) Ensures final reports are generated and submitted
16) Ensure that officers receive requisite psychosocial support
7.26 SENIOR NUTRITIONIST

1. Is a member of the Disaster Management Committee.

2. Familiarizes him/herself with the provisions of the Health Disaster Plan and ensures that the Plan is understood by all members of the Nutrition and Dietetic Division.

3. Prepares a plan for the emergency distribution of nutrient rich food supplements to priority target groups as well as staff affected by a disaster and liaises with the Deputy Hospital Administrator to ensure that food supplies will be available.

4. Prepares the dietary content of health educational material produced in connection with disasters.

5. Remains available to the Command Centre at all times.

6. Make recommendations to address problems such as malnutrition that tends to occur after major events.
7.27 WORLD PEADIATRIC PROJECT

1. Is a member of the Health Disaster Committee
2. Assists in the CIOCM when external assistance in health is required
3. Sits in the HEOC
4. Assists with coordination of information to request external assistance
5. Assists with verification of request for external medical assistance
6. Assists with the logistics of assistance to the country or deployment of local team
## 8 APPENDIX C: SAMPLE SITUATION REPORT FORM (SITREP)

<table>
<thead>
<tr>
<th>Incident #: Click here to enter text.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Incident Name: Click here to enter text.</td>
</tr>
<tr>
<td>3. Incident Commander: Click here to enter text.</td>
</tr>
<tr>
<td>5. Incident Start DTG:</td>
</tr>
<tr>
<td>Date: Click here to enter a date.</td>
</tr>
<tr>
<td>Time Zone: UTC -04:00</td>
</tr>
<tr>
<td>6. Report Version Choose an item.</td>
</tr>
<tr>
<td>8. Incident Size or Area Choose an item.</td>
</tr>
<tr>
<td>10. Report: Click here to enter text.</td>
</tr>
<tr>
<td>11. Life, Safety, and Health Status Threat Remarks Click here to enter text.</td>
</tr>
<tr>
<td>13. Weather Concerns Click here to enter text.</td>
</tr>
<tr>
<td>14. Structural Damage</td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td>Choose an item.</td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td>Choose an item.</td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td>Choose an item.</td>
</tr>
<tr>
<td>Choose an item.</td>
</tr>
<tr>
<td>Choose an item.</td>
</tr>
<tr>
<td>Choose an item.</td>
</tr>
<tr>
<td>Choose an item.</td>
</tr>
<tr>
<td>Choose an item.</td>
</tr>
<tr>
<td>Choose an item.</td>
</tr>
</tbody>
</table>
# 9 APPENDIX D: EMERGENCY MESSAGE FORM

<table>
<thead>
<tr>
<th>DATE and TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
</tr>
<tr>
<td>Time:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CALLER INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>WITNESS</td>
</tr>
<tr>
<td>Address:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INCIDENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
</tr>
<tr>
<td>Description:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Severity of Victims/Injuries:</th>
<th>MINOR</th>
<th>MODERATE</th>
<th>SEVERE</th>
<th>CRITICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Aid/Healthcare Provided:</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>District Doctor/Nurse Notified:</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Estimated Time of Arrival of First Victim: |
| Personnel Notified: |

