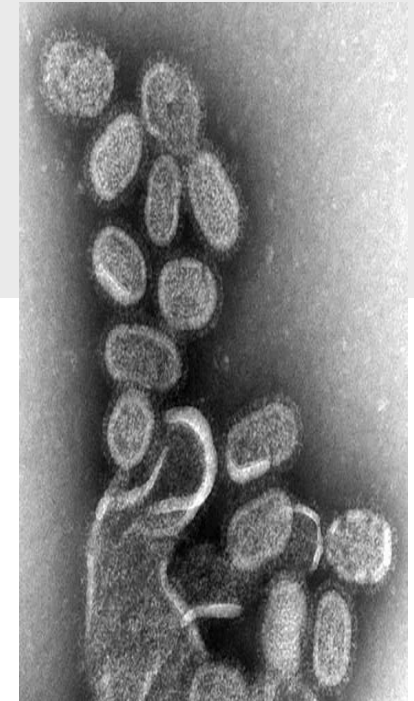


Keeping the Lights On During a Pandemic: Prepare or Pray??



Whistler June 5, 2009

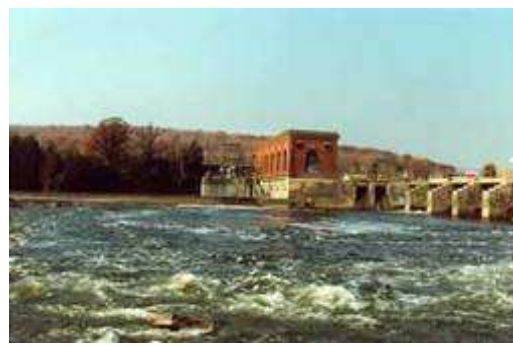
**Dr. Alain Sotto, Hon BSc, MD, CCFP(EM), FCBOM
Chief Physician of OPG**



**ONTARIOPOWER
GENERATION**

OPG Profile: *Who We Are*

Ontario Power Generation is an Ontario-based electricity generation company whose principal business is the generation and sale of electricity in Ontario. OPG's focus is on the efficient production and sale of electricity from its competitive generation assets, while operating in a safe, open and environmentally responsible manner.



2007 Stats

- **Employees:** 11,700
- **Generation:** 105.1 TWh
- **Revenue:** \$5.66 Billion*
- **Capacity:** 22,158 MW
 - Fossil: 8,573 MW
 - Hydro: 6,972 MW
 - Nuclear: 6,606 MW
 - Wind: 7 MW

* Canadian



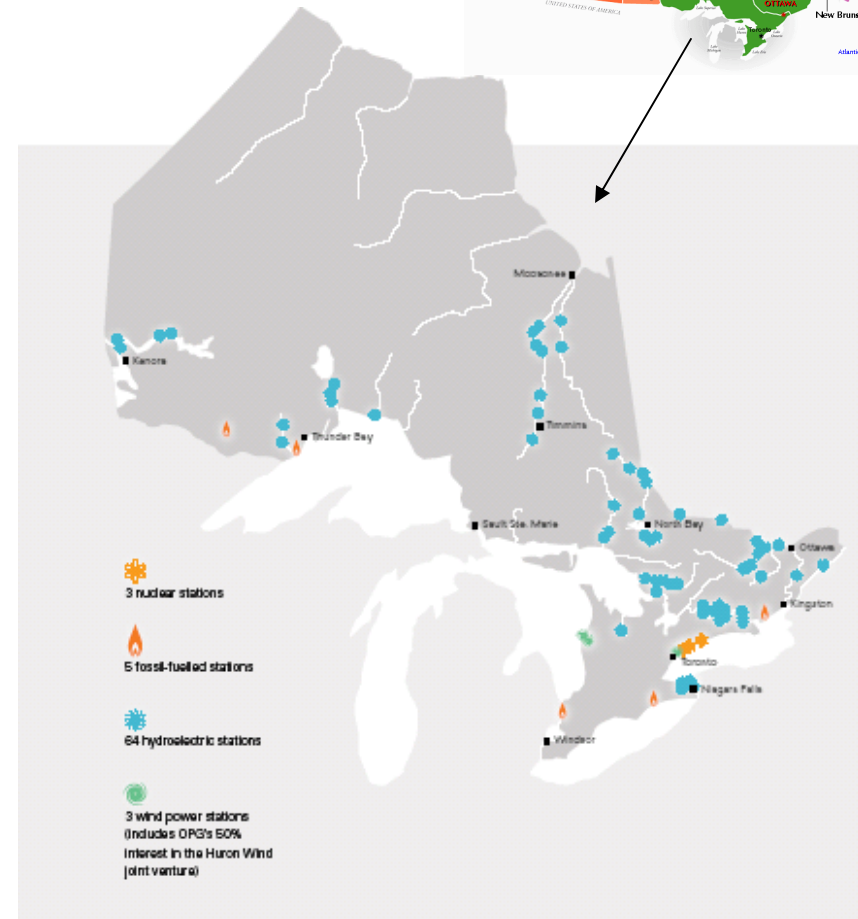
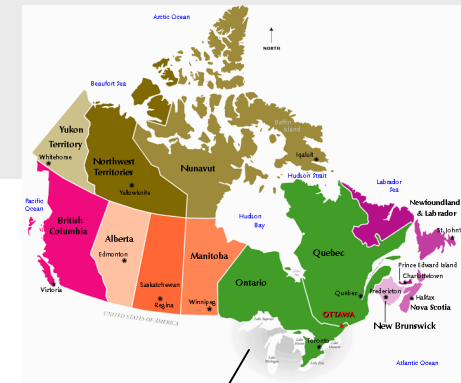
* After rebates

