

Pandemic H1N1 2009: Roles and Responsibilities

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What we do:

GOALS

1. Better *information* for better public health decisions and actions



2. Generate and accelerate application of *knowledge* for better public health decisions and actions
3. *Support* the Ontario public health system in its daily business and enhance capacity in emergencies

Please visit our website at www.oahpp.ca

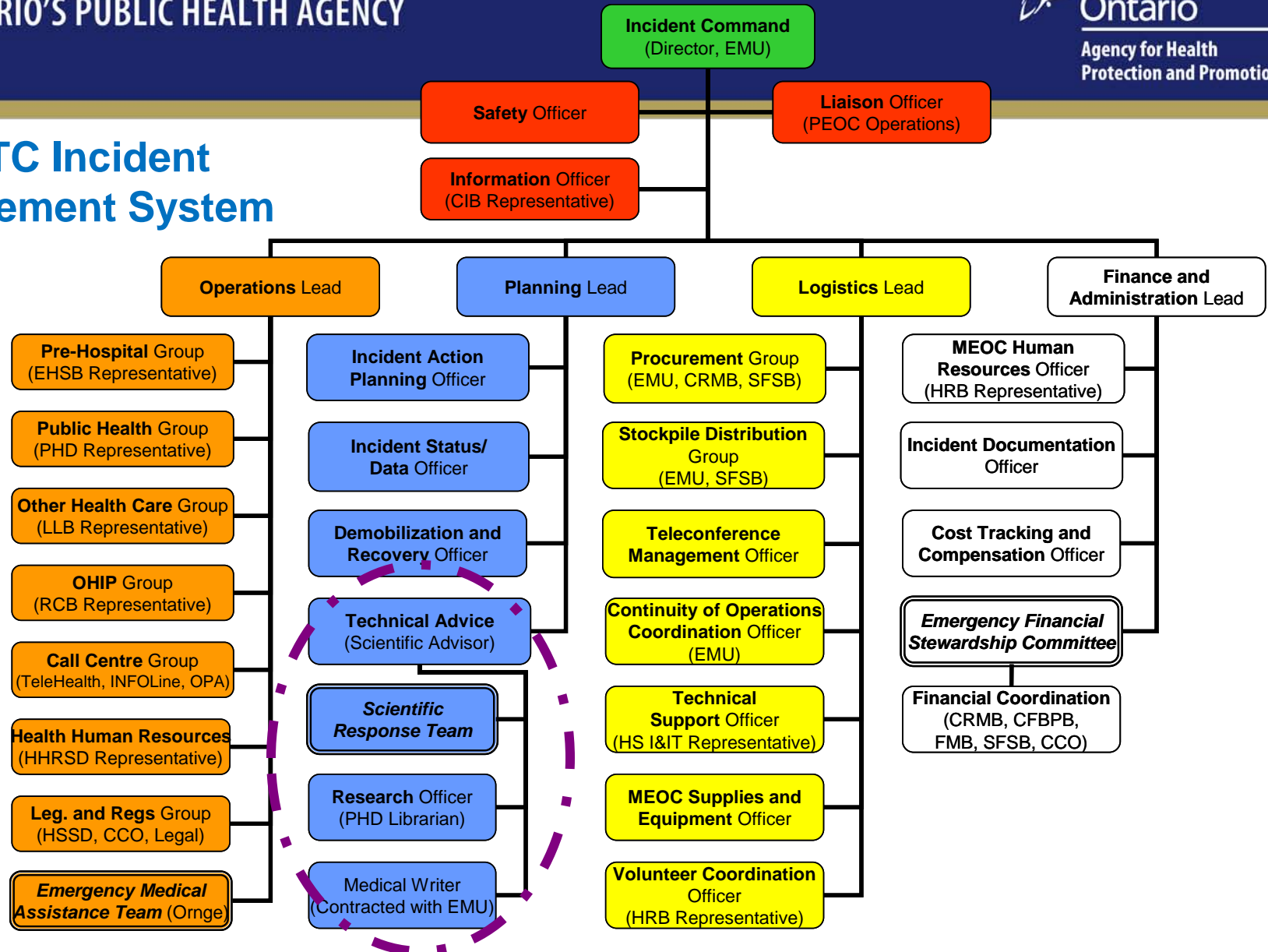
Role of the OAHPP in Emergency Situations

