

Fajr Dissertation

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“ASSESSMENT OF DISASTER PREPAREDNESS IN GOVERNMENT HEALTH FACILITIES MEASURED BY FUNCTIONAL CAPACITY: A COMPARISON BETWEEN UDAIPUR AND BANSWARA DISTRICTS (RAJASTHAN)”

CHAPTER 1: INTRODUCTION

20. India is the seventh largest country of the world with the total geographical area, of 3,287,240 sq. km. Such a large and diverse geo-climatic condition makes India highly vulnerable to different natural disasters. India is highly vulnerable to earthquake, drought, flood, cyclone, landslide and avalanche. 68% of cultivable land mass is prone to drought, 60% is vulnerable to earthquake, 12% of the total area is prone to floods and 8% of the land is susceptible to cyclone. Changing climatic conditions, over exploitation of natural resources and unplanned urbanisation are adding on to the increasing frequency of natural disasters. A large population of poor with their multiple vulnerabilities accounts for India's third rank in terms of victims of natural disasters.

21. Hospitals constitute a part of critical lifeline infrastructure in the context of disasters. A safe and resilient hospital not only ensures an effective healthcare response during disasters but also ensures the safety of the patients already being treated in those hospitals before, during and after disasters

22. “ the hospital (Health Care Facilities) in order to deal with disaster related emergencies with mass casualties and the resultant need of hospital space, staff and resources at various levels based on their functional capacity. Though as mandated by the DM Act 2005 every hospital is required to have an emergency plan in place but the past incidents like fire accidents in the AMRI hospital in recent past raises a question on the effectiveness of the disaster preparedness plan. The past experience also suggests that the plans available at the hospital are both not frequently updated and shared with the entire staff or/and there are no regular mock drills to carry out periodic preparedness checks or both. The field data collected during the study from the government health care facilities in Udaipur and Banswara District, Rajasthan suggested that there needs to be concerted efforts made by the authorities concerned to make their level of preparedness and safety plans more effective and responsive

CHAPTER 2 : REVIEW OF LITERATURE

31. Disasters are unavoidable conditions and their destructive effects can lead to the inability of the community to meet their needs and access to health care. The severity of disasters is increasing worldwide and resulting in the prevalence of deaths and diseases as well as rising economic costs .India is ranked 77 in terms of disaster occurrence in Asia. Research shows that when a disaster occurs, the pick of medical care needs is within the first 24 hours after the disaster, and 85-95% of the survivals are rescued within first 24 hours Therefore, in times of crisis, hospitals need to increase their capacity for admission. Medical disaster refers to human response to unexpected catastrophes aimed at reducing deaths an injuries .In the last decade, the medical response focused on hospital care such as discharge, triage, and transmission without the need for hospital treatment. Certainly, health sectors play the main role in crisis management by providing preparedness plans and crisis response strategies, which can have a significant impact on reducing casualties. The health sector should be prepared before the crisis to provide health care at the best possible time with adequate and prompt action.

CHAPTER 3: AIM AND OBJECTIVES

Aim

75. ⁴ To assess the level of Disaster Preparedness in Government Health Facilities ⁵ measured by Functional Capacity: A Comparison between Udaipur and Banswara Districts (Rajasthan).

Objectives of Study

76. The objectives of this study are to analyze the following from the perspective of a health administrator:

(a) To assess and compare the functional safety and capacity status in government health facilities in Udaipur and Banswara in response to disasters.