OPG EMERGENCY PREPAREDNESS

ONTARIOPOWER
GENERATION

OPG's Generating Stations

- 3 nuclear stations
 - 5 fossil stations
 - 64 hydroelectric stations
-
- 6 *Occupational MDs*
 - 22 *Occupational Nurses*



Why is Pandemic Planning important to OPG?

- 70% of Ontario power supply provided by OPG
- Day to day work would be disrupted
- High absenteeism
- Nuclear staffing requirements
- Qualified staff required to operate fossil and hydroelectric plants
- OPG relies heavily on suppliers who also will be affected



What are the Corporation's main goals?

- Protect the health of their employees
- Want workers to feel safe in coming to work(OHSA, Sec 25(2))-” Take every reasonable step for safe workplace...
- Communicate updates to employees
- Protect their assets
- Comply with legislative requirements
- Provide goods/ services



How did OPG Prepare?

- Executive/Board support
- High level plan developed by a cross-functional team provided overall framework, planning assumptions, staged response and developed 11 protocols
- Integrated with OPG's Emergency Preparedness and Response Plans



OPG Planning Assumptions: “Keeping the Lights On!”

1. Consistent with Ontario Health Pandemic Influenza Plan
2. Two waves, each lasting up to 8 weeks, peaking at 3-4 weeks; waves 3 – 9 months apart, second stronger than first
3. Attack rate of 35% (severe enough to take at least ½ day off of work)
4. Absenteeism – 3 scenarios:
 - Mild – one week peak at 20%; balance of wave at 10%
 - Medium – one week peak at 30%; balance of wave at 15%
 - Severe – one week peak at 40%; balance of wave at 20%
 - Absenteeism rate includes sick, those caring for sick, absent due to school closures, “worried well”, etc.
5. Little lead time between WHO declaration of Phase 6 pandemic and outbreak in Ontario (1-2 months or less)
6. No effective vaccine prophylaxis or limited antivirals and **NO Vaccine** for the first wave. Now antivirals readily available for Pre-exposure prophylaxis and Treatment!!!
7. Regulatory requirements status quo (H&S, Env., etc.)
8. Need Capability to respond to other contingencies



Ontario Pandemic Plan: Antivirals

July 2007 + revised Aug. 2008

- In section 9.2 Ontario plan : **Antivirals** have been stockpiled for 25% for the population in the Province for treatment ONLY
- “ Prophylaxis with antiviral drugs may play a key role in maintaining critical services (i.e. preventing infection in and providing reassurance to people caring for individuals with influenza as well as workers in critical industries) until a vaccine becomes available.”



