



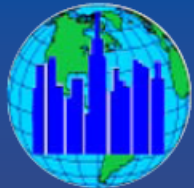
Preparing for a Business Disrupting Event in the Current Economy: PPE Considerations

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**Safety
Executives
of New York**

66th Annual Professional
Development Conference

**The "New Normal"
for the
EH&S Professional**

Overview

- What is BCP?
- EHS Professionals Role in BCP
- BCP Overview
- Recommendations for Pandemic Influenza Planning for Businesses
- Example: 3M Pandemic BCP
- Special Considerations for PPE in BCP

Business Continuation Planning (BCP)

“The process of documenting prevention measures, disaster recovery, business resumption and restoration plans.”

Similar terms: Business Continuity Planning, Business Resumption Planning, Continuity of Operations, Planning and Disaster Recovery Planning.

Disaster Recovery Planning (DRP)

“The advance planning and preparations that are necessary to minimize loss and ensure continuity of the critical functions of an organization in the event of disaster.”

Basically...



**Be Prepared.
Move Forward.**



EHS Professionals Role in BCP

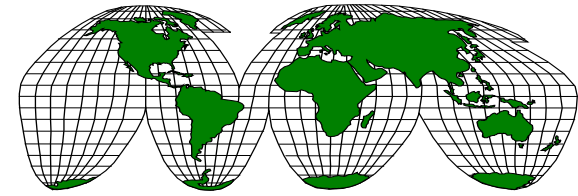
- Collaborative / Cross Functional
- Trained in the prevention of low probability but high consequence events
- Anticipate
- Recognize
- Evaluate
- Control



Business Disrupting Events

- Fire
- Flood
- Hurricane
- Tornado
- Winter Storm
- Earthquake
- *Pandemic*
- Radiological Accident
- Civil Disturbance
- Explosion
- Hazardous Materials Incident
- Communications Failure

Vulnerabilities



- Loss of workforce
- Loss of facility
- Loss of data / vital data / records
- Loss of infrastructure

Department of Homeland Security: Critical Infrastructure

- Physical Critical Infrastructure: the production of essential goods and services, interconnectedness and operability, public safety

- Food and agriculture
- National Monuments and Icons
- Banking and finance
- Chemical and hazardous materials
- Defense industrial base
- Water (dams, drinking, sanitary)
- Commercial facilities
- Public Health and Health Care
- Food
- Energy
- Emergency Services
- Information technology
- Telecommunications
- Postal and shipping
- Transportation

Department of Homeland Security: Key Resources

- Facilities, sites and groups whose destruction could cause large-scale injury, death or destruction
 - *Government facilities*
 - *Dams*
 - *Commercial facilities*
 - *Nuclear power plants*

Considerations in Planning for a Hazard or Event

- Nature
- Location
- Duration
- Impact

Key Considerations in Preparedness

- Protecting and maintaining the health and safety of
 - *Employees*
 - *Employees families*
 - *Surrounding community*
- Protecting property
- Continuing business

Preparedness & Planning Business Challenge

[4 Event Types]

Event Probability	High Probability Low Consequence	High Probability High Consequence
	Low Probability Low Consequence	Low Probability High Consequence <i>[How much resources to allocate to minimize risk of this event type?]</i>
	Event Consequence	

Types of Plans

- Emergency Response Plan
- Crisis Management Plan
- Disaster Recovery Plan
- Business Continuity Plan

Components of a Plan

- Emergency Response
 - *Notifications*
 - *Evacuations*
 - *Stabilization*
 - *Engage Contractors*
 - *Clean-up / Salvage*
- Business Restoration
 - *Mission Critical Functions*
- Business Normalization

Business Continuity Plan Life Cycle

- Identify (Risk assessment)
- Analyze (Business Impact)
- Design (Strategy)
- Execute (Test)
- Maintain (Update)

CDC / pandemicflu.gov Recommendations for

PANDEMIC INFLUENZA PLANNING FOR BUSINESSES

Pandemic Influenza Planning for Businesses

- Plan for the impact on organizations and operations
- Plan to protect people
- Establish policies
- Allocate resources
- Communicate to and educate people
- Coordinate plans, response, and recovery

