



DEPARTMENT OF HOSPITAL ADMINISTRATION
All India Institute of Medical Sciences, Ansari Nagar, New Delhi

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Workshop on Integrating Hospitals Safe from Disasters

Overview of Health Services Disaster Plan

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Format of presentation

- Introduction
- J&K Disaster Profile
- Importance of planning
- Who should be involved in planning
- Components of Disaster Plan
- Networking among Hospitals
- Conclusion

Introduction

- Globally the toll of death & damages in natural disasters is increasing & the cost to global economy is estimated to be 50,000 million US dollars per year
 - $\frac{1}{3}$ cost for predicting, preventing & mitigating
 - $\frac{2}{3}$ represents the cost of direct damage
- Death toll vary from year to year
 - Global mean- 2.5 lakhs per year
 - Major disaster kill on an average- 1.4 lakhs

J&K Disaster Profile

■ Expected types of disasters

- Earthquakes
- Floods
- Epidemics
- Insect swarms
- Building collapse
- Fire accidents
- Road accidents
- Train accidents
- Air crashes
- Terrorist attacks
- Riots
- **NBC**
- How far can you think...?



HEALTH PROBLEMS RELATED TO EARTHQUAKES

EARTHQUAKE

- The ratio of dead to injured has been found to be approximately 1:3 when they result from primary shock in Richter magnitude of 6.5 to 7.4.
- Ratio is usually expressed as the index $R=100 D/I$ which for an average of one death(D) to every three injured people(I) $R= 33.3$.

EARTHQUAKE

- Mortality upto 85% occasionally occurs in town close to an earthquake epicenter.
- September, 1978 earthquake at Tabasgolstan, Iran where 11,000 out of the town population of 13,000 residents were killed.

EARTHQUAKE

- Ratio of dead to injured decreases as the distance from the epicenter increases.
- Some age groups are more affected than other.
- Fit adults are spared more than small children and the old who are less able to protect themselves.

EARTHQUAKE

- Secondary disaster may occur after earthquakes and increase the number of casualties requiring medical attention
- 3 to 5% people treated by emergency services may require inpatient care.

EARTHQUAKE

- Broad pattern of injury is likely to be mass number of injured with minor cuts and bruises and a smaller group suffering from simple fractures.
- Another group with serious multiple fractures or internal injuries requiring surgery and other intensive treatment.

EARTHQUAKE

- Most demand for health services occurs within first 24 hours. Injured people may appear at medical facilities only during the first three to five days after which pattern returns to normal.

EARTHQUAKE

Patients may appear in two ways:

- Casualties from the immediate area around the medical facilities
- From referral as relief operations in more distant areas become organized
- Structural damage to hospitals.
- Loss of transport system.

EARTHQUAKE

In an earthquake you may also have to deal with:

- Structural damage to hospitals.
- Loss of transport system.
- Blocked roads and communication failures.

EARTHQUAKE

- These require adaptable and flexible counter measures to provide health care to victims of earthquake.
- Evacuation of injured from disaster site to other town may have to be arranged or surgical teams and mobile hospitals are required to be brought in disaster area.

Aim of Hospital Disaster Plan

- To provide prompt and effective medical care to the largest number of people needing that care in order to bring about early recovery and reduce the death and disability associated with the disaster incident

Objectives of Hospital Disaster Plan

- Prepare the staff and institutional resources for optimal performance
- Make the community aware of the importance of the disaster plan, how it is executed and the benefits it provides
- Train staff
- Carry out periodic drills & its evaluation to update plans

Guidelines

- Establishment of Communication - intramural and extramural
- Mobilization - Immediate & sustainable
 - Manpower
 - Materials and supplies
 - Provisioning of the space
 - Transportation
 - Public relations
 - Documentation

Principles of Disaster Planning

- Pre-disaster preparedness & properly drawn up disaster plan can minimize effect of disaster
- The plan should be
 - **Simple**- Easily understood by everybody so that it can be put into action immediately
 - **Flexible**- To fit different types of disaster
 - **Clear & concise**- Can be acted upon during noise & confusion
 - **Adaptable**- Applicable for any time of the day including off time/day
 - **Extension of normal hospital working**- So that staff can act upon it in routine manner
 - Practiced regularly
 - Permanent and periodically updated
 - A part of a Regional Disaster Plan

Who Should Make the Hospital Disaster Plan?

