

# Public Health Measures to reduce Influenza transmission

**Global Influenza Programme**

Prepared in collaboration with  
Division of Global Migration and Quarantine  
U.S. Centers for Disease Control and Prevention



**World Health  
Organization**

# Learning Objectives

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- Describe and discuss the use of various measures to reduce influenza transmission
- Interpret the rationale, concepts and objectives of these measures.
- Formulate considerations for decision-making regarding when to use which measure.
- Discuss the challenges of implementing these measures.



# Session outline

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## Public Health Measures to reduce influenza transmission \*

- Rationale
- Types of interventions
- Containment strategy
- Legal authorities and ethical framework
- Implementation
- Scaling back



# Public Health Tools in our toolbox

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- **Our best countermeasure – vaccine – will probably be unavailable**
- **Modelling suggests combination of antivirals and other PH measures needed to stop a pandemic**
- **Multiple PH measures may reduce transmission**

Adapted from Div Global Migration and Quarantine, CDC



# Rationale for PH measures

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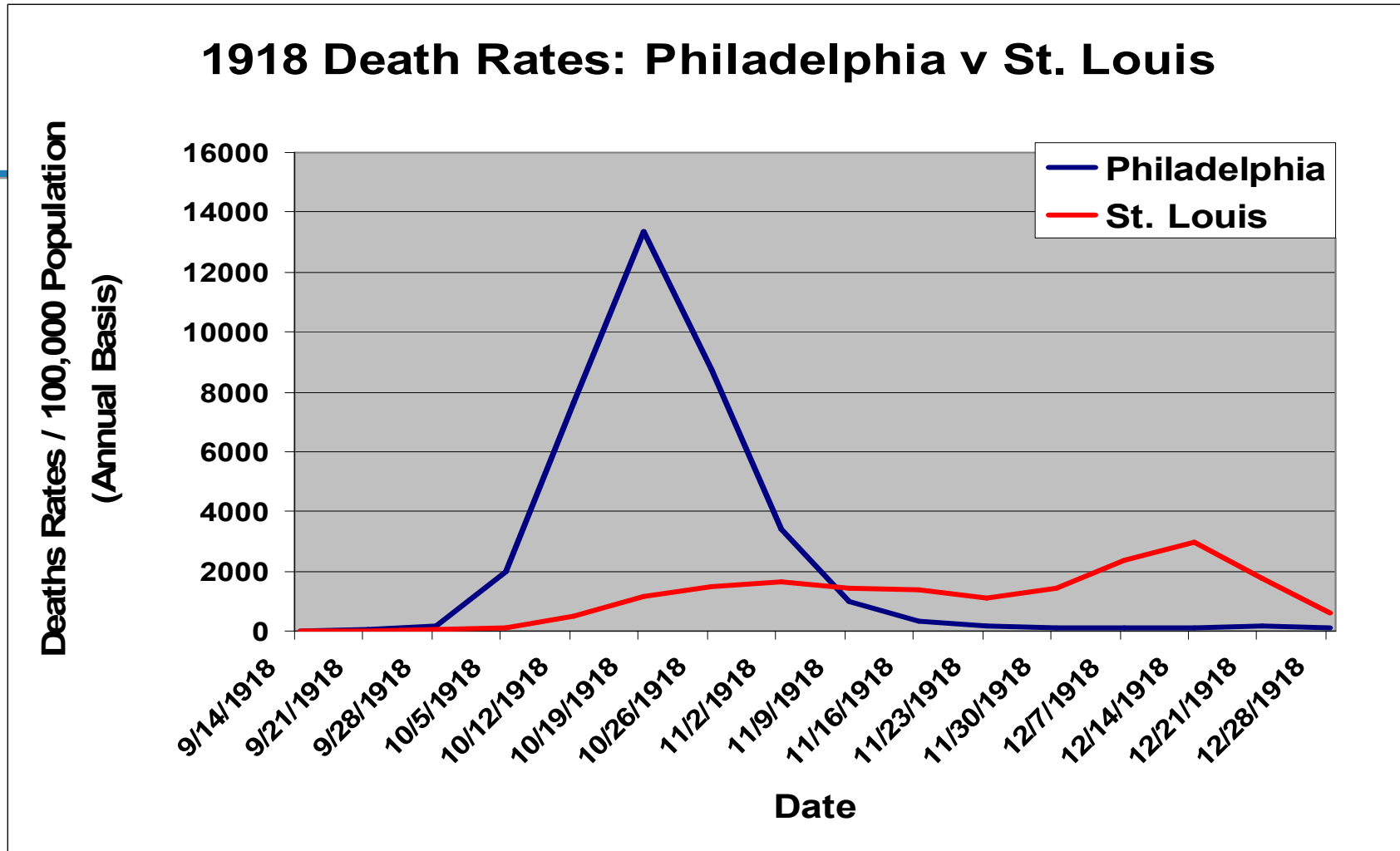
- **Influenza transmission occurs when persons are in close contact**
- **Measures aim to reduce transmission by**
  - **Increasing "space" between people – i.e. social distancing**
  - **Decreasing time people are in close contact/crowded settings**
  - **Practicing good hygiene and infection control measures**



