

Case Management during Pandemic

Management Objectives

- ❑ Early implementation of infection control precautions to minimise nosocomial spread of disease
- ❑ Prompt treatment to prevent severe illness and deaths
- ❑ Optimisation of available health resources

Infrastructure Support for Influenza Management

- ❑ Place: Well ventilated isolation ward
- ❑ Manpower: Dedicated doctors and paramedical workers
- ❑ Equipment: Portable x-ray machine, ventilators, large oxygen cylinders, pulse oximetre etc.
- ❑ Medicines: Tamiflu, antibiotics, IV fluids and other medicines.
- ❑ Personal Protective Equipment (PPE)

Infection Control

- ❑ Isolate patients to separate wards
- ❑ Reinforce standard infection control precautions i.e. all those entering the room must use high efficiency masks, gowns, goggles, gloves, cap and shoe cover
- ❑ Restrict no. of visitors and provide them with PPE

Case Management

- ❑ Collect relevant specimens for routine investigations and diagnostic purpose
- ❑ Take respiratory and blood specimen for possible bacterial infection
- ❑ Do not use M2 inhibitors as majority of H5N1 and H1N1 strains are resistant

Drug Treatment

- Oseltamivir is the recommended drug treatment for prophylaxis and treatment

Weight	Recommended drug treatment for prophylaxis and treatment
<15kg	30 mg BD for 5 days
15-23kg	45 mg BD for 5 days
24-<40kg	60 mg BD for 5 days
>40kg	75 mg BD for 5 days

- It is also available as syrup (12mg per ml)

Dosing recommendations of infants using oseltamivir

Age	Recommended treatment dose for 5 days
<3 months	12 mg twice daily
3-5 months	20 mg twice daily
6-11 months	25 mg twice daily

- If needed dose & duration can be increased

Zanamivir

- ❑ This drug is given by special disc haler device
- ❑ Therefore it cannot be given to:
 - a) Children below 5 yrs
 - b) Uncooperative aged patients
 - c) Seriously sick patients

Therefore, trials are on for intra nasal preparation of zanamivir

Dose and Side Effects of Zanamivir

- ❑ For treatment: 10mg x 2 times x 5 days
- ❑ For prophylaxis:
10mg (2 inhalations) once daily for 7 – 10 days after last exposure
- ❑ Side Effects:
It may lead to severe bronchospasm in particularly those persons who have underlying lung disease
- ❑ Resistance with zanamivir has been reported in only 1 immunocompromised patient

Patient Management

- Triage
- Hospital surge capacity
- Domestic care
- Critical care

Anticipated Enormity of Problem – A Simulation Example

- Approximately 72% of total hospital capacity will be used by influenza patients
- Requirement of ICU beds would be 171% of current ICU capacity for influenza patients itself
- 118% of the ventilator capacity will be required for influenza patients

(Simulation for Ontario province of Canada)

Triage – What?

- ❑ It is a system of assigning priorities of medical treatment based on urgency, chances of survival etc. and used on battlefields and medical emergency situation
- ❑ It is a system of prioritising based on available resources, manpower etc. in an emergency

Triage – Why?



- ❑ Manage increased case load due to apprehension
- ❑ Avoid consultation for all RTIs
 - Including illnesses that could be managed at home
- ❑ Prevent overwhelming the healthcare system

Triage – Where?

- Hospital
 - Screening area
 - ILI facility
- Community clinics

Hospital Surge Capacity

- ❑ Identify less used or unused areas to take care of anticipated increased no. of patients
- ❑ Postpone all routine surgeries to create more beds
- ❑ Identify place for isolation ward
- ❑ Identify place for separate OPD for ILI patients

Hospital Surge Capacity

- ❑ Identify community buildings which can be used as makeshift hospitals/clinics
- ❑ Identify medical personnel whose services can be utilised as back up arrangements
- ❑ Post mortems, if possible can be carried out round the clock to increase turnover of mortuary as more deaths are expected
- ❑ Proclamation of special laws to deal with extraordinary situation

Hospital Surge Capacity

- ❑ Display guiding posters at the main entrance itself regarding separate OPD for ILI
- ❑ Make separate entry points for staff coming to the hospital
- ❑ Establish 24 hours control room
- ❑ Make arrangements for distribution of informative material

Tools for Triage in Hospital – CURB-65 Scoring System

C onfusion	1
U rea > 7 mol /L	1
R espiratory rate > 30/m	1
B lood Pressure (S < 90) (D < 70)	1
65 yrs or more	1

CURB 65

<u>Points</u>	<u>Risk Profile</u>	<u>Recommendation</u>
0-1	Low Risk	OPD Treatment
2	Increased Risk	Admission or supervised OPD Treatment
3-5	High Risk	Admit in ward/ICU