Pandemic Influenza Planning for Businesses

- Plan for the impact on business operations
 - *Identify a pandemic coordinator and/or team*
 - *Create a pandemic business plan and exercise the plan*
 - *Identify critical job functions and plan for their continuity*
 - *Identify essential / critical inputs*
 - *Train and prepare ancillary workforce*
 - *Forecast and allow for employee absences (for illness, child-minding, and care of others)*
 - *Develop and plan for an increase or decrease in demand for your products and/or services*

Pandemic Influenza Planning for Businesses

- Plan to protect people:
 - *Implement guidelines to promote social distancing and infection control at the workplace*
 - *Encourage hand hygiene at the workplace*
 - *Encourage ill persons to stay home during a pandemic*
 - *Identify employees who might need extra assistance to stay home when they are ill*
 - *Develop a workplace culture that recognizes and encourages behaviors such as voluntary staying home when ill*

Pandemic Influenza Planning for Businesses

- Establish policies for:
 - *Employee compensation and sick-leave absences*
 - *Flexible worksite arrangements and flexible work hours*
 - *Employees who have ill family members and need to stay home*
 - *Employees who become ill at the worksite*
 - *Returning to work policies*
 - *Triggers, authorities and procedures for activating and terminating the company's response plan*
- Allocate resources to support policies

Pandemic Influenza Planning for Businesses

- Communicate to and educate people:
 - *Establish an emergency communications plan and revise periodically*
 - *Provide timely and accurate information about pandemic planning and response*
 - *Anticipate employee fear and anxiety, rumors and misinformation and plan communications accordingly*
 - *Disseminate information to employees about your pandemic preparedness and response plan*

Pandemic Influenza Planning for Businesses

- Coordinate plan, response, and recovery:
 - *Collaborate with federal, state, and local public health agencies and/or emergency responders*
 - *Share best practices with other businesses, chambers of commerce, and associations*
 - *Reach down supply chain*

Business Example:

3M'S PANDEMIC RESPONSE

Example: 3M's Pandemic Response

- Corporate Crisis Management Team created a cross-functional team to focus on pandemic preparedness
- Goal: provide planning materials for facilities, countries, and businesses
- Response not only for Influenza, but other infectious diseases

Corporate Avian Influenza Team

- Occupational Medicine
- Communications
- Security
- IT
- Administrative Services – facilities, travel
- Human Resources
- Logistics
- Relevant Business Units – OH&ES, medical, government markets
- Six Sigma
- Legal

3M's Planning Goals

- Use a risk-based approach to mitigate the amount of upfront work
- Utilize existing crisis management plans, teams, and resources
- Make the planning process as simple as possible