- **Agency Implementation Task Force - Ministry/Agency MOU – Agency Mandate:**
 - ⇒ **Support role to government in emergency and exigent circumstances**
 - ⇒ **Scientific and technical advice, risk assessments, research**

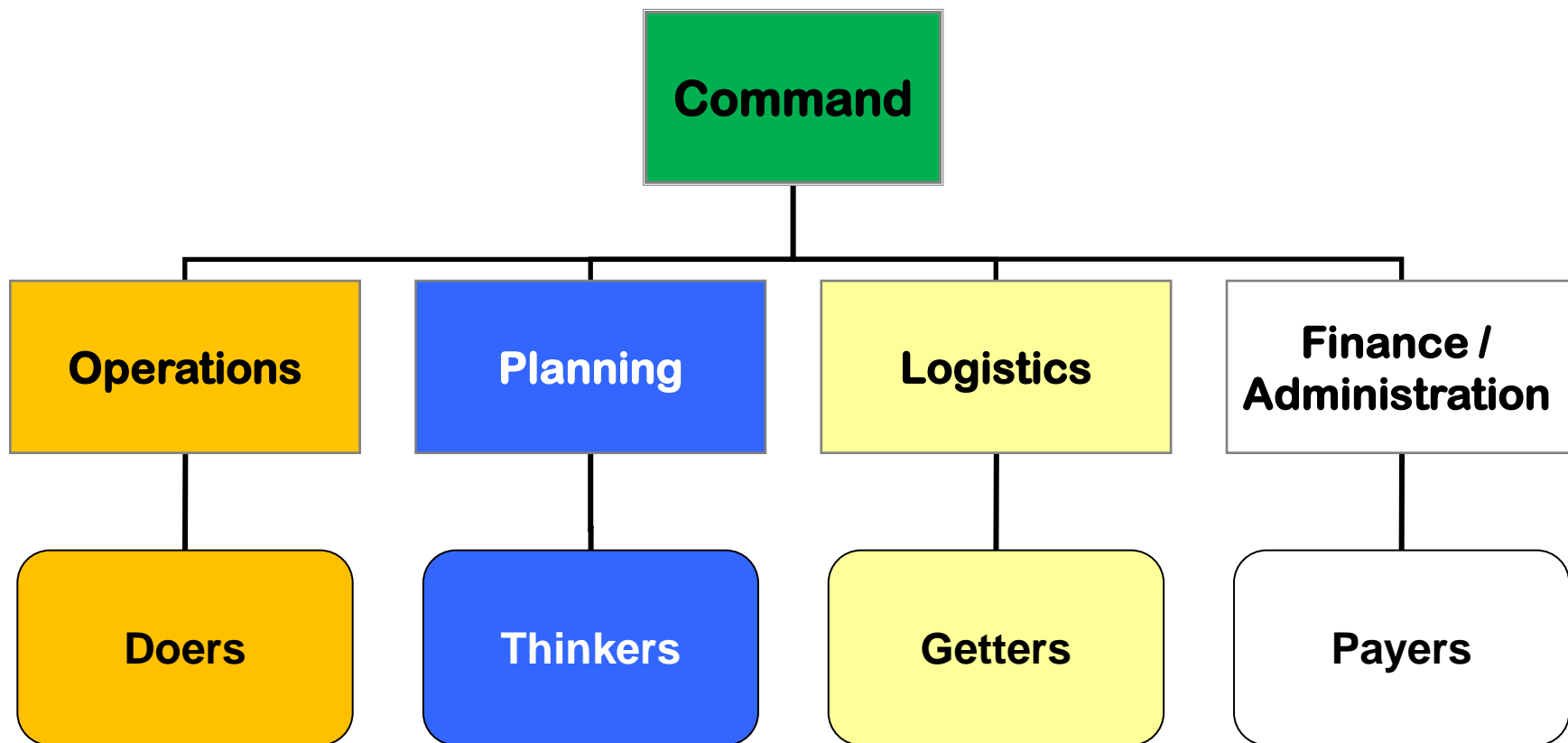
Role of the OAHPP in Emergency Situations