| Call Taken by: |  |  |  |  |  |

## 10 APPENDIX E: Results of Tool used in Risk Assessment

### HAZARD AND VULNERABILITY ASSESSMENT TOOL

**NATURALLY OCCURRING EVENTS**

<table>
<thead>
<tr>
<th>EVENT</th>
<th>PROBABILITY</th>
<th>SEVERITY = (MAGNITUDE - MITIGATION)</th>
<th>PREPAREDNESS</th>
<th>INTERNAL RESPONSE</th>
<th>EXTERNAL RESPONSE</th>
<th>RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>HUMAN IMPACT</td>
<td>PROPERTY IMPACT</td>
<td>BUSINESS IMPACT</td>
<td>PREPLANNING</td>
<td>TIME, EFFECTIVENESS, RESOURCES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Likelihood this will occur</td>
<td>Possibility of death or injury</td>
<td>Physical losses and damages</td>
<td>Interruption of services</td>
<td>0 = N/A</td>
</tr>
<tr>
<td>Hurricane</td>
<td>3</td>
<td>0 = N/A</td>
<td>1 = Low</td>
<td>2 = Moderate</td>
<td>3 = High</td>
<td>0 = N/A</td>
</tr>
<tr>
<td>Tornado</td>
<td>1</td>
<td>3 = Low</td>
<td>3 = Moderate</td>
<td>3 = High</td>
<td>3 = Low or none</td>
<td>3 = High</td>
</tr>
<tr>
<td>Severe Thunderstorm</td>
<td>2</td>
<td>3 = High</td>
<td>3 = Moderate</td>
<td>2 = Moderate</td>
<td>3 = High</td>
<td>3 = Moderate</td>
</tr>
<tr>
<td>Snow Fall</td>
<td>0</td>
<td>0 = N/A</td>
<td>0 = Low</td>
<td>0 = Moderate</td>
<td>0 = High</td>
<td>0 = N/A</td>
</tr>
<tr>
<td>Blizzard</td>
<td>0</td>
<td>0 = N/A</td>
<td>0 = Low</td>
<td>0 = Moderate</td>
<td>0 = High</td>
<td>0 = N/A</td>
</tr>
<tr>
<td>Ice Storm</td>
<td>0</td>
<td>0 = N/A</td>
<td>0 = Low</td>
<td>0 = Moderate</td>
<td>0 = High</td>
<td>0 = N/A</td>
</tr>
<tr>
<td>Earthquake</td>
<td>2</td>
<td>2 = High</td>
<td>2 = Moderate</td>
<td>2 = Low</td>
<td>3 = Moderate</td>
<td>3 = High</td>
</tr>
<tr>
<td>Tidal Wave</td>
<td>2</td>
<td>2 = High</td>
<td>2 = Moderate</td>
<td>2 = Low</td>
<td>3 = Moderate</td>
<td>3 = High</td>
</tr>
<tr>
<td>Temperature Extremes</td>
<td>2</td>
<td>2 = High</td>
<td>1 = Moderate</td>
<td>1 = Low</td>
<td>3 = Moderate</td>
<td>3 = High</td>
</tr>
<tr>
<td>Event</td>
<td>Ministry of Health Wellness and the Environment</td>
<td>St. Vincent and the Grenadines</td>
<td>National Health Multihazard Plan</td>
<td>AVERAGE SCORE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drought</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>44%</td>
</tr>
<tr>
<td>Flood, External</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>48%</td>
</tr>
<tr>
<td>Wild Fire</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Landslide</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Dam Inundation</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Volcano</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Epidemic</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>AVERAGE SCORE</strong></td>
<td><strong>1.75</strong></td>
<td><strong>1.69</strong></td>
<td><strong>1.63</strong></td>
<td><strong>1.69</strong></td>
<td><strong>1.94</strong></td>
<td><strong>1.75</strong></td>
</tr>
</tbody>
</table>

*Risk increases with percentage.*

\[
\text{RISK} = \text{PROBABILITY} \times \text{SEVERITY}
\]

