Caribbean Climate and Health Responders Course

Healthcare sector mitigation and adaptation – June 1st, 2022
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PAHO Smart Healthcare Facilities in the Caribbean Project
Learning objectives for this session

A. Apply the concepts of mitigation of and adaptation to climate change in the healthcare sector and explore examples of how healthcare systems can perform both.

B. Identify ways in which health care facilities can become more resilient in the face of increasingly severe and/or frequent climate-related weather extremes. Sensitization to the PAHO SMART Hospital concept and standards

C. Use emergency planning skills to plan for and respond to climate-related extreme weather events, including workforce surge needs, and distinguish the roles of and interactions between agencies involved in emergency care.

D. Describe how health professionals can partner with health care institutions, professional organizations, and advocacy groups to reduce health care sector greenhouse gas footprint.
Apply the concepts of mitigation of and adaptation to climate change in the healthcare sector and explore examples of how healthcare systems can perform both.

Healthcare systems are extensive. The focus here will be on health infrastructure and the health workforce.
Adaptation to climate change in the health sector

Let us look at adaptation in different contexts:
- The staff at health facilities
- Individually owned practices
- Hospitals and health centers
- Institutions including Homes for aged, children, mentally ill
- Medical stores
Central Medical Stores, Dominica after Maria

Photo credit: PAHO Technical Consultant Shalini Jagnarine-Azan
Adaptation to climate change in the health sector

Common themes:
- Building structure
- Building services including electricity, water, communications, HVAC
- Other non-structural aspects of the building envelope and grounds
- Functional readiness of the staff
- Each facility is part of a network. Linkages are important during emergencies
Defining functional resilience

George Walker, Chairman ISO TC59/SC15 Performance Description of Houses, defines Resilience

“three parts, one defining the object, including its scale, which is being described as resilient, one specifying the impact type, including its magnitude for which it is being applied, and one defining which form of resiliency is being described and its measurement.”

Taken from his “Discussion Paper on Resilience and International Standardisation”
Defining system resilience

George Walker, Chairman ISO TC59/SC15 Performance Description of Houses, defines Resilience

“three different forms of system resilience,
1. the ability to resist an adverse impact,
2. the ability to recover from an adverse impact, and
3. adaptive capacity to cope with a changing environment”

Taken from his “Discussion Paper on Resilience and International Standardisation”
Learning Objective B

Identify **ways** in which health care facilities can become more resilient in the face of increasingly severe and/or frequent climate-related weather extremes. Sensitization to the PAHO **SMART** Hospital **concept and standards**
Resistance or resilience?

Introducing the Smart Hospitals Project:

- “The project aims at both resistance and resilience.
- Critical facilities which are required to operate seamlessly during and immediately after severe natural hazard events must be resistant. Resilience is not sufficient.
- For those facilities which need to be able to recover quickly after severe natural hazard events, resilience may be sufficient.”

Quoting The Hon Tony Gibbs CHB FREng: Check Consultant on the Smart Hospitals Project
Health staff can become more resilient

Some key words:
- Climate-related extreme weather events, natural hazards and disasters

To preserve lives and property requires:
- Accurate forecasts and warnings that are understood
- Knowledge of how to prepare against the hazard

The magnitude of the event is important – How “extreme” is the occurrence?

Adaptation also encompasses evacuation or retreat from the threat

Functional preparedness measures

Smart Hospitals Training:
- Contingency Planning
- Simulations

Team building and
Provision of supplies / equipment
for emergency use
Health infrastructure can become more resilient

Examples

- Building structure
- Building services including electricity, water, communications, HVAC
- Other non-structural aspects of the building envelope and grounds

Photo credits: St Lucia Ministry of Health Media and Communications Department
Form of resiliency and its measurement

Smart Hospitals Toolkit:
- Hospital Safety Index
- Green checklist
- Baseline Assessment tool
How to assess your current status

Apply the Hospital Safety Index

Apply the Green Checklist and Baseline Assessment Tool

Smart rating and recommendations for retrofitting
Examples

Making Healthcare Facilities in the Caribbean

**SMART**

A platform for integrating Disaster Risk Reduction, Climate Change Adaptation, Environmental Management, and Conservation Efforts

**RESILIENCY**

- Sound Roof & Foundation
- Improved Security & Signage
- Secured Equipment & Fuel Storage
- Protected & Efficient Doors and Windows
- Good Drainage
- Back-up Power
- Water Reserve
- Disaster Management Plans
- Comprehensive Maintenance Planning
- Disability Access

**SMART HOSPITAL**

Hospital safety index – Scored: A Green checklist – Scores above 70%

- Water Efficiency
- Waste Minimization & Management
- Pollution Reduction
- Rain Water Harvesting
- Alternative Power Using Renewable Energy
- Efficient Lighting & Cooling
- Improved Indoor Air Quality