- **Scientific Response Team (SRT) focal point for Agency's role in emergency/exigent circumstances**
 - ⇒ **Structured enough to allow for expedited scientific advice**
 - ⇒ **Flexible enough to adapt to different events, advice to different settings**
- **Applied to infectious disease related emergencies but other events as well (e.g. CBRN, medical isotopes, etc)**

MOHLTC Incident Management System



IMS Structure



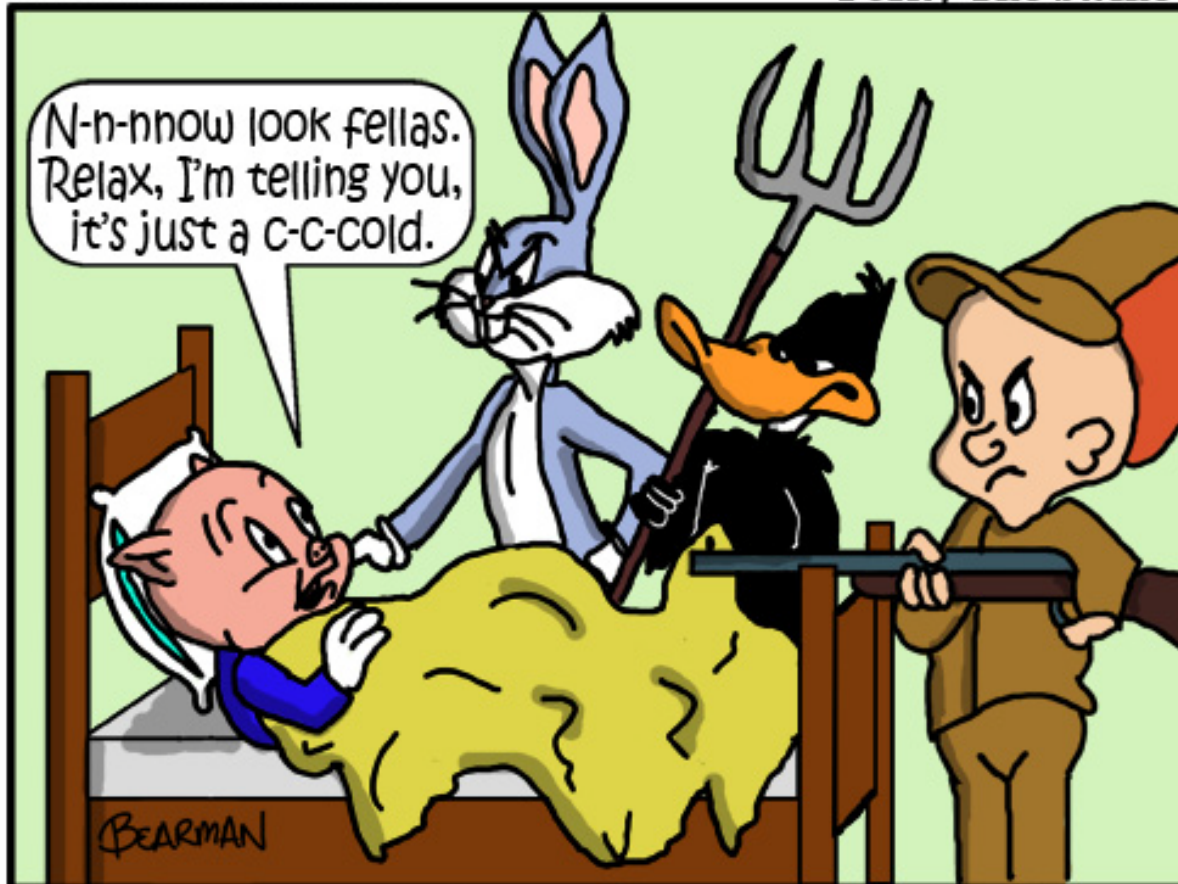
What we expected



What we got

Bearman Cartoons

Porky The Swine



© 4/28/09 bearmancartoons.wordpress.com

Idea from George Ford (www.addanaccity.com)

bearmancartoons@yahoo.com

**“Plans are useless, but
planning is indispensable.”**

Dwight D. Eisenhower

What did we plan for?