- Hospital Disaster Management Committee
- Suggested membership
 - Director/executive head of the hospital
 - Departmental heads
 - Nursing Supdt/CNO/SNO
 - Hospital Administrator
 - I/c Casualty Services
 - Maintenance and Engineering Staff
 - Staff representative
 - Representatives from other supportive & utility services as required

Functions of HDMC

- To develop the Hospital Disaster Plan
- To develop Department Plan in support of the hospital plan
- To plan allocation of resources
- To allocate duties to hospital staff
- To establish standards for emergency care
- To conduct and supervise training programme
- To supervise drills to test the hospital plan
- To review and revise the Disaster Plan at regular intervals

Components of Hospital Disaster Plan

- Efficient system of alert
- Staff assignments
- Unified Medical Command
- Mobilization of resources
 - Medical, nursing, administrator staff
 - Medical stores supply and equipment
 - Conversion of use-able space and clearly defined areas for reception, triage, observation and immediate care

Components of Hospital Disaster Plan (contd)

- Procedure for prompt intra-hospital transfer of patients
- Procedure for discharge/referral/transfer of patients including transportation
- Prior establishment of public information centre
- Security arrangements
- OT utilization planning
- Planning for X-ray Lab & Blood Bank services

Hospital Disaster Manual

- Every hospital should have this
- Written statement of Disaster Plan
- To be activated during disasters
- Advised to be divided into five sections
 - Section I - Introduction
 - Section II - Responsibilities
 - Section III - Action Plan
 - Section IV - Check Lists
 - Section V - Rehearsals



Hospital networking for disaster management

NETWORKING

- Networking may be termed as linking up for augmentation / optimization of a available resources, which may be in the form of information, materials and / or manpower.