0.33 0.58 0.57
# HAZARD AND VULNERABILITY ASSESSMENT TOOL

## TECHNOLOGIC EVENTS

<table>
<thead>
<tr>
<th>EVENT</th>
<th>PROBABILITY</th>
<th>SEVERITY = (MAGNITUDE - MITIGATION)</th>
<th>HUMAN IMPACT</th>
<th>PROPERTY IMPACT</th>
<th>BUSINESS IMPACT</th>
<th>PREPAREDNESS</th>
<th>INTERNAL RESPONSE</th>
<th>EXTERNAL RESPONSE</th>
<th>RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Likelihood this will occur</td>
<td>Possibility of death or injury</td>
<td>Physical losses and damages</td>
<td>Interuption of services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 = N/A</td>
<td>1 = Low</td>
<td>2 = Moderate</td>
<td>3 = High</td>
<td>0 = N/A</td>
<td>1 = Low</td>
<td>2 = Moderate</td>
<td>3 = High</td>
<td>0 = N/A</td>
</tr>
<tr>
<td>SCORE</td>
<td>0 - N/A</td>
<td>1 = Low</td>
<td>2 = Moderate</td>
<td>3 = High</td>
<td>0 - N/A</td>
<td>1 = Low</td>
<td>2 = Moderate</td>
<td>3 = High</td>
<td>0 - N/A</td>
</tr>
<tr>
<td>Electrical Failure</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Generator Failure</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Transportation Failure</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>24%</td>
</tr>
<tr>
<td>Fuel Shortage</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>19%</td>
</tr>
<tr>
<td>Natural Gas Failure</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Water Failure</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>44%</td>
</tr>
<tr>
<td>Sewer Failure</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>48%</td>
</tr>
<tr>
<td>Steam Failure</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Fire Alarm Failure</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Communications Failure</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>48%</td>
</tr>
<tr>
<td>Medical Gas Failure</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>52%</td>
</tr>
<tr>
<td>Medical Vacuum Failure</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>24%</td>
</tr>
<tr>
<td>HVAC Failure</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>37%</td>
</tr>
<tr>
<td>Information Systems Failure</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>17%</td>
</tr>
<tr>
<td>Fire, Internal</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>44%</td>
</tr>
<tr>
<td>Flood, Internal</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Ministry of Health Wellness and the Environment</td>
<td>St. Vincent and the Grenadines</td>
<td>National Health Multihazard Plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------</td>
<td>--------------------------------</td>
<td>---------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazmat Exposure, Internal</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Supply Shortage</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Structural Damage</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td><strong>AVERAGE SCORE</strong></td>
<td>1.32</td>
<td>1.42</td>
<td>1.16</td>
<td>1.37</td>
<td>1.95</td>
<td>1.74</td>
<td>2.11</td>
<td>24%</td>
<td></td>
</tr>
</tbody>
</table>

*Risk increases with percentage.*

\[ \text{RISK} = \text{PROBABILITY} \times \text{SEVERITY} \]

<table>
<thead>
<tr>
<th>Prob</th>
<th>Severity</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.24</td>
<td>0.44</td>
<td>0.54</td>
</tr>
</tbody>
</table>

October 2019
## HAZARD AND VULNERABILITY ASSESSMENT TOOL
### HUMAN RELATED EVENTS

<table>
<thead>
<tr>
<th>EVENT</th>
<th>PROBABILITY</th>
<th>SEVERITY = (MAGNITUDE - MITIGATION)</th>
<th>PREPAREDNESS</th>
<th>INTERNAL RESPONSE</th>
<th>EXTERNAL RESPONSE</th>
<th>RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>HUMAN IMPACT</td>
<td>PROPERTY IMPACT</td>
<td>BUSINESS IMPACT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Likelihood this will occur</td>
<td>Possibility of death or injury</td>
<td>Physical losses and damages</td>
<td>Interruption of services</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 = N/A</td>
<td>0 = N/A</td>
<td>0 = N/A</td>
<td>0 = N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Low</td>
<td>1 = Low</td>
<td>1 = Low</td>
<td>1 = Low</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = Moderate</td>
<td>2 = Moderate</td>
<td>2 = Moderate</td>
<td>2 = Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = High</td>
<td>3 = High</td>
<td>3 = High</td>
<td>3 = High</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 = N/A</td>
<td>0 = N/A</td>
<td>0 = N/A</td>
<td>0 = N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Low</td>
<td>1 = Low</td>
<td>1 = Low</td>
<td>1 = Low</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = Moderate</td>
<td>2 = Moderate</td>
<td>2 = Moderate</td>
<td>2 = Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = High</td>
<td>3 = High</td>
<td>3 = High</td>
<td>3 = High</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 = N/A</td>
<td>0 = N/A</td>
<td>0 = N/A</td>
<td>0 = N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Low</td>
<td>1 = Low</td>
<td>1 = Low</td>
<td>1 = Low</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = Moderate</td>
<td>2 = Moderate</td>
<td>2 = Moderate</td>
<td>2 = Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = Low or none</td>
<td>3 = Low or none</td>
<td>3 = Low or none</td>
<td>3 = Low or none</td>
<td></td>
</tr>
<tr>
<td>Mass Casualty Incident (trauma)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mass Casualty Incident (medical/infectious)</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Terrorism, Biological</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>VIP Situation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Infant Abduction</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Hostage Situation</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Civil Disturbance</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Labor Action</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Forensic Admission</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Bomb Threat</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