- **Planning assumptions based on a 1957 (moderate) pandemic**
 - **Most affected groups (similar to seasonal flu)**
 - **Attack rate, hospitalization and mortality rates**
 - **Does not take into account possible effectiveness of public health, social distancing measures**
 - **Does not take into account early vaccine**
 - **Does not take into account antibiotic/antiviral use, intensive care units...modern medical care**

Table 3.2: Number of People Affected as a Percentage of the Population (based on a 35% attack rate)

	No. of People	% of People who are Clinically Ill (#2 in Table 3.1)	% of Total Population (#1 in Table 3.1)
People who can be managed through self care	2,043,345	45.2%	15.8%
People who will require an outpatient visit	2,411,308	53.3%	18.7%
People who will be hospitalized and recover	54,572	1.2%	0.4%
Fatal cases (70% in hospital)	12,635	0.3%	0.1%
Hospitalizations (recoveries + 70% of fatal cases)	63,417	1.4%	0.5%

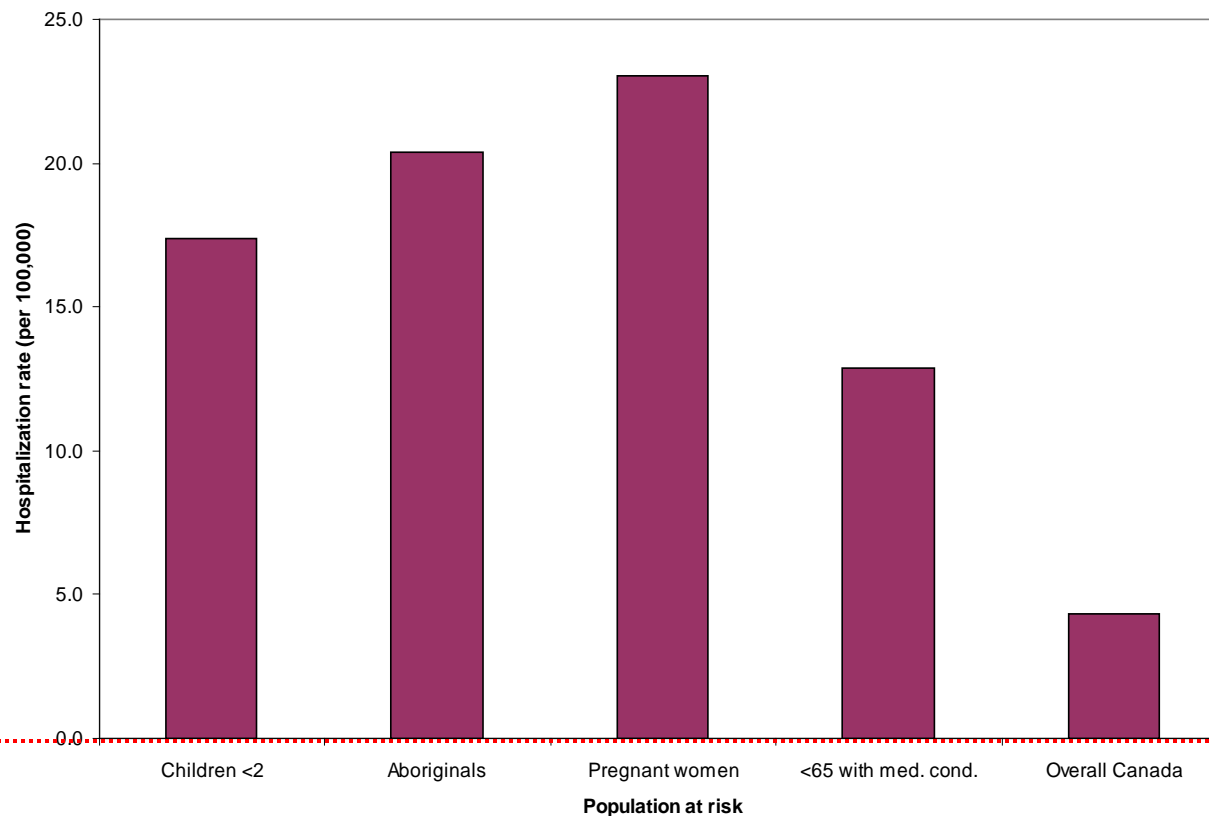
H1N1 in Ontario (Feb. 12, 2010)