(b) To identify potential capabilities and recommend safety strategies for health care facilities for making their response effective and efficient in times of emergencies

77. **Expected Outcome of the Study.** The results of this study can provide an insight on the gaps and challenges in Government Health Care facilities in Udaipur and Banswara based on their functional capacity. Post the identification of weaknesses and shortcomings in health care facility, disaster preparedness efforts needs to be put to make them more responsive and effective in times of emergencies. Since largest number of patients receive their regular health care at government health care facilities, there is an urgent need to validate their disaster preparedness levels based on their functional capacity using WHO guidelines suitably modified. The Hospital Safety Index can be suitably modified and used for comparing the government health care facilities and post disaster risk reduction and rectification measures they are likely to function effectively during disasters

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CHAPTER 4: METHODOLOGY

78. **Methodology**

(a) **Gen.** Hospitals were compared between two districts of Udaipur and Banswara, Rajasthan. **The functional capacity was evaluated and calculated using the Hospital**

Safety Index (HSI) from the World Health Organization Checklist. functional (High), at risk (Average) or, inadequate (Low).

(b) **Study Area.** The study was carried-out in Government Health Facilities (District Hospital and Community Health Centre(CHC)) at Udaipur and Banswara districts respectively in Rajasthan.

(c) **Study Design.** Cross sectional non probability Descriptive study design. To assess the level of Disaster Preparedness in Government Health Facilities measured by Functional Capacity: A Comparison Between Udaipur and Banswara Districts (Rajasthan).

(d) **Study Period.** 01 Feb to 30 Apr 2019 in three phases. In first phase framework was understood and study approval was taken. In second phase tools were decided. In third phase data analysis was done. Data collection was done simultaneously during a period of three months.

(e) **Study Population.** The study was conducted amongst the Government Health Facilities (District Hospital and one Community Health Centre (CHC)) at Udaipur and Banswara districts respectively in Rajasthan.

(f) **Sample Size.** It is a purposive convenience sampling. A total of four government health facilities were assessed in both the districts based on the population of the area.

(g) **Study Tool.** For data collection, WHO Hospital Safety Index checklist duly modified. It is targeted to assess functional safety of hospitals. But for the purpose of this study, only the questions/elements related to functional safety in the checklist have been assessed.

CHAPTER 5: OBSERVATIONS AND ANALYSIS

2 Organization Of The Hospital Disaster Committee And The Emergency Operations Center

	Level of Organisation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	-	Yes	-	Average

- DH Banswara and CHC Udaipur needs to have the existing committee functioning to ensure high level of preparedness
- Terms of reference of the committee exists in both the DH corresponding to respective personnel

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81. Committee Membership:

	Level of Organisation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	-	Yes	-	Average

- DH Banswara needs to increase the number of disciplines represented in the disaster committee
- Essential to have a diverse representation and a multi disciplinary committee

	Level of Organisation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average

CHC Udaipur	Yes	-	-	Low
DH Banswara	Yes	-	-	Low
CHC Banswara	-	Yes	-	Average

Both DH Banswara and DH Udaipur should ensure that the respective members are aware of their responsibilities assigned

- The committee needs to be effective and efficient in their tasking

	Level of Organisation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

32 Both CHC Banswara and DH Udaipur should ensure that the ² space is designated for the hospital EOC

The EOC is in a protected and safe location

	Level of Organisation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	-	Yes	-	Average
DH Banswara	Low	-	-	Low
CHC Banswara	Low	-	-	Low

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The EOC has a computer system:

	Level of Organisation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

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internal and external communications systems in the EOC function properly

	Level of Organisation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

The EOC had alternative communications system

	Level of Organisation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low

DH Banswara		-	Yes	High
CHC Banswara	-	Yes	-	Average

The EOC had adequate equipment and furnishings

	Level of Organisation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

1

An up-to-date telephone directory in the EOC

	Level of Organisation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur		Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

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- Both CHC Banswara and CHC Udaipur should ensure that the up-to-date telephone directory is available in the EOC

“Action Cards” available

	Level of Organisation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

- Both DH Banswara and DH Udaipur should ensure that “Action Cards” ² available for all personnel

1
Operational Plan For Internal Or External Disasters

91. **Strengthen essential hospital services**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

92. **Procedures for activate and deactivate the plan**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

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93. **Special administrative procedures for disasters committee**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	Yes	-	-	Low

94. **Financial resources for emergencies**

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara		Yes	-	Average
CHC Banswara	Yes	-	-	Low