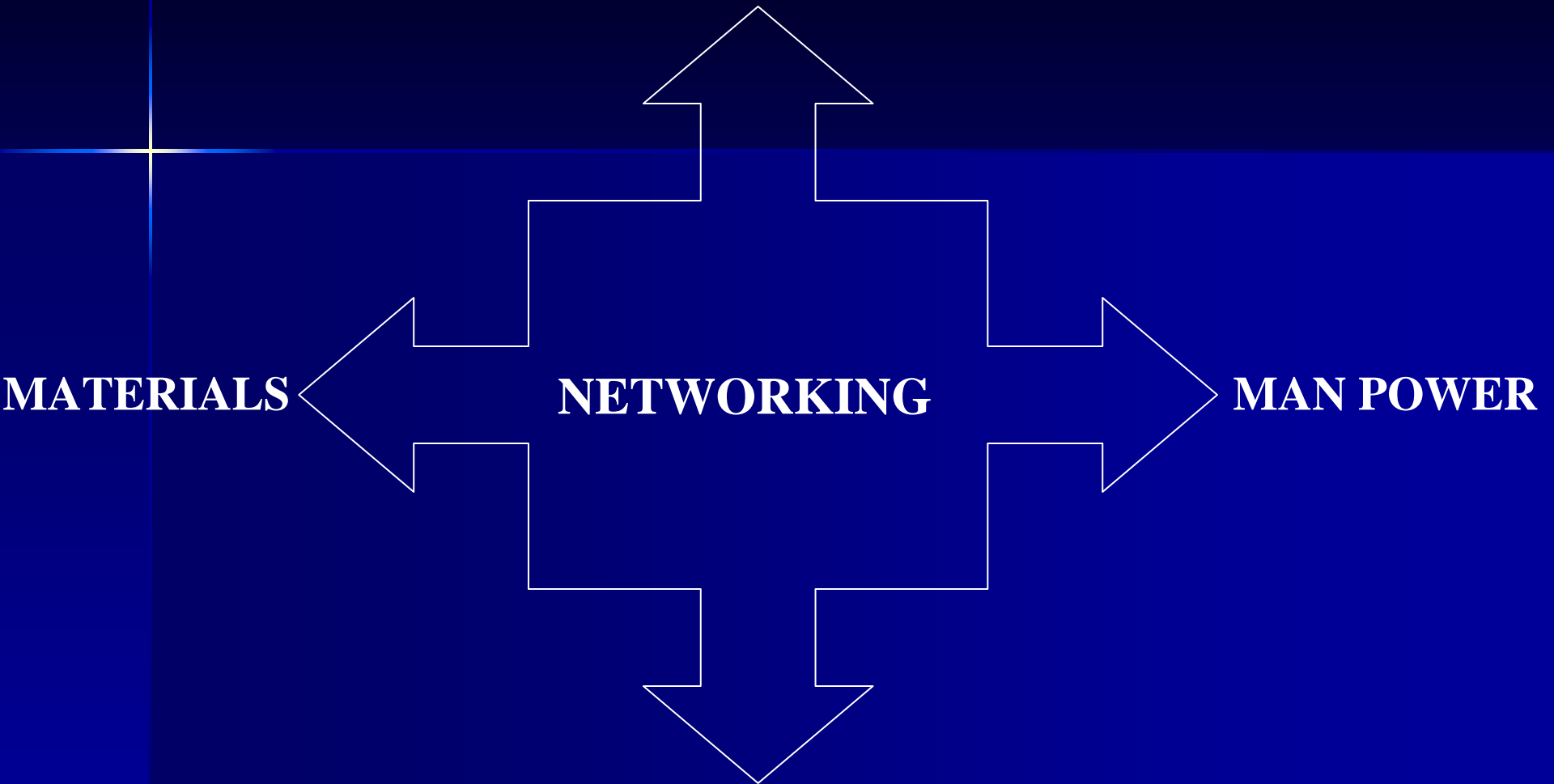
INFORMATION

MATERIALS

NETWORKING

MAN POWER

TRAINING



ADVANTAGES OF NETWORKING

- Aids in Inventory Analysis of Existing Resources
- Aids in Knowledge Augmentation
- Aids in Optimal Utilization of Resources
- Two-way System
- It is a Systems Approach



REQUISITES OF NETWORKING

STANDARD OPERATING PROCEDURES (SOPs)

- When to activate networking?
- Who all are authorized to activate networking?
- Whom to contact? Names, appointment, telephone nos. pager no. fax nos / e-mail / web site addresses
- Budgetary allocations

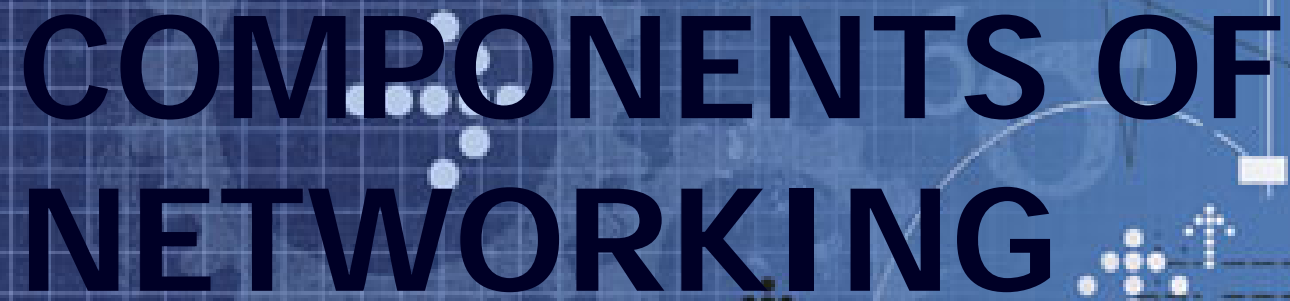
- Billing - who pays?
- Intra and inter sectorial coordination
- Triage allocation - standardized protocol should be enunciated which will facilitate transfers, receipt and management of casualties