- Hospitalizations: **1842** (rate 14.2/100,000)
 - About 20% required ICU care
 - Some required prolonged complex ventilatory modalities
- Deaths: **128** (Mortality rate: 0.98/100,000)

H1N1 in Canada (Jan 27, 2010)

- Hospitalizations: **8582** (rate 25.2/100,000)
 - About 17% required ICU care
 - Some required prolonged complex ventilatory modalities
- Deaths: **425** (Mortality rate: 1.25/100,000)
- Wide variation among provinces/territories

Hospitalization rates by group at risk (per 100,000)



The 2009 pandemic

pH1N1 not much different than seasonal 'flu:

- **R_0 likely about 1.5**
- **Low severity of illness in general, but high acuity in some populations**

2009 pandemic: mild in most, severe in some....

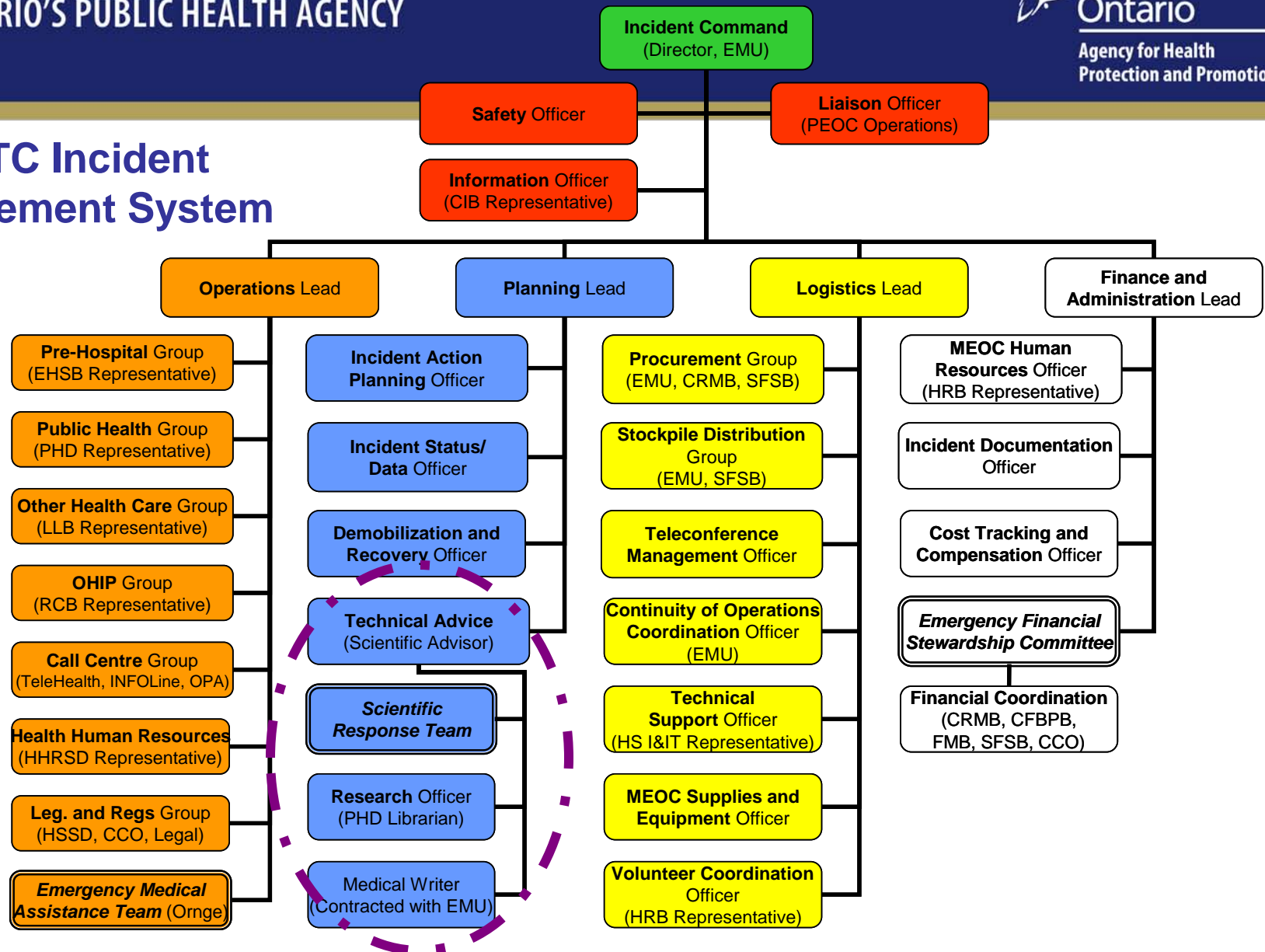
- **Some populations are harder hit than others:**
 - **Children < 5 (especially <2)**
 - **Co-morbid illness**
 - **Aboriginal**
 - **Pregnancy**
- **While elderly are less susceptible, their mortality is high**