95. **Procedures for expanding usable space**

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

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96. **Procedures for admission**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes(NA)	-	-	Low(NA)
DH Banswara	-	-	Yes	High
CHC Banswara	Yes(NA)	-	-	Low(NA)

- Both CHC Banswara and CHC Udaipur should ensure that the ² Procedures for admission to the emergency department be streamlined

97. **1** Procedures to expand emergency department and critical services

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes(NA)	-	-	Low(NA)
DH Banswara	-	-	Yes	High
CHC Banswara	Yes(NA)	-	-	Low(NA)

98. **2** Procedures to protect patients' medical records

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low

DH Banswara	-	Yes	-	Average
CHC Banswara	-	Yes	-	Average

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99. **Regular safety inspections**

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-		Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	Yes	-	Average
CHC Banswara	-	Yes	-	Average

100. **Procedures for hospital**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-		Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	Yes	-	Average
CHC Banswara	-	Yes	-	Average

1

Procedures for preparing sites for temporary placement

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average

CHC Udaipur	Yes (NA)	-	-	Low (NA)
DH Banswara	-	-	Yes	Low
CHC Banswara	Yes (NA)	-	-	Low (NA)

102. **Procedures in triage, resuscitation, stabilization, and treatment**

(a)

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

- **Transport and logistics support**

(a)

	Level of Implementation
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	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	Yes	-	-	Low

1
Food rations for hospital staff during the emergency

(a)

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	Yes	-	-	Low

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Duties assigned for additional personnel mobilized

-

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

106. **Measures to ensure the well-being of additional personnel mobilized**

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

Cooperative arrangements with local emergency plan

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

Mechanism to prepare a census of admitted patients

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average

CHC Banswara	Yes	-	-	Low
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System for referral and counter-referral of patients

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

110. **1**
Procedures for communicating with the public and media

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	Low
CHC Banswara	-	Yes	-	Average

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- Both CHC Banswara and CHC Udaipur should ensure ² Procedures for communicating with the public and media

111. Procedures for response during evening, weekend, and holiday shifts

(a)

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average

CHC Banswara	Yes	-	-	Low
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- Both DH Banswara and DH Udaipur and CHC should ensure that ¹ Procedures for response during evening, weekend, and holiday shifts

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112. Procedures for the evacuation of the facility

-

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	Yes	-	-	Low

- Both CHC Banswara and CHC Udaipur should ensure that the ² Procedures for the evacuation of the facility

Emergency and other exit routes are accessible

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

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- Both CHC Banswara and CHC Udaipur should ensure that ² Emergency and other exit routes are accessible

114. **Simulation exercises and drills**

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	Yes	-	-	Low
CHC Banswara	-	Yes	-	Average

- Both DH Banswara and DH Udaipur and CHC should ensure that Simulation exercises and drills are practiced regularly

1

Contingency Plans For Medical Treatment In Disasters

115. Earthquakes, tsunamis and volcanoes, and landslides

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	-	NA
CHC Udaipur	-	-	-	NA
DH Banswara	-	-	-	NA
CHC Banswara	-	-	-	NA

- Not Applicable

116. **Social conflict and terrorism**

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	Yes	-	-	Low
CHC Banswara	-	Yes	-	Average

- Both DH Banswara and DH Udaipur and CHC should ensure that challenges of Social conflict and terrorism are addressed positively

117. **Floods and hurricanes**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	Yes	-	-	Low
CHC Banswara	-	Yes	-	Average

Fires and explosions.

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

Both CHC Banswara and CHC Udaipur should ensure ¹ Plan exists, personnel have been trained, and resources are in place to carry out the fires and explosion plan.