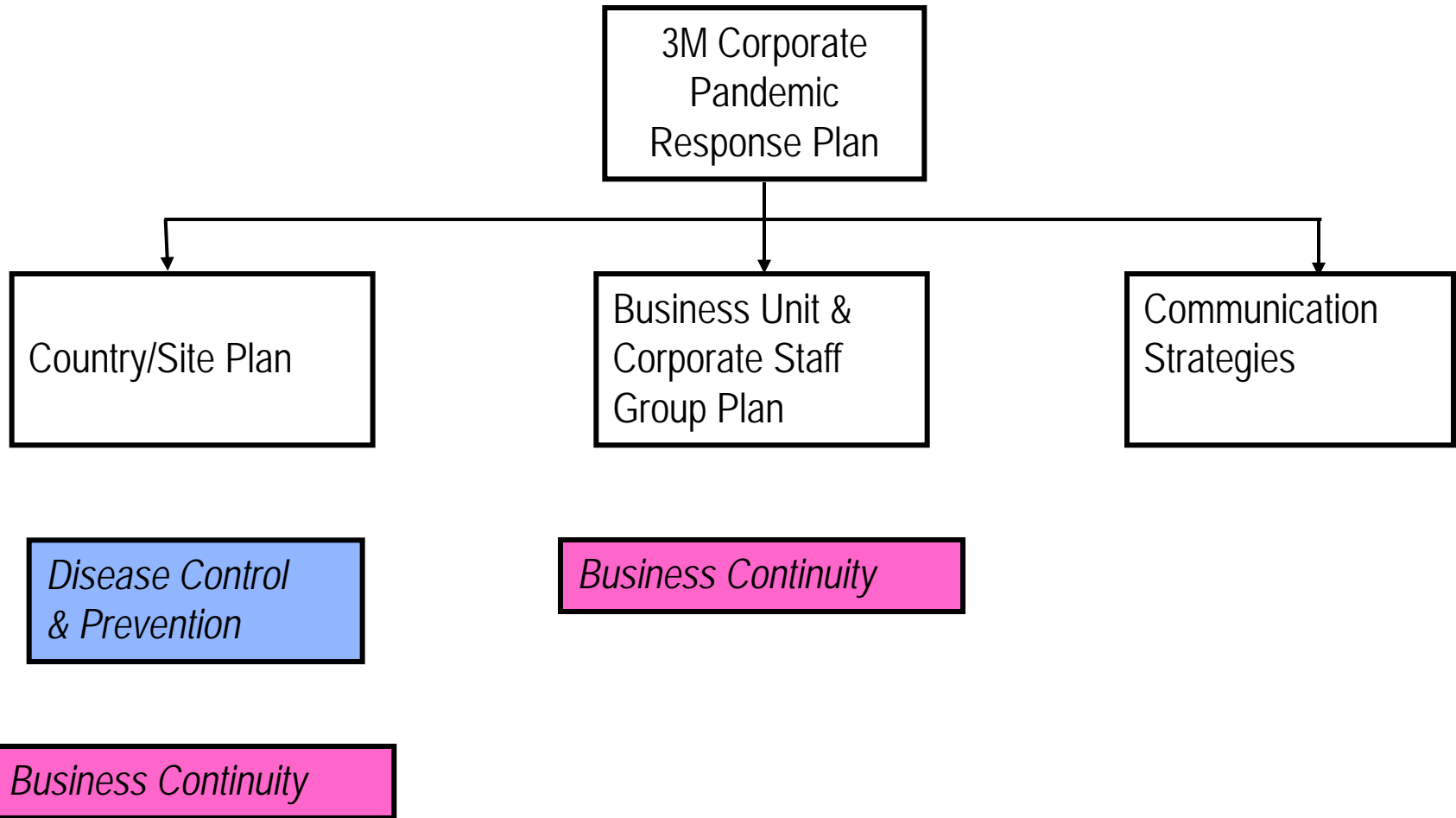
3M's Pandemic Planning Approach

- Facility-level preparedness
 - *Primary focus on human health & facility business continuity*
- Corporation-level preparedness
 - *Primary focus on business continuity*
- Communications Plan
 - *Web site launched*

Develop a Planning Process

- No existing process for pandemic preparedness
 - *Experience with infectious disease (e.g. SARS)*
 - *Experience with short-term crises*
- Participation in external avian influenza pandemic preparedness
 - *Shoreland*
 - *CIDRAP*
 - *SOS*
 - *ORC*
 - *Federal/State/County contacts*