OAHPH Response to pH1N1

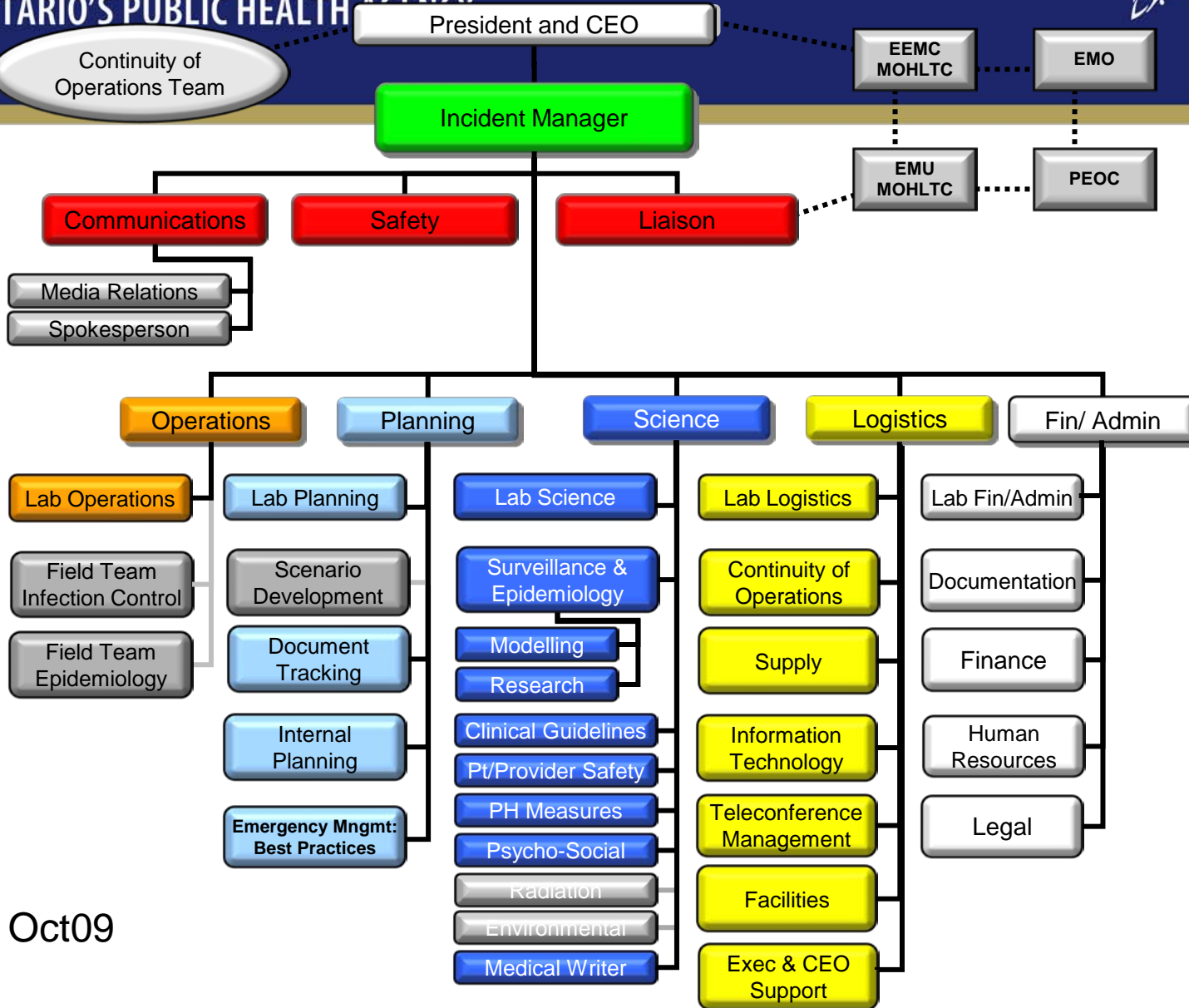
- Public Health Laboratories
- Scientific Response Team