**ENVIRONMENTALLY SOUND**

- Green 70%

**SUSTAINABILITY**

- Reduced Downtime
- Resilient Structure
- Reduced Operating Cost
- Improved Safety
- Satisfied Patients and Staff
- Environmentally Sound Operations
- Improved emergency care and services for the community

Smart Healthcare Facilities in the Caribbean

Providing safer greener health facilities to deliver care in disasters
The PAHO Smart Hospital Program aims to make healthcare facilities
a) Safe
b) Green
c) Well maintained
d) All of the above
SMART = SAFE + GREEN + WELL MAINTAINED

- Health care facilities are environmentally friendly and **resistant or at least resilient**;
- A70 standard for Resistance
- Scores associated with Resilience
- Retrofit and Maintain the facility
- Re-assess the facilities every 5 years
Takeaway

Study your surroundings at work and identify aspects of the building infrastructure or the operations that are vulnerable to climate related hazards.
Learning Objective C

Use emergency planning skills to **plan for** and **respond to** climate-related extreme weather events, including workforce surge needs, and distinguish the roles of and interactions between agencies involved in emergency care.
Resilience in the context of Emergency Planning

- Response focuses on immediate needs
- Planning includes recovery phase
- Build back better implies:
  - Repair to a higher standard of resilience
  - Rebuild new and SMART

Diagram taken from: PAHO Smart Technical Implementation Team meeting 2019 presentation by Sharleen DaBreo-Lettsome, BVI DDM
Disaster management cycle

- Mitigation
- Preparedness
- Response
- Recovery

STEP 1
- Using the Vulnerability Analysis, identify the types of emergencies/disasters for which your organization or business should prepare.

STEP 2
- Identify actions to support employees and employee problems

STEP 3
- Identify a Damage Assessment Team to carry out both an Initial Damage Assessment and then a more in-depth evaluation of the damage sustained. Professional contractors may be required to assist with these assessments (Structural and Electrical Engineers, etc.).

STEP 4
- Identify the Salvage Team to recover any usable assets. They also assist in determining the extent of clean-up and repair necessary, if reoccupation is possible.

STEP 5
- Identify a Service Restoration Team.

STEP 6
- Identify a Mitigation Team to capture all lessons and to formulate policies and procedures to minimize or avoid reoccurrence of the incident.
Health systems and disaster management

- Following a disaster, the focus is on acute care needs and specialist interventions; chronic and pre-existing conditions may be neglected.

- Developing adaptable and resilient health care systems requires:
  - **Surge Capacity**: Health care systems prepared to cope with large numbers of patients.
  - **Flexibility in Health Care Systems**: Flexibility to deliver different functions.
  - **Continuity Planning**: Plans to maintain the continuity of health sector operations, e.g., identifying priority services and building community linkages for a coordinated response.

Taken from PAHO Smart Hospitals Contingency Planning Course by Sharleen DaBreo-Lettsome and Sheniah Armstrong, BVI DDM
Workforce surge needs

Disaster during working hours – employees can’t leave
● How will they be accommodated?

Disaster occurs after-hours – do employees report to work?
● What if the facility or work area has sustained damage?
● What if their home is damaged and they need to relocate or do repairs?

Expanding the capacity of the existing workforce includes:
Cancelled vacation time, lengthened working hours, incorporating new staff.

Volunteers, people from overseas, students, retired practitioners
● How to manage and coordinate them
● Attention to the mental wellness of the team members
Problems with trying to Build Back Better (BBB)

- BBB has proven to be a complicated process...no clear path on how the process should be carried out.
- No clear linkage to the Disaster Management Cycle.
- Conflicts between Climate Change Adaptation/Mitigation and Disaster Risk Reduction.
- Extended recovery process not linked to Risk Management.
- Challenges with monitoring progress and ensuring enforcement of standards.

Source: PAHO Smart Technical Implementation Team meeting 2019 presentation by Sharleen DaBreo-Lettsome, BVI DDM
Plan for & respond to emergencies

Reading assignment / reference:

A Conceptual and Adaptable Model of disaster management in the Caribbean

Prepared by S. DaBreo-Lettsome for PAHO, 2018

Agencies involved in emergency care

- Health disaster coordinator
- Health disaster risk management committee
- National emergency Management organisation
- NGOs and volunteer groups

Sources: PAHO Smart Hospitals Contingency Planning Course by Sharleen DaBreo-Lettsome and Sheniah Armstrong, BVI; Implementing the PAHO Plan for Disaster Risk Reduction 2016-2021 by Dr Glensford Joseph, SLU
PAHO Smart Hospitals Toolkit

Penn State University College of Earth and Mineral Sciences
https://www.e-education.psu.edu/geog30/node/374

World Meteorological Organisation

FEMA Natural Hazards Part 2

George Walker. Discussion paper on resilience and international standardization.

Sharleen DaBreo-Lettsome and Sheniah Armstrong. PAHO Smart Hospitals Contingency Planning Course. BVI DDM

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