# Evidence base for PH measures

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- **Limited evidence to evaluate the effectiveness of these PH measures for influenza**
  - Modelling studies
  - Historical data from previous pandemics, SARS
  
- **Our current knowledge is likely to evolve**

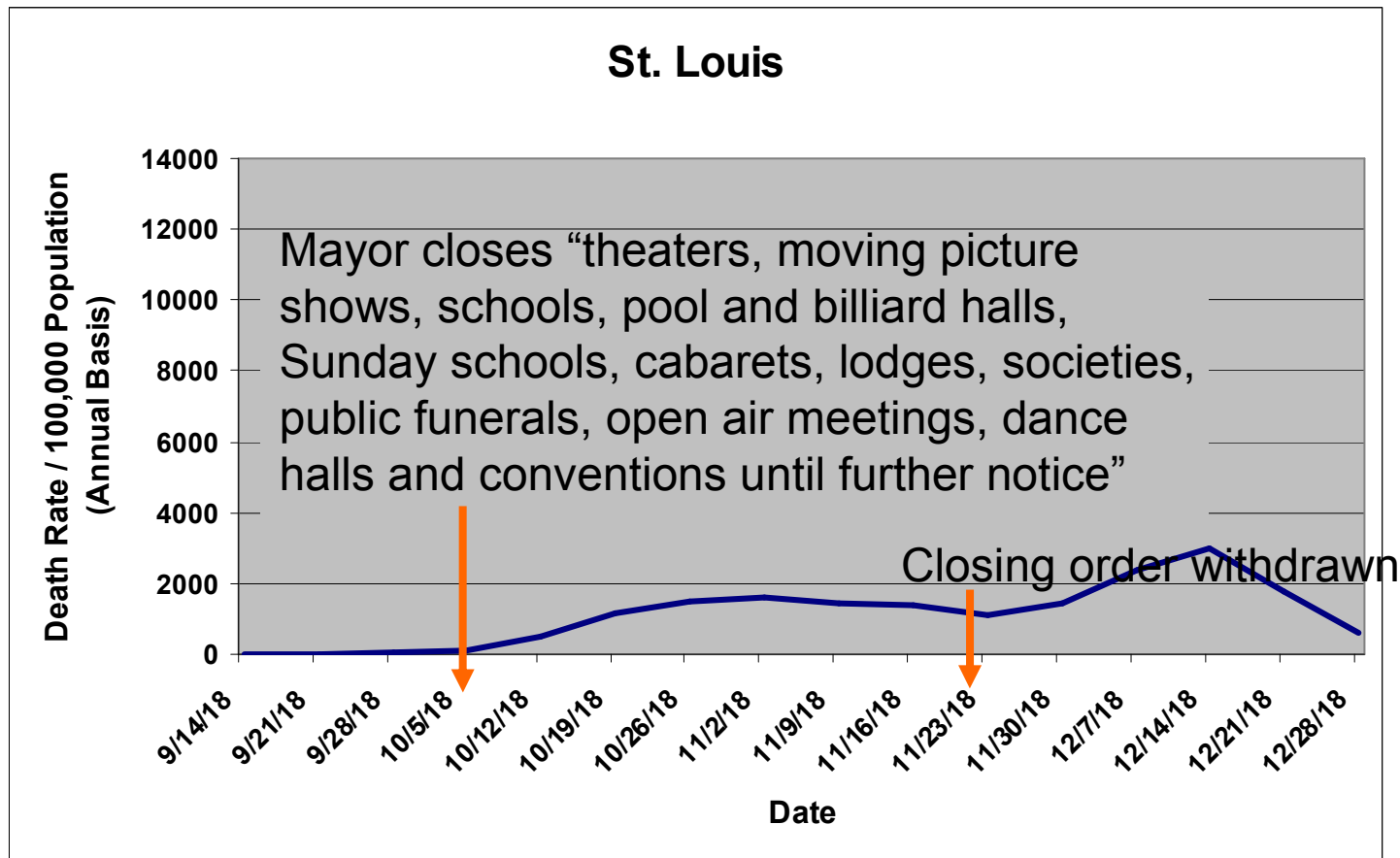


Collins SD, Frost WH, Gover M, Sydenstricker E: Mortality from influenza and pneumonia in the 50 largest cities of the United States First Edition Washington: U.S. Government Printing Office 1930.