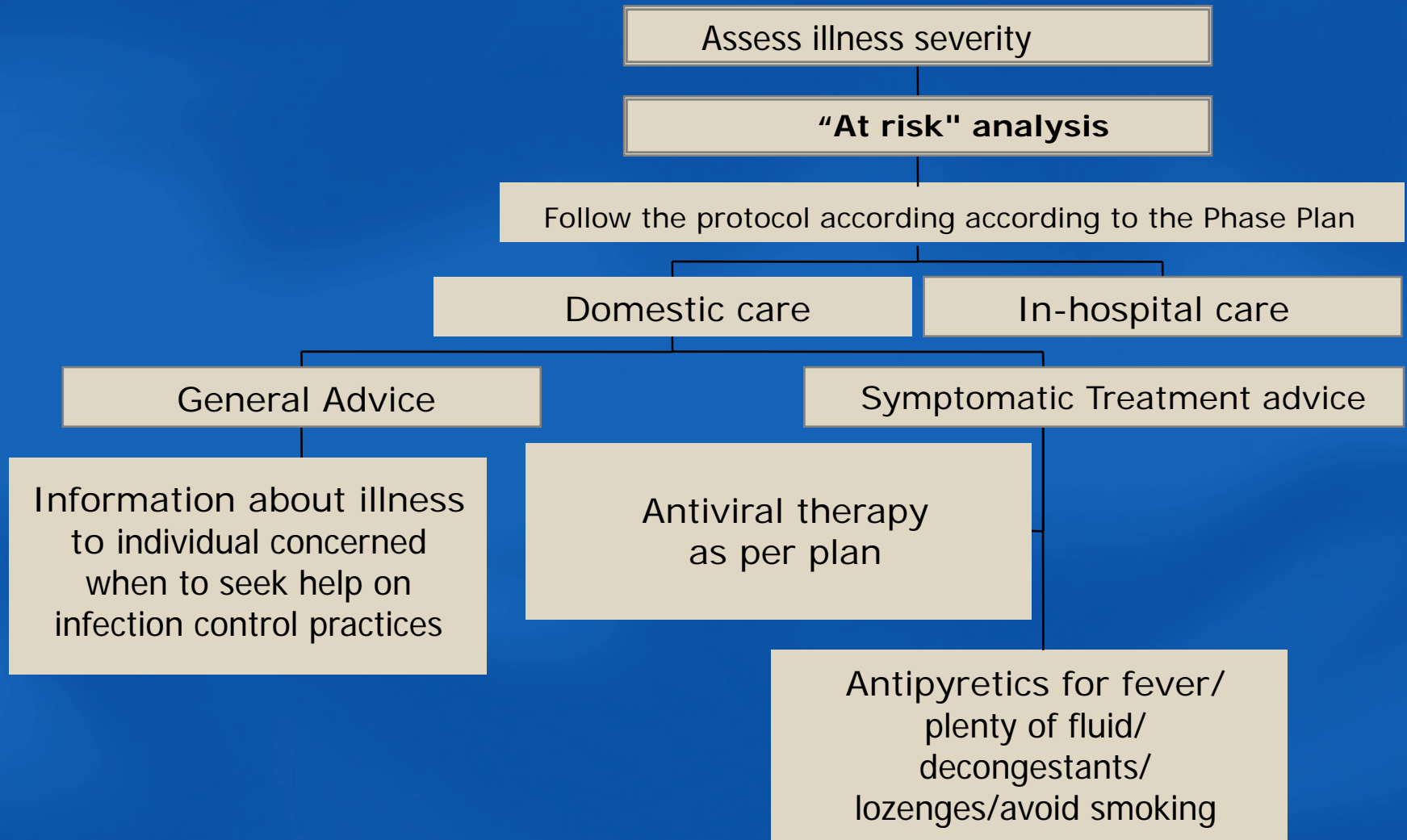
CURB 65

The risk of death increases as the score increases:

CURB score	Risk of death
0	0.7%
1	3.2%
2	13.0%
3	17.0%
4	41.5%
5	57.0%

The CURB-65 has been compared to the pneumonia severity index in predicting mortality from pneumonia

Triage – How?



SOFA

- ❑ Sequential
- ❑ Organ
- ❑ Failure
- ❑ Assessment score

Sofa Scoring Criteria

Variable	0	1	2	3	4
PaO ₂ / FiO ₂	>400	≤400	≤300	≤200	≤100
PC	>1.50	≤150	≤100	≤50	≤20
Bilirubin	<1.2	1.2-1.9	2-5.9	6-11.9	>12
Hypotension	None	Mean art BP<70	Dop≤5	Dop>5 Epi≤0.1	Dop>15 Epi>0.1
Glasgow Coma Score	15	13-14	10-12	6-9	<6
S. Creatinine	<1.2	1.2-1.9	2-3.4	3.5-4.9	>5

SOFA Triage Protocol has following Components:

- ❑ Inclusion criteria

- ❑ Exclusion criteria

- ❑ Minimum qualification for survival

(This involves reassessment of patient at 48 and 120 hrs for patients having SOFA score of more than 11)

- ❑ Prioritisation tool

Inclusion Criteria

A) Ventilatory support required

- SpO₂ <90% or FiO₂ >0.85

- Respiratory acidosis (pH <7.2)

- Impending respiratory failure or maintenance of airway

B) Hypotension with shock which cannot be managed in ward

Exclusion Criteria

- ❑ Patient >85 yrs
- ❑ Severe trauma
- ❑ Severe burn >40% or inhalation injury
- ❑ Underlying serious or chronic organic disease

Prioritization Tool

Triage code	Criteria	Action or priority
Blue	Exclusion criteria met or SOFA score > 11*	<ul style="list-style-type: none">• Manage medically• Provide palliative care as needed• Discharge from critical care
Red	SOFA score ≤ 7 or single-organ failure	Highest priority
Yellow	SOFA score 8-11	Intermediate priority
Green	No significant organ failure	<ul style="list-style-type: none">• Defer or discharge• Reassess as needed

Note: SOFA = Sequential Organ-Failure Assessment.

*If an exclusion criterion is met or the SOFA score is > 11 anytime from the initial assessment to 48 hours afterward, change the triage code to Blue and proceed as indicated.

Therefore, while otherwise when the emphasis is on isolating and admitting even suspected cases, in pandemic settings enormity of the patients may make it imperative to give preference to lesser sick patients over those who have no or minimal chances of survival to keep the system going.

Summary

- ❑ Influenza pandemic is likely to be a enormous burden on society affecting every kind of essential service, including healthcare
- ❑ Advance meticulous planning will be key for minimising the disruption of essential services
- ❑ Triage is an essential component of managing the high influenza case load in a pandemic

Thank You