3M's Influenza Pandemic Plan Overview

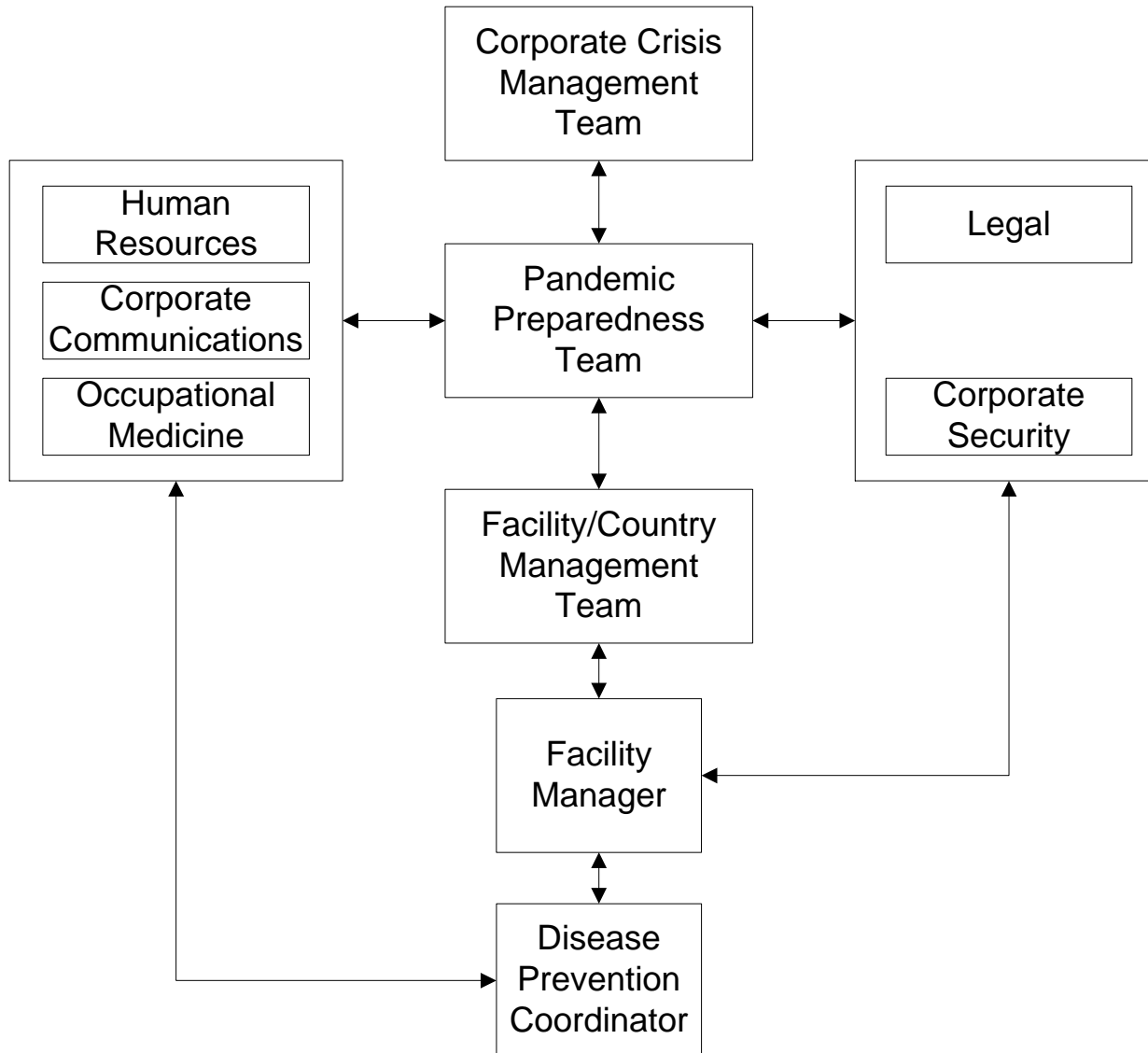


3M's Facility-level Pandemic Plan Components

- Disease prevention and control
 - *Primary focus on human health*
 - *Control spread of infection in the workplace*
- Business continuity planning
 - *Maintain essential business operations*
 - *Products/services*
 - *Personnel/resources*
 - *Materials/supplies/facilities*



