

Pandemic Influenza Community Containment Interventions

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Objectives

- To understand the importance and impact of Non-Pharmaceutical Interventions (NPI) in Pan Flu response
- To become familiar with the Pandemic Severity Index and its relationship to community mitigation activities
- To understand the trigger points for initiating community containment interventions

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Characteristics of WHO Phases and US Stages of Pan Flu

World Health Organization Phase	US Government Stages
1 Inter-Pandemic Period: No new flu virus in humans	
2 No new human virus but circulating animal sub-types are a risk	0 New Domestic Animal Outbreak in At Risk Country
3 Pandemic Alert: Human infection no or limited human to human spread	1 Suspected Human Outbreak Overseas
4 Small clusters limited human to human poor adaptation to humans	
5 Larger localized clusters not fully transmissible to humans	2 Confirmed Outbreak Overseas
6 Pandemic: Increased sustained transmission human to human	3 Widespread human outbreaks in multiple overseas locations
	4 First human case in North America and/or United States
	5 Spread throughout the United States
	6 Recovery and preparation for second wave

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Primary Strategies for Control of Pandemic Influenza

- Vaccination
- Treatment Of Infected Individuals
- Prophylaxis Of Exposed or High Risk Individuals
- Implementation Of Infection Control Measures
 - Hygienic
 - Cough Etiquette
 - Hand Hygiene
 - Cleaning or disinfecting surfaces or objects
 - Social Distancing
 - Isolation and Quarantine

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Pandemic Influenza Interventions

- Vaccines:
 - Used to limit or prevent transmission
 - May be unavailable or in limited supply
- Community Containment Activities:
 - Used to limit transmission
 - *Implementation needed prior to exceeding cumulative illness rate of 1%*
- Anti-Viral Medications:
 - Primarily used to improve individual outcomes
 - Reduced morbidity and or mortality
 - Limited availability
 - Possible ineffectiveness

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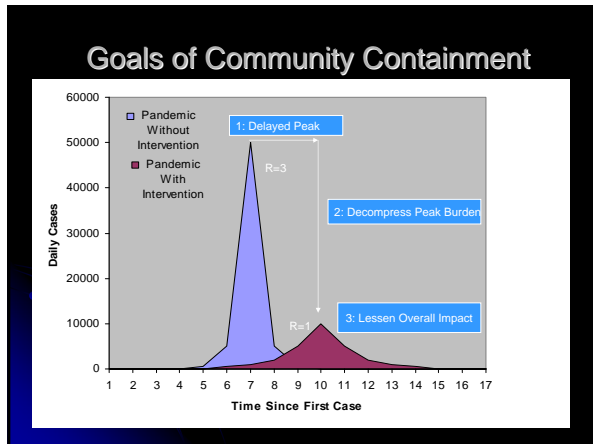
Key Non-pharmaceutical Interventions

- Isolation and treatment (limited anti-viral medications)
- Voluntary / mandated quarantine
 - Home
 - Other location
- School dismissal (child social distancing)
- Social distancing in the community and work place (adult)

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- ### Triggers For Initiation of Non-Pharmaceutical Interventions
- **Intervention Escalation Stages:**
 - **Alert:**
 - Notification to critical systems and personnel of impending activation
 - **Standby:**
 - Initiation of decision making processes for imminent activation including resource mobilization
 - **Activate:**
 - Implementation of specific mitigation measures based upon severity/impact of pandemic
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Triggers For Initiation of Non-Pharmaceutical Interventions

WHO Phase US Stage	Pandemic Severity Index Category 1	Pandemic Severity Index Category 2 & 3	Pandemic Severity Index Category 4 & 5
WHO Phase 6 US Stage 3	Alert	Standby	Activate
WHO Phase 6 US Stage 4 (First case in North America/US)	Alert	Standby	Activate
WHO Phase 6 US Stage 5 and Lab confirmed Cluster	Standby	Standby/ Activate	Activate