119. **Chemical accidents**

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

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120. **Pathogens with epidemic potential**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

121. ² **Psycho-social treatment for patients, families, and health workers**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	Yes	-	-	Low
CHC Banswara	-	Yes	-	Average

2
A.42 Psycho-social treatment for patients, families, and health workers

- Both DH Banswara and DH Udaipur including CHC should ensure that **2**
Psycho-social treatment for patients, families, and health workers

122. Control of hospital-acquired infections

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

- Both DH Banswara and DH Udaipur including CHC should ensure that proper Control of hospital-acquired infections

1

Plans For The Operation, Preventive Maintenance, And Restoration Of Critical Services Measure The Level Of Availability, Accessibility, And Relevance Of Documents That Are Essential When Responding To An Emergency

123. **Electric power supply and back-up generators**

(a) The maintenance division should provide the operations manual for the back-up electric generator as well as preventive maintenance records.

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

- Both DH Banswara and DH Udaipur including CHC should ensure proper **Electric power supply and back-up generators**

2

124. **Drinking water supply**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

- Both CHC Banswara and CHC Udaipur should ensure proper and regular drinking water supply

125. **Fuel reserves**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High

CHC Banswara	-	Yes	-	Average
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- Both CHC Banswara and CHC Udaipur should ensure regular and adequate Fuel reserves

.126. **Medical gases**

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

Both DH Udaipur including CHC should ensure that ¹ Procedures exist, personnel have been trained, and resources are in place to implement them with regards to medical gases

127. **Standard and back-up communications systems**

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

Both CHC Banswara and CHC Udaipur should ensure ¹ Procedures exist, personnel have been trained, and resources are in place to implement them for Standard and back-up communications systems

128. Wastewater systems

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara		Yes	-	Average
CHC Banswara	Yes	-	-	Low

- Both DH Banswara and DH Udaipur including CHC should ensure proper waste water systems

129. ³ Solid waste management

(a) The maintenance division should provide the operations manual for solid waste management, as well as records showing waste collection and subsequent disposal.

(i) Low = Procedures do not exist or exist only in a document

- (ii) Average = Procedures exist and personnel have been trained
- (iii) High = Procedures exist, personnel have been trained, and resources are in place to implement them

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

- Both CHC Banswara and CHC Udaipur should ensure proper ⁴ solid waste management

130. Maintenance of the fire protection system

	Level of Implementation			Overall Percent
	Low	Average	High	

DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	Yes	-	-	Low
CHC Banswara	-	Yes	-	Average

- Both DH Banswara and DH Udaipur including CHC should ensure proper maintenance of fire protection system

1
**Availability Of Medicines, Supplies, Instruments, And Other Equipment For Use In
Emergency Verify The Availability Of Essential Supplies In The Event Of An
Emergency**

131. **Medicines**

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

A.52 Medicines

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Both DH Banswara and DH Udaipur including CHC should ensure that the medical ¹ Supply is guaranteed for at least 72 hours

132. Items for treatment and other supplies

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

Both CHC Banswara and CHC Udaipur should ensure that the Supply of items for treatment and other supplies **guaranteed for at least 72 hours**

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133. Instruments

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

1 Both CHC Banswara and CHC Udaipur should ensure that the Supply of instruments are **guaranteed for at least 72 hours**

134. **Medical gases**

-

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	-	Yes	-	Average
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

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Both CHC Banswara and CHC Udaipur should ensure that the medical gases ¹ Supply guaranteed for at least 72 hours

135. **Mechanical volume ventilators**

(a) The Hospital Disaster Committee should provide documentation on quantity and

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

Both DH Banswara and DH Udaipur including CHC should ensure that Supply of mechanical volume ventilators guaranteed for at least 72 hours

Electro-medical equipment

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	Yes	-	-	Low
CHC Banswara	-	Yes	-	Average

Both DH Banswara and CHC Udaipur and CHC Banswara should ensure that Supply of electro medical equipment is guaranteed for at least 72 hours

Life-support equipment

	Level of Implementation			Overall Percent
	Low	Average	High	
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	-	Yes	-	Average

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Both CHC Banswara and CHC Udaipur should ensure that the Supply of life support equipment is guaranteed for at least 72 hours