3M's Influenza Pandemic Management Structure



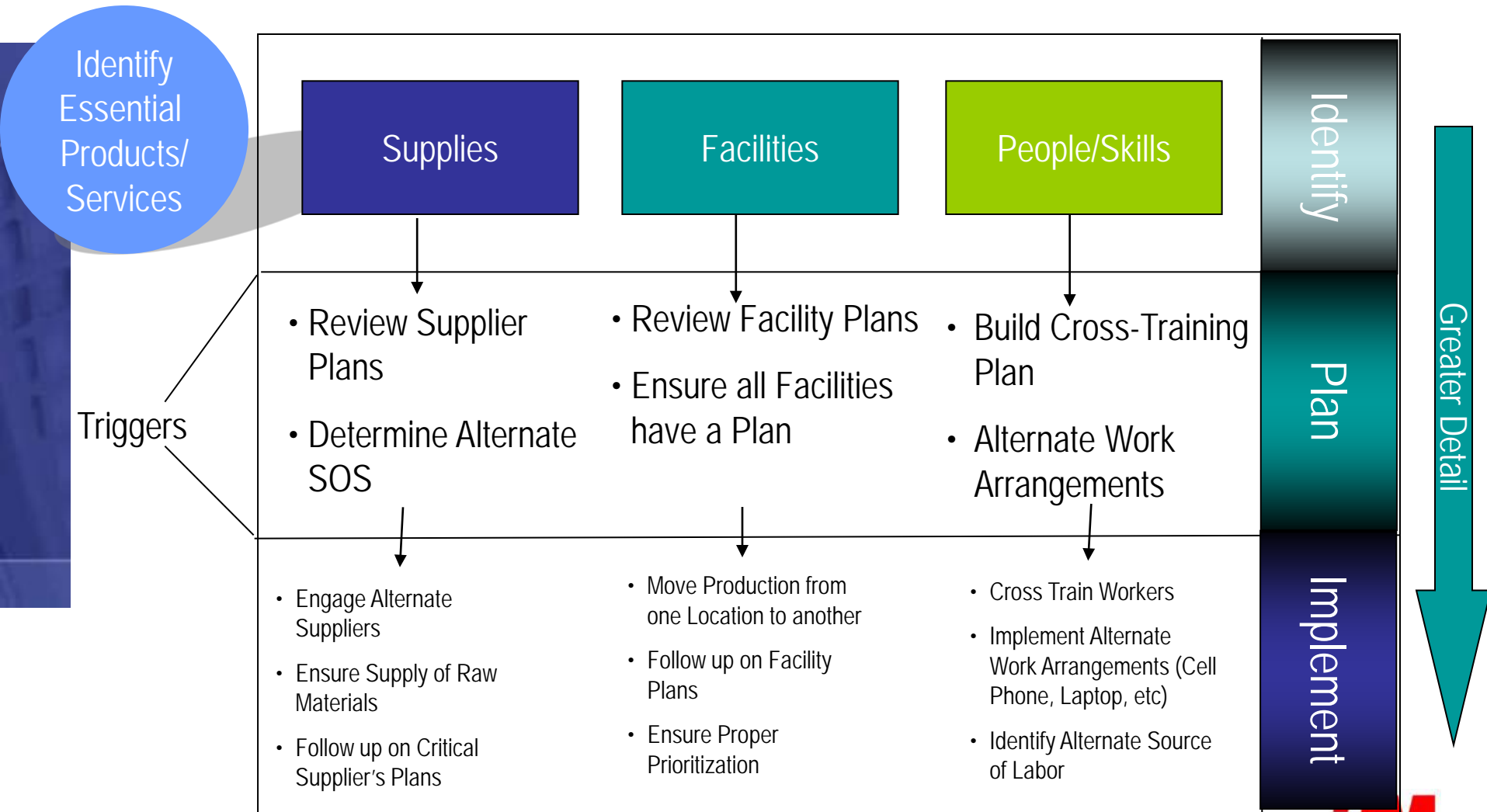
3M's Pandemic Planning Guide Contents

- Executive summary
- Pandemic Team structure and roles/responsibilities
- Process overview for facility Crisis Management Team
- Pandemic Preparedness Checklist and resources
- Plan overview for facility employees



ESTABLISHING YOUR BUSINESS CONTINUITY PLAN

Business Continuity Planning Process



Business Continuity

Key Components

- Essential products/services
- Identify essential personnel and resources
- Materials/supplies/facilities



Personnel Considerations

- Identify key operations and necessary staff
 - *Contingency plans if short-staffed*
- Identify necessary management / emergency operations
- Identify frequent travelers



Plan to Control Potential Exposures

- Hierarchy of Controls
 1. *Elimination*
 2. *Engineering*
 - *Procedures for ventilation*
 - *Work with local responders on plan*
 3. *Administrative*
 - *Security*
 - *Personnel management*
 4. *PPE*

Key Readiness Questions: PPE Considerations

- What do I need?
- How many do I need?
- What is my Minimum Readiness Level (MRL)?
- How do I plan for the short, medium and long term?
- Do I have any gaps when matched against my BCP response plan?
- How do I need to control consumption of goods during a emergency to stay within stockpile parameters?
- How can I provide tactical and operational feedback to make sure material resources are available throughout the entire event?
- How do I manage resources during normal times to be best prepared in an emergency?