ALLOCATION OF RESOURCES

- Mobile medical assistance teams
- Mobile vehicles for pharmaceutical and other supplies
- Mobile blood banks
- Air ambulances

- Allocation of Duties
- Training
- Rehearsals
- Universal Sensitization
- Effective and Efficient Communication

COMPONENTS OF NETWORKING



COMMUNICATION

- Telephones
- Mobile phones
- Fax
- E-mail
- Wireless
- WAN
- GH. Net
- GHUDRC

TRANSPORT

- Ambulances
- General vehicles
- Trucks
- Tractors
- Rail
- Air Transport
- Indian Railway Services
- Accident Relief Medical Equipment (ARME-1 & ARME-2) available at the medical establishments.

MATERIALS

- Expendable pharmaceutical products
- Hospital equipment
- Appliances
- Blood

MANPOWER

- Specialist medical officers
- Paramedics
- health care workers
- Mobile teams / quick reaction teams (QRTs)

ESSENTIALS FOR EFFECTIVE NETWORKING

- Situation, Hazard and Capability Analysis
- Organizational set up of health care services in the region
- Topography, population and population density of the area

- Administrative set up details at village, tehsil, district and state levels
- Disaster mapping of the area. These include industrial sites, earthquake prone areas, disaster epidemic zones and so on.

INVENTORY ANALYSIS OF MANPOWER, EQUIPMENT AND OTHER PHARMACEUTICAL PRODUCTS

- This will aid in planning, assigning duties and responsibilities, patient referrals, updating and in mobilization of resources.

DUTIES AND RESPONSIBILITIES

Duties and responsibilities of the networked personnel, agencies and health care institutions should be clearly delineated.

STANDING OPERATIVE PROCEDURES

SOPS should be scientifically formulated, adopted and reviewed.

TRAINING

Training is termed as a process by means of which the aptitudes, skills and capabilities of individuals to perform specific jobs are increased.

COORDINATION

Coordination between the networking agencies like the police & fire brigade implementing networking.

MOBILE TEAMS

Mobility is essential in networking.

Mobile surgical teams, blood banks will provide efficiency to the networking process.

REHEARSALS

Frequent rehearsals are very essential.
To save time and resources mini drills
and simulations should be carried out.

COMMUNICATION

Communication in networking should be process of meaning full interaction amongst human beings. Computer / satellite assisted communications should be gainfully utilized.

CHAIN OF NETWORKING

The networking process should cover the entire sphere of operations. There should be intro and inter networking of districts states and the nation.

The background of the slide features a dark blue grid. Overlaid on this grid is a faint, light blue globe. To the right of the globe, there are several abstract, glowing white and light blue lines and dots that suggest a network or data flow. The overall aesthetic is technical and digital.