*SCORE: 0 = N/A, 1 = Low, 2 = Moderate, 3 = High
<table>
<thead>
<tr>
<th>AVERAGE</th>
<th>1.30</th>
<th>1.60</th>
<th>0.80</th>
<th>1.00</th>
<th>2.10</th>
<th>2.00</th>
<th>2.00</th>
<th>23%</th>
</tr>
</thead>
</table>

*Risk increases with percentage.

<table>
<thead>
<tr>
<th>Probability</th>
<th>Severity</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.23</td>
<td>0.43</td>
<td>0.53</td>
</tr>
</tbody>
</table>
# HAZARD AND VULNERABILITY ASSESSMENT TOOL

## EVENTS INVOLVING HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>EVENT</th>
<th>PROBABILITY</th>
<th>SEVERITY = (MAGNITUDE - MITIGATION)</th>
<th>PREPAREDNESS</th>
<th>INTERNAL RESPONSE</th>
<th>EXTERNAL RESPONSE</th>
<th>RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Casualty Hazmat Incident (From historic events at your MC with &gt;= 5 victims)</td>
<td>1</td>
<td>2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>22%</td>
</tr>
<tr>
<td>Small Casualty Hazmat Incident (From historic events at your MC with &lt; 5 victims)</td>
<td>1</td>
<td>1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>17%</td>
</tr>
<tr>
<td>Chemical Exposure, External</td>
<td>2</td>
<td>2 2 2 1 1 2 2 2 2 2 2 2 2 2 2 2 2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>41%</td>
</tr>
<tr>
<td>Small-Medium Sized Internal Spill</td>
<td>2</td>
<td>1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>33%</td>
</tr>
<tr>
<td>Large Internal Spill</td>
<td>1</td>
<td>1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>17%</td>
</tr>
<tr>
<td>Terrorism, Chemical</td>
<td>1</td>
<td>3 1 1 2 3 3 3 2 2 2 2 2 2 2 2 2 2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>26%</td>
</tr>
<tr>
<td>Radiologic Exposure, Internal</td>
<td>1</td>
<td>2 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>19%</td>
</tr>
<tr>
<td>Radiologic Exposure, External</td>
<td>1</td>
<td>2 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>19%</td>
</tr>
<tr>
<td>Terrorism, Radiologic</td>
<td>1</td>
<td>2 2 2 2 2 3 3 3 1 1 1 1 1 1 1 1 1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>24%</td>
</tr>
</tbody>
</table>

*Hazard and Vulnerability Assessment Tool:

**SEVERITY** = (MAGNITUDE - MITIGATION)

**EVENTS INVOLVING HAZARDOUS MATERIALS**

**HAZARD AND VULNERABILITY ASSESSMENT TOOL**

**PROBABILITY**

- Likelihood this will occur
  - 0 = N/A
  - 1 = Low
  - 2 = Moderate
  - 3 = High

**SEVERITY**

- Magnitude
  - 0 = N/A
  - 1 = Low
  - 2 = Moderate
  - 3 = High

- Mitigation
  - 0 = N/A
  - 1 = Low
  - 2 = Moderate
  - 3 = High

**HUMAN IMPACT**

- Possibility of death or injury
  - 0 = N/A
  - 1 = Low
  - 2 = Moderate
  - 3 = High

