

# **PANDEMIC INFLUENZA:**

## **PUTTING OREGON'S CRISIS CARE GUIDANCE TO USE**

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# DEFINITIONS

## ■ Epidemic:

- Disease numbers increase above normal Limited to a single geographic location

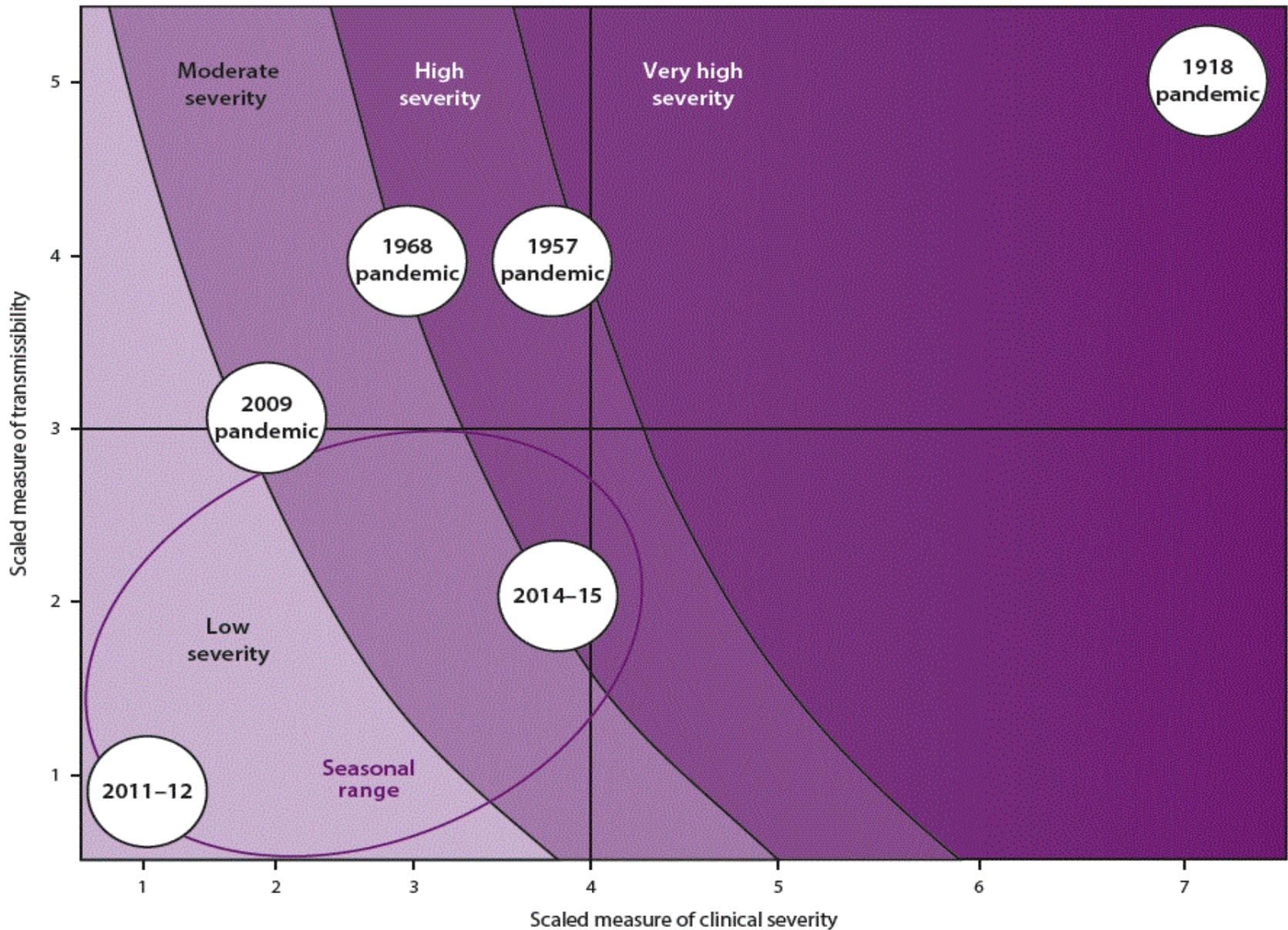
## ■ Pandemic:

- Epidemic over several countries or continents
- Severity based on:
  - Transmissibility – ease of spread
  - Clinical severity (virulence)

## ■ Medical surge

- Occurs in response to an “event”
- Increased needs for personnel, physical space, support functions, and/or logistical support
- Rapid expansion of healthcare capacity

# Pandemic Severity Assessment on the basis of past pandemics and influenza seasons



# US SEASONAL VS PANDEMIC INFLUENZA

## Seasonal Flu

- 12,000 - 57,000 deaths/year
- Mostly elderly, very young, and medically fragile
- Winter
- 4-6 month flu “season”

## Pandemic Flu

- 48,000 - 1,930,000 deaths/pandemic
- Often children and healthy adults
- Any time of year
- Local waves lasting 4-8 weeks
  - 1-3 waves separated by months

# PANDEMIC SURGE AMBULATORY CARE

- **33-50% increase in ill outpatient visits**
  - Bell shaped curve over 4-12 weeks
  - Primary care, urgent care, and ER
- **Does not include:**
  - Increased call volume
  - Worried well
  - Prophylactic treatment
    - Vaccines and antivirals
  - Pandemic effects on chronic medical, mental health, and social needs

# PANDEMIC SURGE INPATIENT CARE

- **Baseline US Hospital Resources**
  - 780,000 staffed hospital beds
  - 80,000 critical care beds
  - 64% average hospital occupancy
    - Varies widely by location and time of year
- **Pandemic Needs**
  - 800,000 - 11,500,000 hospital stays
  - 150,000 – 3,500,000 ICU stays

# PANDEMIC SURGE WORK FORCE

- **Clinical infection rate 18-30%**
  - Highest in 25-50 year old age range
- **4-25% decrease in daily workforce**
  - Personal illness
  - Family caregiving
  - Child care – school closures
  - Fear of exposure
- **Critical infrastructure at risk**
  - Health care, including vendors
  - Utilities and transportation
  - Public Safety

# **CRISIS CARE GUIDANCE: CONVENTIONAL**

## **LOCAL PANDEMIC ILLNESS CONFIRMED**

Rapid worsening likely

- Reinforce infection control and “stay home if ill”
- Initiate screening for flu-like illness
  - Cancel elective visits and procedures if symptoms
  - Provide masks to symptomatic individuals
  - Consider separate waiting, treatment, and hospital areas
- Initiate hotlines and internet information sites
- Adjust schedules for increased urgent visits
- Institute phone triage and medication refill protocols
- Stockpile necessary medications and supplies

# CRISIS CARE GUIDANCE: CONTINGENT

## PANDEMIC WORSENING

Healthcare approaching maximum capacity

- Strategize for population groups targeted by pandemic
- Provide resource updates to Public Health
- Institute surge strategies such as:
  - Streamlined documentation
  - Standing orders
  - Expanded duties and privileges within scope of practice
- Cancel non-essential visits and procedures
- Collaborative therapy agreements with pharmacies
- Utilize phone and “drive-by” triage protocols
- Non-ICU settings for ventilator and monitored patients

# **CRISIS CARE GUIDANCE: CRISIS**

## **SEVERE LOCAL PANDEMIC**

Needs exceed available healthcare resources

- **Cancel non-essential job duties and reassign**
- **Expand use of alternative care settings**
- **Expand illness and injury cared for in home**
- **Systematic alterations in standards of care**
- **Allocate care/resources to maximize lives saved**
- **Objective inclusion/exclusion criteria for hospital/critical care**
  - **Triage decisions by individual/group not involved in patient care**
  - **Hospital transport only if meet inclusion criteria**
  - **Supportive/palliative care for excluded patients**

# LIMITED RESOURCES: ETHICAL CONSIDERATIONS

## SAVE THE MAXIMUM NUMBER OF LIVES

- Triage based on:
  - Greatest need **AND**
  - Greatest likelihood of benefit
  - Includes both individual and societal needs/benefits!!
- Evidence based, objective if possible
- “Greater good” may limit individual choice and access
  - Including access to life-sustaining treatment
- Race, ethnicity, perceived quality of life, social position, or ability to pay should not be considered
- Shared decision making at all levels

# LET'S TRY TRIAGE!

## LIMITED VACCINE

After 6 months, a new vaccine is approved, just in time for the second wave of a severe pandemic. Very young children have been disproportionately affected.