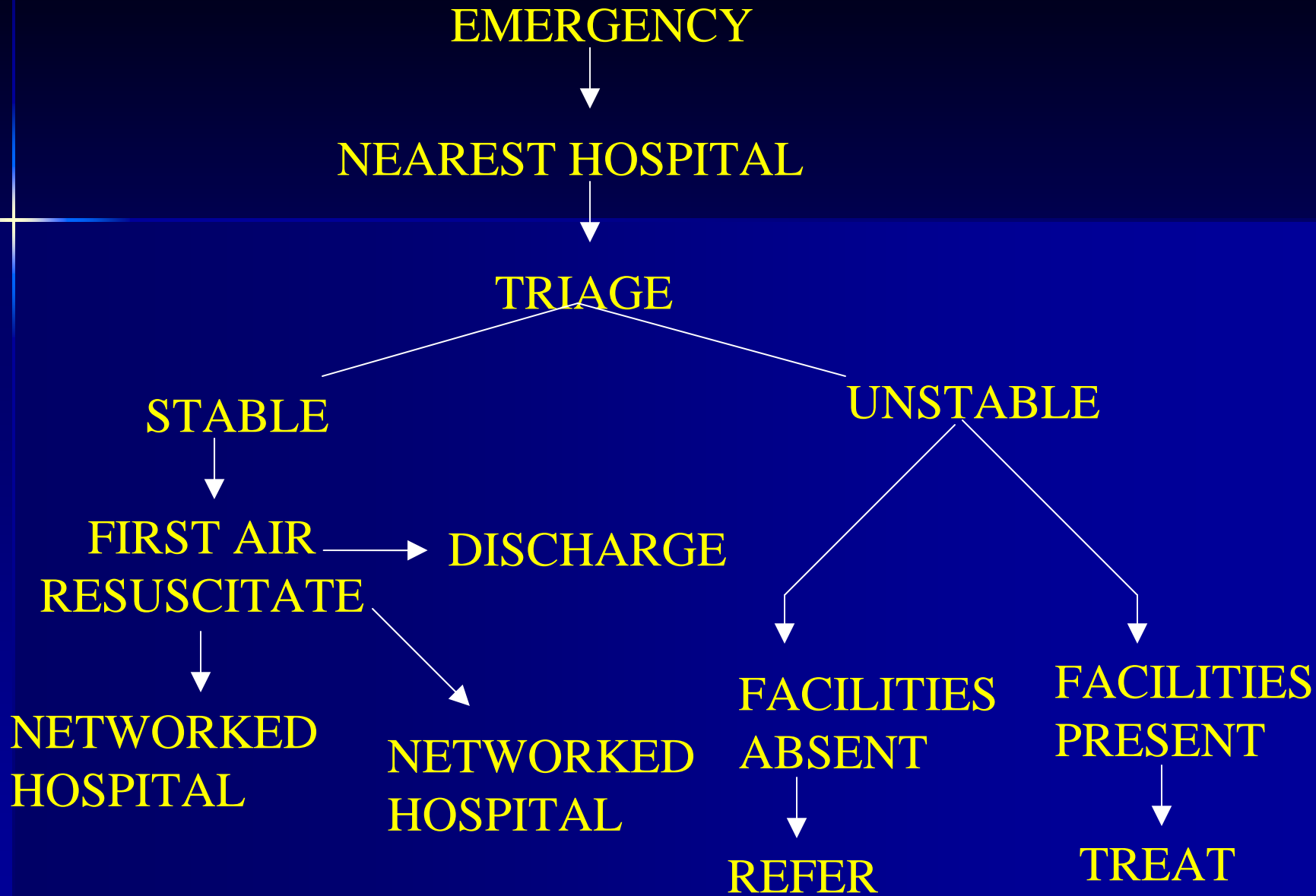
POINTS FOR CONSIDERATION WHILE NETWORKING

Which are the networking hospitals?

- Have the hospitals intended for networking been identified?
- Have inventory analysis of manpower and materials been carried out?
- Are the strengths and constraints of those hospitals known?
- Has a formal or informal agreement been made?