Considerations for Selecting PPE

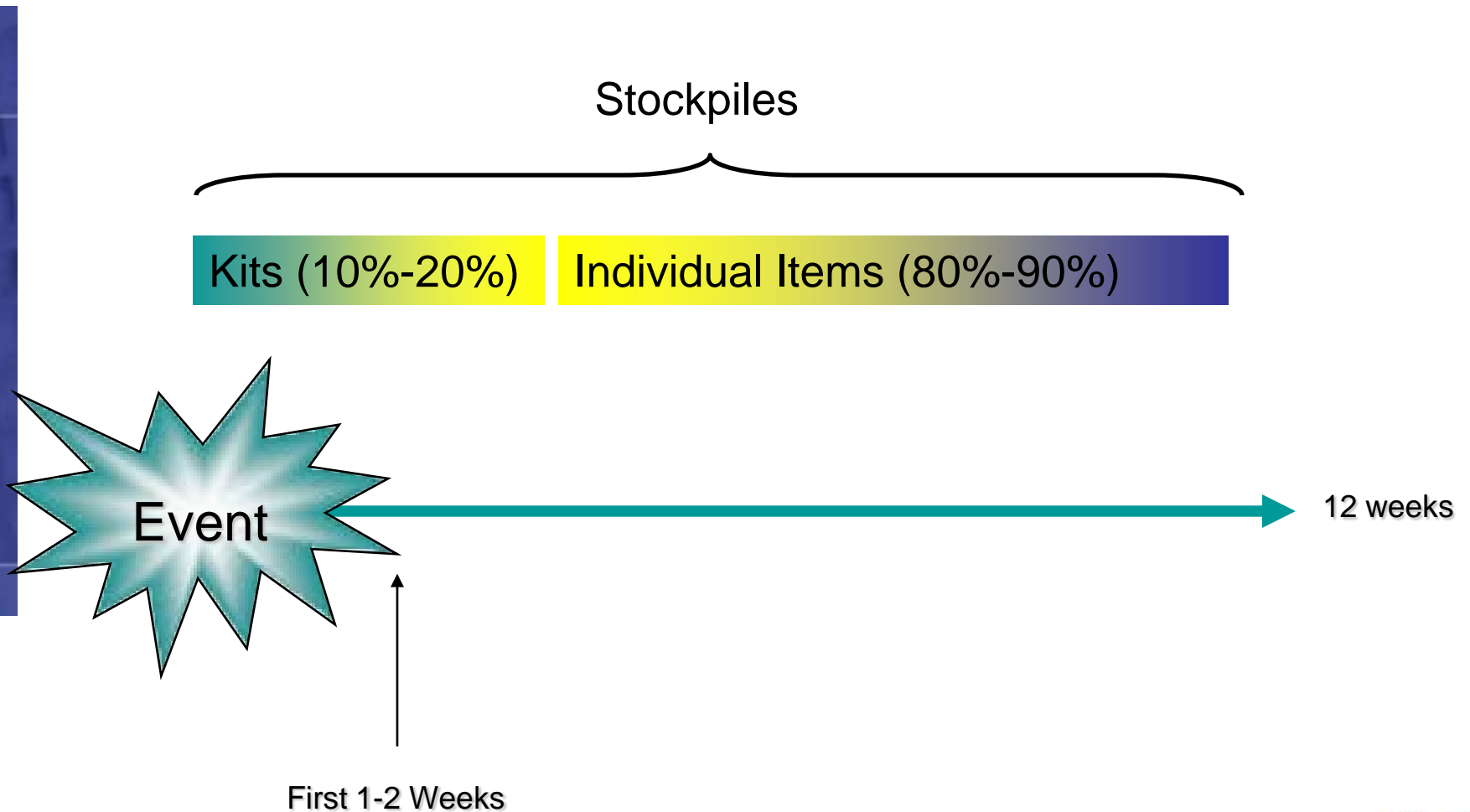
- Potential hazards / events
 - *History*
 - *Exposures*
 - *Progression of event*
- Personnel
- Regulations
- Available Inventory
- Supply chain