Slide provided by Div Global Migration and Quarantine, CDC



# St. Louis






# Who Infects Whom?

Glass, RJ, et al. Local mitigation strategies for pandemic influenza. NISAC, SAND Number: 2005-7955J

	To Children	To Teenagers	To Adults	To Seniors	Total From
From Children	21.4	3.0	17.4	1.6	43.4
From Teenagers	2.4	10.4	8.5	0.7	21.9
From Adults	4.6	3.1	22.4	1.8	31.8
From Seniors	0.2	0.1	0.8	1.7	2.8
Total To	28.6	16.6	49.0	5.7	

**Likely sites of transmission**

-  **School**
-  **Household**
-  **Workplace**

**Demographics**

- Children/Teenagers 29%**
- Adults 59%**
- Seniors 12%**

Pandemic Influenza



World Health Organization

# Types of interventions

Isolation

Quarantine

Social Distancing

Perimeter controls

# Considerations (1)

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- **Voluntary vs. Mandatory**
- **Trust and participation of the general public**
  - Need for public information
  - Need for effective risk communication
- **Issues to consider**
  - Effectiveness
  - Implementation
  - Infrastructure
  - Cultural significance
  - Ethics
  - Legal authority of health officials



# Considerations (2)

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- **Regular health monitoring is important**
  - **Conduct frequent health checks**
  - **Self-health monitoring and reporting**
  - **Provide information if illness develops (e.g. fever telephone hotlines and clinics)**
  - **Ill persons require isolation**
- **Plan for large number of cases**
- **Provide medical and social care**



# Isolation

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- **Isolation**
  - Separation and restricted movement of **///** persons with contagious disease
  - Primarily individual level
- **Factors influencing location of isolation (home, hospital)**
  - Severity of illness
  - Number of affected persons and availability of hospital beds
  - Domestic setting and availability of adequate supportive care
  - Likelihood of compliance
- Isolate severe and mild cases
- Do not wait for lab confirmation

Adapted from Div Global Migration and Quarantine, CDC



# Quarantine

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- **Quarantine**
  - Separation and restricted movement of **well** persons who are presumed exposed (i.e. contacts)
  - Applied at the individual, group or community level
  - Often at home, but may be designated residential facility or hospital
- **Used in combination with other measures**
- **Used only as long as necessary**
- **100% compliance is not required to be effective**

Adapted from Div Global Migration and Quarantine, CDC



# Quarantine (2)

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- **Used when resources are available to implement and maintain**
  - **Provide essential services and care for those in quarantine**
- **Clear understanding of roles and legal authority at all levels**
- **Coordinated planning by many partners**
  - **Public health authorities, health-care providers, emergency response teams, law enforcement and transportation authorities**

Adapted from Div Global Migration and Quarantine, CDC



# Social distancing

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- **Measures to reduce the risk of spread by:**
  1. Decreasing frequency of contact among persons
  2. Decreasing time spent between persons
- **Examples of social distancing**
  - Closure of schools
  - Business and market restrictions
  - Cancellation of public gatherings
  - Restriction of public transportation



# Closure of Schools

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- **Preventing children from gathering**
  - **Key component of containment effort**
  - **Seasonal influenza outbreaks may be limited by closing school**
  - **Implications for parents are different in rural vs. urban areas**



# Population measures

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- **Business and Market Restrictions**

- Closing workplaces, non-essential workers stay home, or stagger work hours
- Staggered market access to reduce crowding
- Access and availability of basic necessities
- Basic infrastructure and essential services
- Economic impact considerations

- **Cancellation of Public Gatherings**

- Restrict mass gatherings such as festivals and sporting events
- Minimizing public transport

# Infection Control

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- Hand hygiene
- Respiratory hygiene and cough etiquette
- Cleaning and disinfection of surfaces
- Personal protective equipment



# Implementation of PH measures

Coordination

Logistics and Security

Psychological and Social Impact

Scaling back

# Coordination

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- **Governmental and non-governmental organizations (NGOs) must work together**
  - **Help spread health messages**
  - **Get community buy-in for interventions**
  - **Assist directly with health monitoring, medical care etc.**
- **Pre-event planning is key to successful implementation**



# Logistics and Security

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- **Work with local police/military/civil force**
- **Logistics requires significant planning**
- **Logistical and security issues**
  - **Isolation**
  - **Quarantine of individuals or groups**
  - **Measures to increase social distance**



# Psychological and Social Impact

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- **Explain why measures are necessary**
- **Provide updates on the status of the containment operation**
- **Hotlines to answer questions**