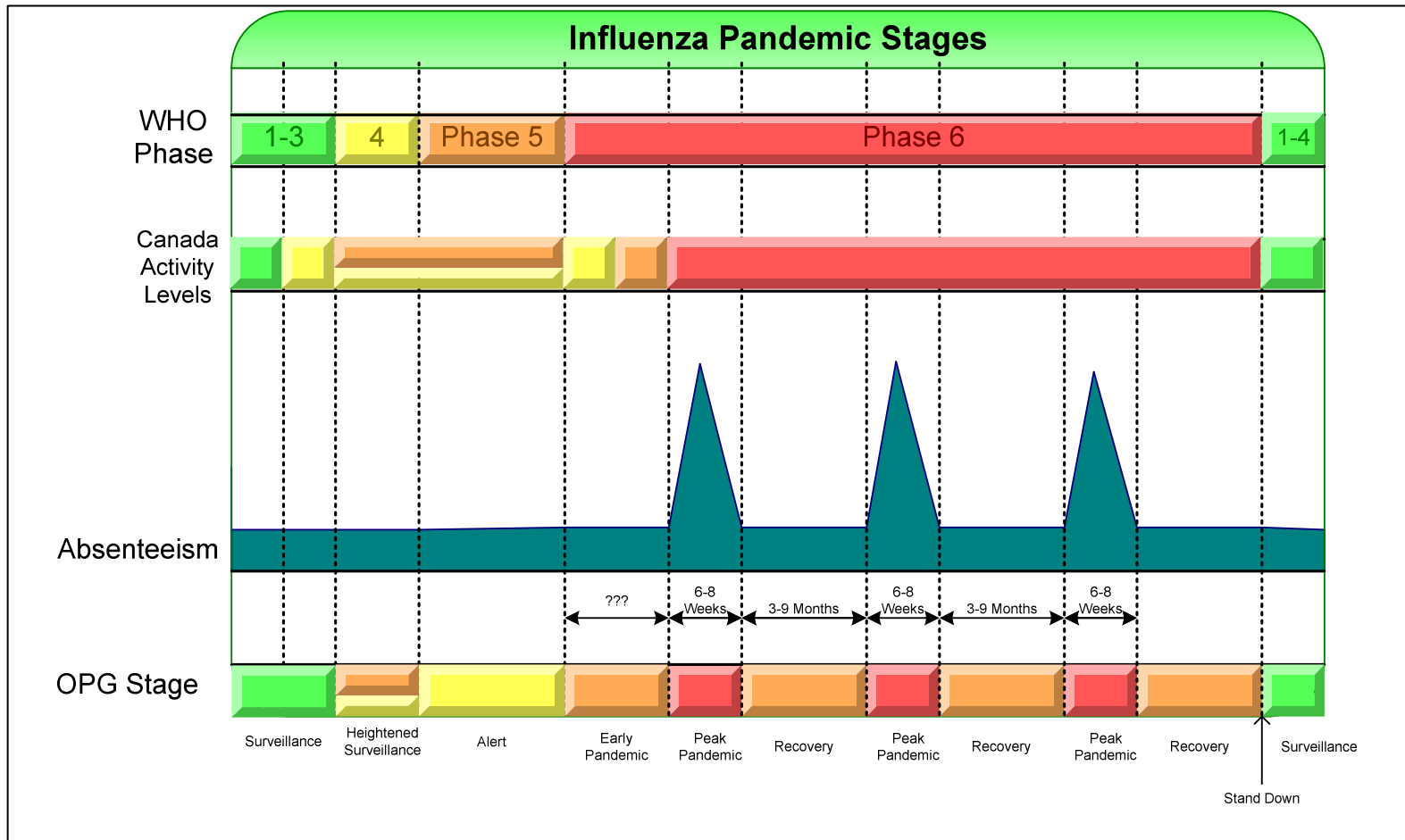
Toronto Pandemic Plan: Antivirals

October 2007

- “Antiviral drugs could play a **significant role** in maintaining the health care system if they were dispensed to workers, as part of their job , provide care to persons ill with influenza. Some Toronto hospitals have developed stockpiles for this purpose.”
- “ The City of Toronto Medical Officer of Health has recommended stockpiling the drugs but the City is awaiting a definitive provincial policy.”