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Pandemic Severity Index

Epidemiological Characteristics	Category 1	Category 2	Category 3	Category 4	Category 5
Case Fatality Ratio (percentage)	<0.1	0.1 - <0.5	0.5 - <1.0	1.0 - <2.0	≥ 2.0
Excess Death Rate (per 100,000)	<30	30 - <150	150 - <300	300 - <600	≥ 600
Illness Rate (percentage of population)	20 - 40	20 - 40	20 - 40	20 - 40	20 - 40
Potential Number of Deaths (based on 2006 population)	<90,000	90,000 - <450,000	450,000 - <900,000	900,000 - <1.8 mil	≥ 1.8 Mil
Twentieth Century US Experience	Seasonal Flu illness rate 5-20%	1957 / 1968 Pandemic	None	None	1918 Pandemic

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- ### Community Mitigation Strategy By Pandemic Severity
- **Category 1:**
 - Voluntary isolation of sick individuals at home
 - Seven to ten days duration
 - **Category 2 and 3:**
 - Voluntary isolation of sick individuals at home
 - Consider:
 - Voluntary quarantine of household members in homes with sick individuals
 - Child social distancing school closure
 - Adult workplace and community social distancing
 - Four weeks duration
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- ### Community Mitigation Strategy By Pandemic Severity
- **Category 4 and 5:**
 - Voluntary isolation of sick individuals at home
 - Voluntary quarantine of household members of sick individuals
 - Child social distancing
 - School closure
 - Reduction in out of school social contacts and community mixing
 - Adult social distancing in the workplace and community
 - Decrease the number social contacts
 - Increase the distance between persons
 - Restrict public gatherings
 - Modification of workplace schedules and practices
 - Twelve weeks duration
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Maryland Legal Authority for Community Containment

- Range of Authority
 - Isolation and Quarantine
 - School and business closure
 - Empower the State and DHMH to prepare and respond to public health emergencies
- Maryland Code ANN., Public Safety, Title 14, Subtitle 3A

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Maryland Legal Authority for Community Containment

- Powers of Governor (Public Safety COMAR)
 - Power to declare catastrophic health emergency
 - 30 day renewable periods
 - Orders to healthcare providers:
 - Disease surveillance, treatment and suppression efforts
 - Comply with DHMH directives
 - Evacuation, closure or decontamination of any facility
 - Social distancing, isolation, quarantine
 - Issue orders to DHMH secretary

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Maryland Legal Authority for Community Containment

- DHMH Secretary (Health General 18-905)
 - Require or order isolation and quarantine
 - Seize anything needed to respond
 - Control, regulate or restrict the use, sale, dispensing, distribution or transportation of anything needed to respond
 - Require medical screening or testing
 - Require medical treatment or vaccination
 - Establish places of treatment, isolation or quarantine
 - Evaluate or modify disease surveillance activities
 - Investigate disease exposures
 - Treat, prevent or reduce the spread of disease

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Maryland Legal Authority for Community Containment

- Health Officer Powers (COMAR 10.59.01)
 - Recommend to Secretary suitable Isolation locations
 - Provide or arrange individual transportation for isolation or quarantine
 - Monitor individuals in isolation or quarantine
 - Ensure Isolation or quarantine facility has utilities
 - Ensure individual has sustenance
 - Provide information to the individual
 - Determine whether there are cultural or religious beliefs interfering with medical care during isolation and or quarantine

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Summary

- Non-pharmaceutical community containment activities are expected to have positive impact the transmission of flu.
- These activities will include isolation, quarantine and social distancing
- The severity index of the pandemic will guide the degree of implementation of non-pharmaceutical interventions

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Questions

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Additional Information

- Local Health Department
- Office of Preparedness and Response
 - <http://bioterrorism.dhmh.state.md.us/>
- *Interim Pre-pandemic Planning Guidance:
Community Strategy for Pandemic Influenza
Mitigation in the United States*
Centers for Disease Control and Prevention
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