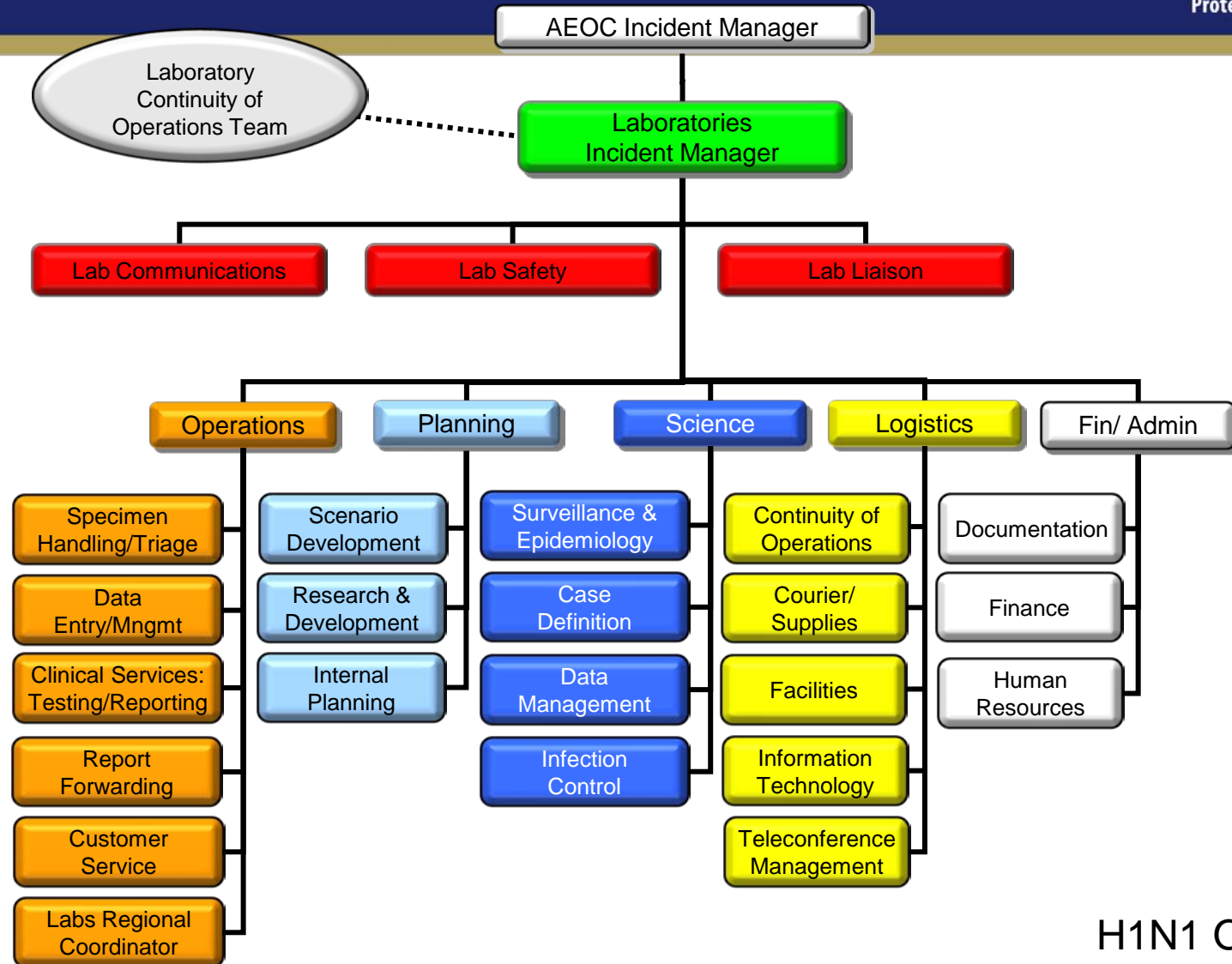
MOHLTC Incident Management System



Continuity of Operations Team



H1N1 Oct09



H1N1 Oct09

OAHPP Response to H1N1

Command

- Liaison with Chief Medical Officer of Health, Ministry, EEMC
- Public communication, overall leadership

Operations

- Public Health Laboratories
- Scientific Response Team

Planning

- Non-science medium and long-term outlook, scenarios

Logistics

- Focused on lab equipment and lab processes, Business continuity

Finance & Admin

- Documentation and cost recovery

Scientific Response Team

- 1. Surveillance & Epidemiology (with PPB)**
 - 2. Clinical Guidelines**
 - 3. Public Health Measures**
 - 4. Patient and Provider Safety**
 - 5. Vaccine Working Group (PSI)**
- Technical and scientific experts in ID, PH, IPAC, paed, CrC, respiratory**
 - Front line practitioners**
 - Occ health experts**
 - Telehealth Ontario**
 - Ministries of Health and Labour**

OAHP / SRT Products

- **> 30 documents submitted to Ministry Emergency Operations Centre:**
 - **Clinical guidance**
 - **Public health measures**
 - **Infection prevention & control**
 - **Occ health and safety**
 - **Vaccine issues**

OAHP / SRT Research

- **Seroprevalence study – baseline attack rates & risk factors for infection**
- **Case Control study – risk factors for serious illness and influence of vaccine and antivirals**
- **Secondary contact study – secondary attack rates and associated factors**
- **Rapid risk factor surveillance system – public perceptions**