Alignment of OPG Response Stages vs WHO Phases



11 Key Planning Protocols

- **Emergency Response Organization**
- **Monitoring and Surveillance**
- **Vaccines and Antivirals**
- **Health Protocols**
- **Human Resources Protocols**
- **Facilities**
- **Supply Chain**
- **Information Technology**
- **Security**
- **Communication Strategy**
- **Guideline for creating continuity of operations plans (COOP)**



Pandemics in the 20th Century

Pandemics occur on average every 30 years

Years	Common Name (Virus)	Deaths	1 st wave	2 nd wave
1918-1919	Spanish flu(H1N1)	20 - 40 M	Very mild	Severe
1957-1958	Asian(H2N2)	>3M	Mild	Moderate
1968-1969	Hong Kong(H3N2)	> 1 M	Mild	Mild

- The World Health Organization (WHO) and most experts expect an influenza pandemic in the foreseeable future

Influenza A(H2N2), global pandemic 1957, emergence southern China



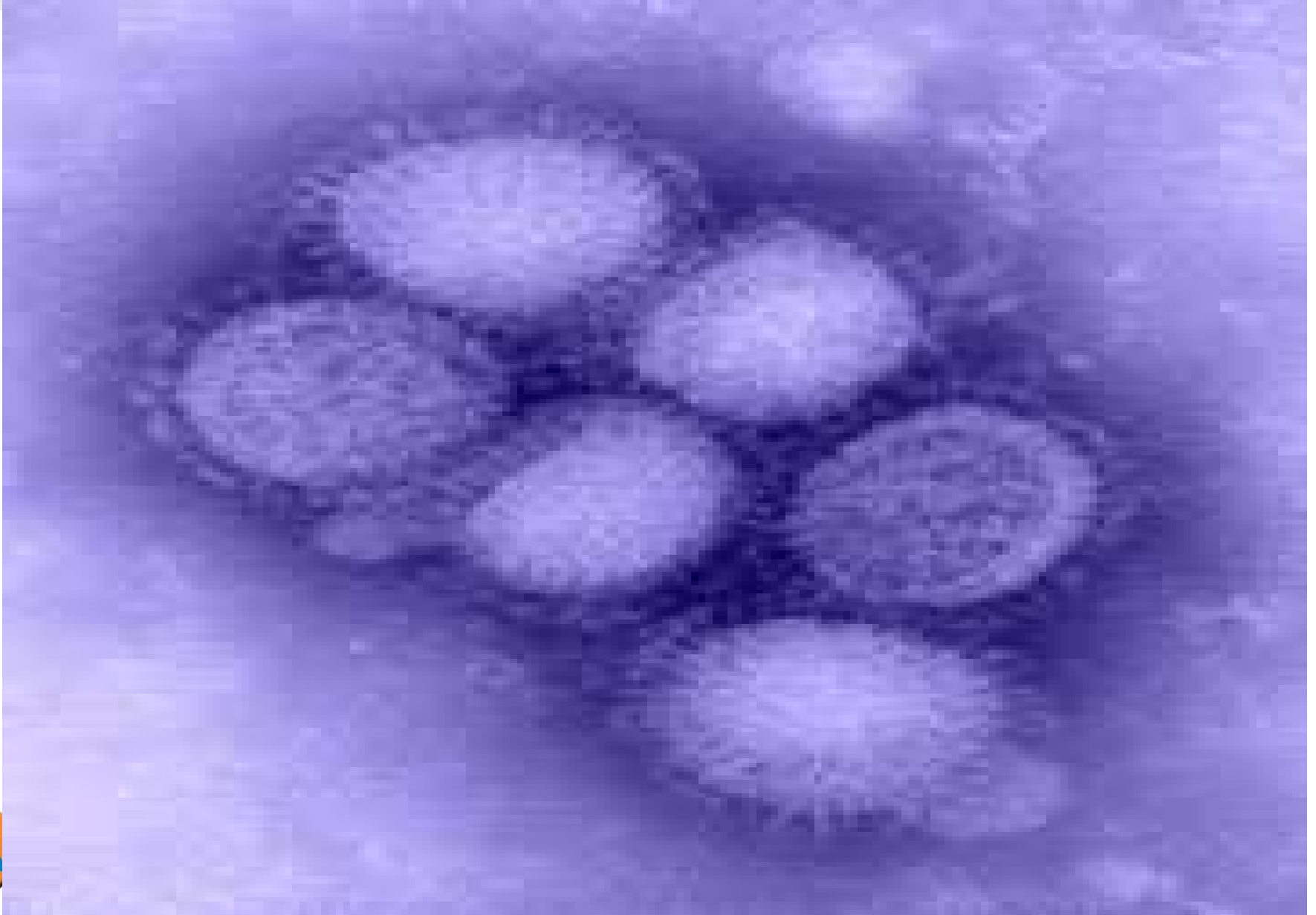
*Like other pandemics,
the one in 1957
rapidly spread
around the world.*