138. **Crash cart for cardiopulmonary arrest**

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	-	Yes	High
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	-	Yes	High
CHC Banswara	Yes	-	-	Low

- Both CHC Banswara and CHC Udaipur should ensure that the Supply of crash cart for cardio pulmonary arrest is **guaranteed for at least 72 hours**

Triage tags and other supplies for managing mass casualties

	Level of Implementation			
	Low	Average	High	Overall Percent
DH Udaipur	-	Yes	-	Average
CHC Udaipur	Yes	-	-	Low
DH Banswara	-	Yes	-	Average
CHC Banswara	Yes	-	-	Low

- Both DH Banswara and DH Udaipur including CHC should ensure regular use.

Summary of Scores Obtained by Government Health Care Facilities

140. The summary of scores (percentage wise) by the Government Health Care Facilities in Udaipur and Banswara Districts are as under:-

	Summary (Score out of 60 elements/standards with equal weightage)			
	DH Udaipur	CHC Udaipur	DH Banswara	CHC Banswara
Low (Inadequate)	08 (14%)	32 (53%)	13 (21%)	37 (60%)
Average (At Risk)	20 (33%)	25 (42%)	21 (35%)	22 (38%)
High (Functional)	32(53%)	03 (05%)	26 (44%)	01 (2%)
Score (out of 10)	09	02	08	03
Remarks	Functional (A)	Inadequate (C)	Functional (A)	Inadequate (C)

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CHAPTER 6: DISCUSSION AND RECOMMENDATIONS

141. **Discussion.** The evidence from the study and major findings suggests the following :-

(a) **Scoring Pattern (Safety Based on Functional Capacity of Hospital (HCF)**

(i) **Inadequate (Low) : 0- 3 points.**

(ii) **At Risk (Average) : 4 -7 points.**

(iii) **Functional (High) : 8-10 points.**

(b) Hospital Safety Index Score (duly modified) based on functional capacity necessitates under mentioned measures:-

(i) **Inadequate (Low) C = 0 – 0.39 (upto 39%)**

(ii) **At Risk (Average) B = 0.40 – 0.79 (40 - 79%)**

(iii) **Functional (High) A = 0.80 – 1 (80- 100%)** .

142. **Recommendations**

- 1 Organisation of disaster committee and emergency operation centre
2. planning on internal and external disasters should be reviewed periodically.
3. to Future plans for medical treatment during disasters should be ready at all times.
- 4.Planning for operation, maintenance and restoration of critical services.
- 5.Adequate availability of medicines, supplies, instruments and other equipment required during emergencies.

6. Efforts made by the authorities concerned to make their level of disaster preparedness and safety plans more effective and responsive.

7. Operational and functional resilience of hospitals.

8. A well documented Hospital Disaster Management Plan should be formulated.

9. Ensure adequate or complete plans of internal and external communication.

10. Lifelines such as electricity, water and sanitation and waste treatment and disposal of medical wastes are important to ensure continuity.

(k) Enable hospitals to continue to function and provide appropriate and sustained levels of healthcare.