✓ Treatment Strategies

- **Antivirals as early as possible (within 48 hours):**
 - Risk factors
 - Sicker patients
 - Worsening patients (even outside 48 hour window)

Early Antiviral Treatment

“..patients who were admitted to an ICU and those who died were older,had a longer time between the onset of illness and the initiation of antiviral therapy, as compared with patients who were not admitted to an ICU.

In a multivariable model that included age, (date of) admission, initiation of antiviral therapy within 2 days or more than 2 days after the onset of illness, and influenza-vaccination status, the only variable that was significantly associated with a positive outcome was the receipt of antiviral drugs within 2 days after the onset of illness.”

Jain et al, NEJM Oct '09

Health System Issues

- **Primary care**
- **Acute care**
- **Critical care**

Primary Care & Acute Care

- **Monitoring the system**
- **Flu centres**
- **Protecting the Eds**
- **Acute paediatrics a concern**

Critical Care “Surge”

- **On-going monitoring and analysis of critical care resource utilization (Critical Care Secretariat)**
- **Local planning supported, using strategies outlined in OHPIP**
- **Clinical guidance for critical care**
- **Provincial support for additional ventilator capacity**

Monitoring Health System Indicators

- **Telehealth Ontario**
- **Primary Care**
- **Emergency Departments**
- **Critical Care**
- **Paediatric Acute Care**

Questions / discussion