Who should receive vaccine first? Assign a priority rating from 1 (highest priority) to 5 (lowest priority) for each of the following groups:

**Hospital staff**

**K-5 students**

**Verizon technicians**

**Assisted living staff**

**Police department**

**Clinic spouses**

**Nursing home residents**

**Pharmacists**

**Pregnant women in WIC**

**US Postal Workers**

# US PANDEMIC VACCINE PRIORITIES

## ■ Categories

- Homeland and national security
- Health care and community support services
- Critical infrastructures
- General population

## ■ Target groups in each category:

- Based on occupation, type of service, age group, or risk level
- Only personnel with essential roles in pandemic response

## ■ Tier placement individualized for each pandemic:

- Pandemic severity
- Patient groups with highest disease severity
- Work force and infrastructure impacts

# LET'S TRY TRIAGE! LIMITED VACCINE

## **Tier 1:**

Hospital staff

Assisted living staff

Police department

Pregnant women in WIC

## **Tier 2:**

Pharmacists

Verizon technicians

## **Tier 3:**

US Postal Workers

K-5 students

## **Tier 4**

Nursing home residents

## **Tier 5**

Clinic spouses

# LET'S TRY TRIAGE!

## CRITICAL CARE BEDS

### WEEK 3 OF SEVERE PANDEMIC

ICU beds filled. Surrounding hospitals experiencing similar surge. ER has two more patients needing critical care.

**ER patient 1:** 4 year-old with severe cerebral palsy. Sick with influenza like illness for 5 days, including fever, cough, vomiting, and diarrhea. Fever 104, HR 160, RR 44, retractions, lethargic. O2 sat 89% on supplemental oxygen.

**ER patient 2:** 54 year-old charge nurse from your hospital with new onset, sub-sternal chest pain radiating to jaw. EKG shows sinus tach and ST elevations in anterior leads. SBP is 160. Hypercholesterolemia, hypertension, 35 pack-year smoker. Both cardiologists with cardiac cath privileges are home with flu.

# LET'S TRY TRIAGE!

## CRITICAL CARE BEDS

Two current ICU patients identified for potential transfer

- ICU patient 1: 48 year old mother of three with metastatic breast cancer. Rapidly recurring malignant pleural and pericardial effusions. Cardiac arrhythmias following pericardial sclerosis 2 days ago.
- ICU patient 2: 72 year old previously healthy man. Mild flu-like illness 2 weeks ago, followed by rapid onset of paralysis. Admitted to ICU 1 week ago with Guillain-Barré syndrome. Total flaccid paralysis, ventilator dependent, tube feeding. Alert, oriented, anxious, with normal vitals and labs.

**OF THE FOUR PATIENTS, WHICH TWO GET ICU BEDS?**

# LET'S TRY TRIAGE!

## CRITICAL CARE BEDS

- ER patient 1: Pediatric influenza with pneumonia. Impending respiratory failure, needs ventilator support for survival. Cerebral palsy does not influence decision. ICU admission.
- ER patient 2: Survival not dependent on critical care. Offer thrombolytics, admit to hospital floor, not critical care.
- ICU patient 1: Metastatic cancer, prognosis less than a year independent of treatment. Transfer to floor, palliative care.
- ICU patient 2: Otherwise healthy Guillain-Barré requires prolonged ventilator support but has good prognosis for eventual full recovery. Continue in ICU.



**“After all, it really is all of humanity that is under threat  
during a pandemic.”**

**Margaret Chan**

**(Director-General, World Health Organization)**