PPE for Immediate Response

- Type of Event
- Most Probable PPE
 - *Respiratory Protection*
 - *Body Protection*
 - *Eye Protection*
- Source
 - *Location and inventory of currently used PPE*
 - *Models and distributors*
 - *Supply Chain*



Reserves & Stockpiles



Respirator Options

- Particulate Filtering Facepiece Respirators



- Elastomeric half-mask respirators
- Elastomeric full facepiece respirators



- Powered air purifying respirators (PAPRs)



Filtering Facepiece Respirators

- Advantages
 - *Inexpensive*
 - *Disposable*
 - *No maintenance*
- Disadvantages
 - *Particulate only*
 - *No or limited reuse*
 - *Lower protection factor than certain other classes*
 - *Need to know who fits in which size*



Elastomeric Respirators

■ Advantages

- *Particulate, Gas and Vapor Filtration*
- *Durable*
- *Reusable*
- *Full facepieces offer higher protection factors than half-facepiece respirators*
- *Full facepieces provide limited eye protection*

■ Disadvantages

- *Need to be cleaned and disinfected*
- *Need to manage replacement cartridges / filters and replacement parts*
- *Need to know who fits in which size*
- *May hinder communication*
- *Not for use in a sterile field due to valve*



Powered Air Purifying Respirators



■ Advantages

- *Offer higher protection than half-facepiece respirators*
- *Offer limited eye protection*
- *Hoods can be worn with limited facial hair and do not need to be fit tested*
- *Certain hoods can be cleaned and reused, others are disposable*

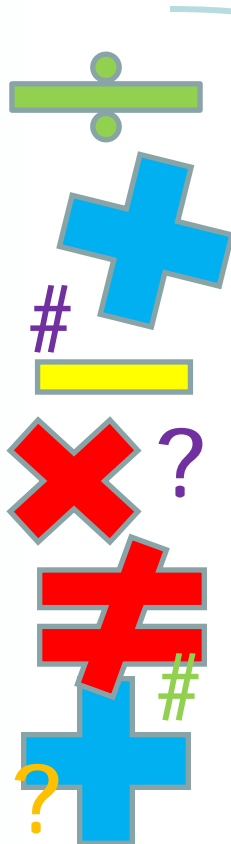
■ Disadvantages

- *Need to manage battery charging*
- *Need to manage replacement cartridges / filters and replacement parts*
- *Must be cleaned and disinfected*
- *May hinder communication or interfere with procedures*

Demand Planning Tools

INPUTS

- Demographics
- Surge Levels
- Usage Rates
- Work Flow
- Availability
- Occupancy Rates
- Efficiency
- Effectiveness
- Requirements:
 - *WHO*
 - *HRSA*
 - *CDC*
 - *DHS*
 - *etc.*



Considering

Supply Chain

PPE Users

Program Administrator

Output

- Scenario Design and Planning
- Minimum Readiness Levels Spec
- Stockpile Levels Estimates
- Demand Plans
- What-If Analysis



3M Business Continuity Demand Planning Tool

3M BCP™ Surge PPE Demand Planner Summary										
1. Pandemic Flu Preparedness		Number of Kits Estimate	Bulk Estimates							
Event Duration (days):	90		Respiratory Protection (e.g. N95)	Fit Testing Kits	Powered Air Purifying Respirators				Eye Protection	Hand Antisepsis
Population:	2,675	Blower			Headpiece	Battery	Cartridge			
GRAND TOTAL		7,548	113,210	18	883	883	1,766	22,699	523	46,930

Scenario Builder

Event Event Duration days
Infection rate Attack Rate per population = Rate 0.05%
Primary Staff Time Frame days
 Primary Staff Type For Reference Only - Does NOT influence calculations
 Shift Duration hrs
 Contacts/Staff Member/Hour
 Contacts/Staff Member/Shift
Family of Primary Staff Family Members/Primary Staff