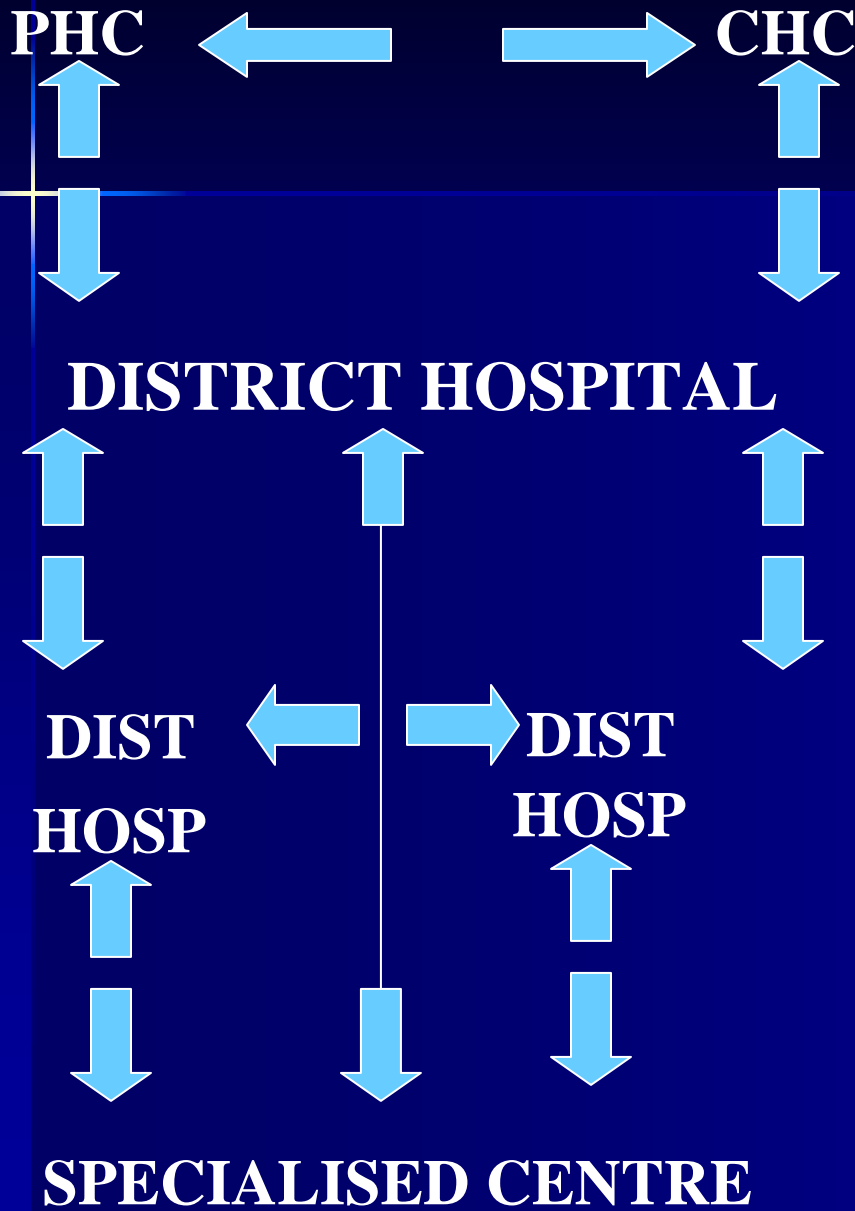
WHEN TO NETWORK?

- What is the number and types of casualties which necessitate activating networking with other hospitals?
- Is a disaster code available?



Suggested flow of patients in networked hospitals

LEVELS OF NETWORKING



- Police
- Fire Brigade
- Administration
- Private Hospitals
- Other Hospitals
- Armed Forces medical facilities
- Red-Cross
- Others

What are the modalities of networking?

- Are the names, telephones and addresses of the key personnel of the net-working hospitals available?
- How will they be contacted : telephone, fax, wireless, radio/e-mail, LAN, WAN, web site?
- Who is authorized to contact?
- Is the formulation of command nucleus defined?

Transport and Movement

- Which of the vehicles will be used to shift casualties?
- Will vehicles from other agencies be requisitioned?
- Other modes of transport to be requisitioned - rail, air.

Records

- What type of records will be maintained to monitor the referrals?
- What mechanism will be devised to inform the relatives, press and VIPs?

Orientation of Staff

- How will the staff of health care institutions be made aware of the networking plan?
- How will the participating hospital staff be oriented to the plan?

Administrative and Financial issues

- Does the plan require administrative approvals?
- Have separate budgetary provisions been made?
- Has financial sanction been obtained?

Intersectoral Coordination

- Have other agencies (e.g. district collector, police, fire services, telephone exchange, NGOs, military medical establishments) been identified and assistance arranged?

Testing and Review of Net-Working?

- How will the networking be tested and reviewed?

Always remember:

***“The best managed
disaster is the
disaster which is
prevented!”***