**PROPERTY IMPACT**

- Physical losses and damages
  - 0 = N/A
  - 1 = Low
  - 2 = Moderate
  - 3 = High

**BUSINESS IMPACT**

- Interruption of services
  - 0 = N/A
  - 1 = Low
  - 2 = Moderate
  - 3 = High

**PREPAREDNESS**

- Preplanning
  - 0 = N/A
  - 1 = Low
  - 2 = Moderate
  - 3 = High

**INTERNAL RESPONSE**

- Time, effectiveness, resources
  - 0 = N/A
  - 1 = Low
  - 2 = Moderate
  - 3 = High

**EXTERNAL RESPONSE**

- Community/Mutual Aid staff and supplies
  - 0 = N/A
  - 1 = Low
  - 2 = Moderate
  - 3 = High

**RISK**

- Relative threat
  - 0 - 100%
<table>
<thead>
<tr>
<th></th>
<th>Ministry of Health Wellness and the Environment</th>
<th>St. Vincent and the Grenadines</th>
<th>National Health Multihazard Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVERAGE</td>
<td>1.22</td>
<td>1.78</td>
<td>1.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.33</td>
<td>2.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.22</td>
<td>1.89</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24%</td>
</tr>
</tbody>
</table>

*Threat increases with percentage.*

\[
\text{RISK} = \text{PROBABILITY} \times \text{SEVERITY}
\]

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.24</td>
<td>0.41</td>
<td>0.60</td>
</tr>
</tbody>
</table>
11 APPENDIX F: Hospital Capacity

MINISTRY OF HEALTH WELLNESS AND THE ENVIRONMENT

BEDS BY HOSPITAL

<table>
<thead>
<tr>
<th>MILTON CATO MEMORIAL HOSPITAL</th>
<th>MMDC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Beds – 206</strong></td>
<td><strong>Total Beds –</strong></td>
</tr>
<tr>
<td>Medicine</td>
<td>Medicine –</td>
</tr>
<tr>
<td>Surgery</td>
<td>Surgery –</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>Burns Unit –</td>
</tr>
<tr>
<td>Burns Unit</td>
<td></td>
</tr>
<tr>
<td>Gynecology</td>
<td>Psychiatric –</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>Orthopaedic –</td>
</tr>
<tr>
<td>Prem Unit* –</td>
<td>Gynaecology –</td>
</tr>
<tr>
<td>ICU</td>
<td>Obstetrics –</td>
</tr>
<tr>
<td>Recovery</td>
<td>Neonatal* –</td>
</tr>
<tr>
<td><strong>Total Beds –</strong></td>
<td></td>
</tr>
<tr>
<td>Adult Medical –</td>
<td></td>
</tr>
</tbody>
</table>

October 2019
Adult Surgical –
I.C.U. –

**LEV I LATHAM**

**Total Beds –**

Medicine –
Surgery –
Gynaecology –
Paediatric –
Obstetrics –

**CHATEAUBELAIR**

**Total Beds –**

Medicine –
Surgery –
Paediatric –
Obstetrics –

**GEORGETOWN SMART HOSPITAL**

**Total Beds –**

Medicine –
Surgery –
Paediatric –
Obstetrics –

**Total Beds –**

Antenatal –
Birth Mothers* –
Postnatal –
Gynaecology –
Neonatal –
Psychiatric –

* Not included in total beds.
## APPENDIX G  Responsibility Matrix

<table>
<thead>
<tr>
<th>Health Emergency Function</th>
<th>Planning and Coordination</th>
<th>Mitigation</th>
<th>Epidemiological disease surveillance</th>
<th>Food Safety</th>
<th>Water sanitation and safety</th>
<th>Solid Waste Management</th>
<th>Mass Casualty Management</th>
<th>Stress Management</th>
<th>Counseling</th>
<th>Vector Control</th>
<th>Handling of bodies and carcasses</th>
<th>Port Health</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>