“New” Swine Flu A/H1N1 Strain

- New virus from Mexico, U.S., Canada & in 53 countries
- So far 20,000 cases and 120 deaths: CFR= 0.6 - 0.7 %
- New Influenza virus : A/H1N1 made up of a mix of 2 swine + 1 bird + 1 human genes
- It is a new subtype of A/H1N1 not seen in swine or humans before!
- ‘Quad Reassortment ‘of swine H1N1 virus
- Novel virus has Pandemic potential !! Are we in 1st wave??



New H1N1 Influenza A Virus: April 2009



Transmission of New H1N1 Flu

- Similar to human flu: Contagious via:
 1. **Droplet** transmission: 1-2 meters
 2. **Contact** transmission with infected hard surfaces within 48 hours or on *hands x minutes*
- *Spread from **Human to Human** in close contact by coughing/sneezing and hands/touching eyes/nose/mouth*



Treatment of New H1N1 Flu

- In U.S. & Canada milder disease so far
- In Mexico more deaths reported - Pneumonia related + Pre-existing disease
- Treatment is Tamiflu or Relenza for severe disease
- Vaccine would be best!!!

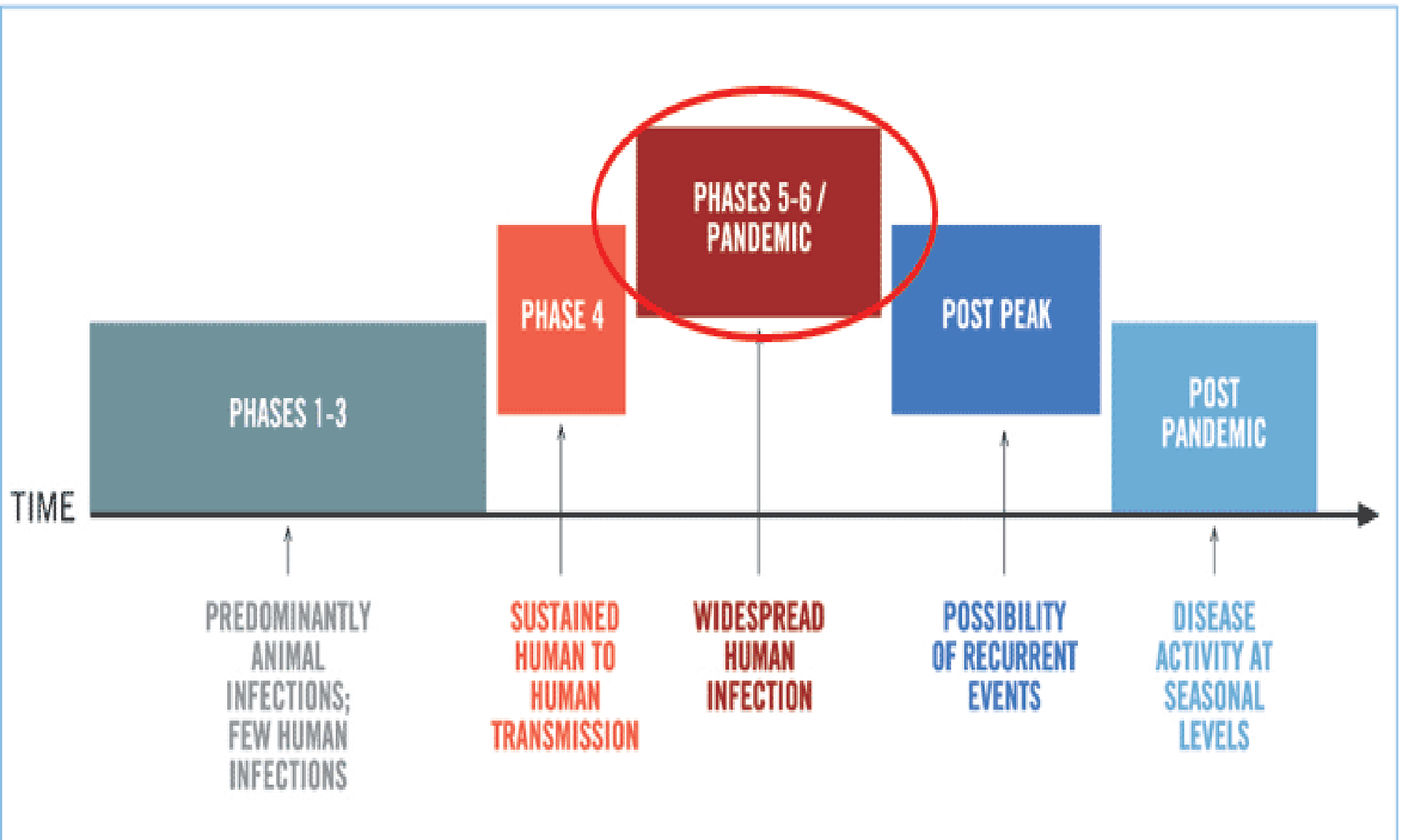
Prevention & Limit Spread:

- Communicate-- If sick, stay at home—no school/ work
- If No symptoms-expect to be at work
- Hand Hygiene, Cough/ Sneeze in sleeve,
- Social distancing, Flu shot if travelling etc



WHO on April 29/ 09

PANDEMIC INFLUENZA PHASES



H1N1 OPG Actions: April 21- May 15/ 09

- 5 employee communications & updates sent to 12K ees
- Promoted enhanced hygiene advice
- Increased email traffic on H1N1 to Chief Physician
- Pandemic steering cmtte & SMEs met everyday
- “Pandemic 101” ppt. posted for all employees
- Revise plan & identify gaps to meet H1N1 activity
- Check our stockpiles of Tamiflu, N95s etc....
- No screening at entry points/ no masks
- No work refusals/ shut downs
- No increased absenteeism



If WHO declares Phase 6 for H1N1??

- **Phase 6: does NOT mean virus is severe**
- **Does not mean we are Phase 6 in Ontario**
- **Phase 6 means it has spread to > 2 WHO regions
i.e. Europe and Asia with community spread**
- **Phase 6 means you will have ill employees + their families**
- **Phase 6 means you need contingency plans for probable increased absenteeism +/- deaths**
- **OPG will have to increase employee updates**



Summary of OPG's Capability during a Pandemic

OPG can maintain operational continuity; however a number of challenges have been identified:

- OPG's operational capability depends on “**just in time**” **supply chain** and other critical infrastructures with co-dependencies
- Employee **communications** will be a challenge – hence alignment and liaison with key public health authorities is critical !!
- Managing the “**FEAR**” **factor** is key to reducing employee **absenteeism**



Summary of OPG Health-related measures

To be implemented in the event of a pandemic:

- Distribution of Tamiflu (prophylaxis) for **100% of OPG** with med. directive
- Distribution of Relenza (prophylaxis) for Allergic, Pregnant/ Nursing mothers i.e. 3% of OPG
- N95 masks for first responders /medical staff & optional for cleaning staff
- Other PPEs-gloves, face masks, Tyvek ...
- Social distancing- 1 or 2 meters???
- Enhanced cleaning and hygiene practices (reinforcing hand washing and use of hand sanitizers)



Lessons Learned at OPG

- Executive Champion/Sponsor
- Industry Collaboration
- Engaging Regional/Provincial and Federal Health Ministries/Agencies
- Engage Unions
- Critical Infrastructure Interdependencies and Drills
- TEAM approach a MUST!!!
- Lots to learn – “Don’t Know is acceptable – but what is important is that ***you know what you don’t know***”!!!!



Questions????????????

- WHO Director General:
“ The only thing that is for certain about Influenza is that it is unpredictable!!!!!!!!!!!!!!!!!!!! ”