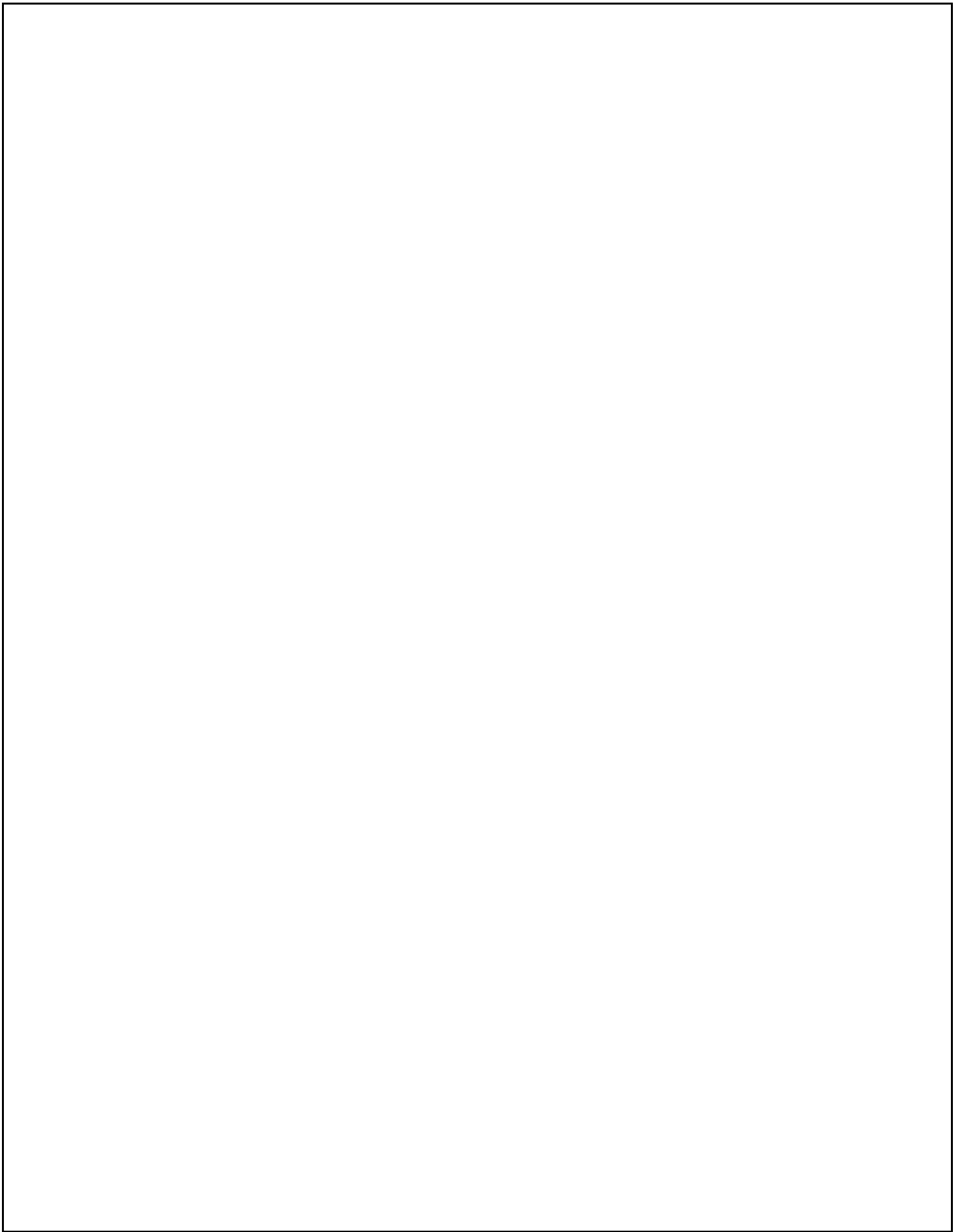
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CHAPTER 7: CONCLUSION

There are many factors based on functional capacity which put hospitals and health care facilities at risk. Functional collapse is the usual reason for hospitals being put out of service. Functional collapse occurs when the elements that allow a hospital to operate on a day-today basis are unable to perform because the disaster has overloaded the system.

These include: architectural spaces such as laboratories or operating theatres; medical records; medical and support services; and administrative processes.

Hospitals and health care facilities can be built to different levels of protection. Life safety is the minimum level of protection and is the most common approach to protection and Preparation and Implementation of Hospital Disaster Management Plan Focus on responsive health services ensures that the facility resumes operations within a reasonable timeframe and cost. Operations and functional protection, which is the most costly level, includes life and investment protection but also seeks to ensure the facility continues to function after a disaster. Creating safe hospitals (Health Care Facility) is as much about having vision and commitment as it is about actual resources. _



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