Consumption & Usage Rates

- Essential Staff
- Non-Essential Staff

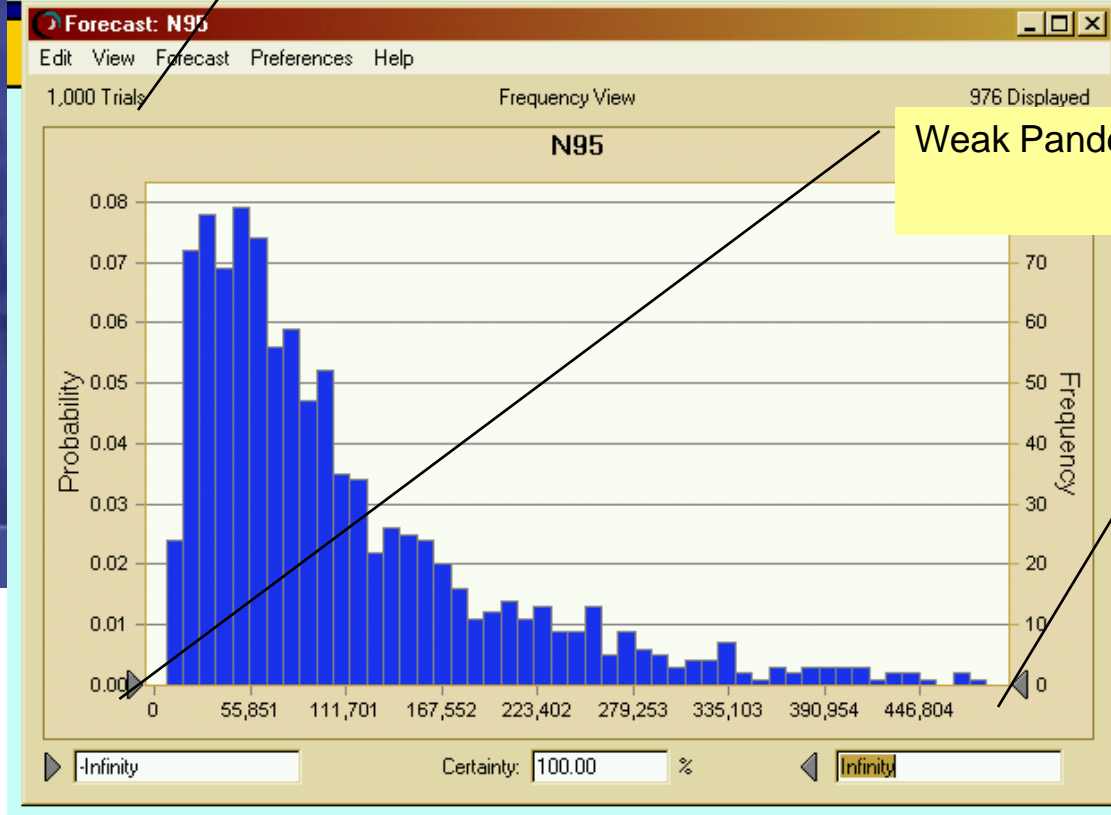
Enhanced Planning: Epidemiology Simulation

3M™ Surge PPE Demand Planner Summary

1- CHILE Pandemic Simulation
 Event Duration (days):
 Population: 15

1000 Pandemic Outbreaks simulated. User defines probability based inputs.

Bulk Estimates									
Powered Air Purifying Respirators							Eye Protection	Hand Antiseptics	
Blower	Headpiece	Battery	Cartridge						
GRAND TOTAL	0	84,652	16	756	1,512	1,512	12,093	2,721	58,047



Weak Pandemics

population Surge Rate 0.05% Daily
 Surge Rate 2.80% Entire Event

Strong Pandemics

er	1
ys	7

Control Panel

Run Analyze Help

Simulation complete

0 Total trials: 1,000 1,000

Navigation icons: Run, Stop, Previous, Next

Consumption & Usage Rat

Emergency Preparedness

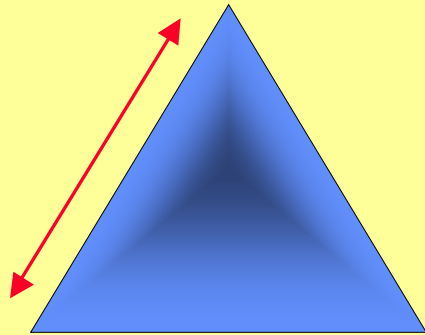
Pre-Event
Planning

Event
Readiness

Post-Event
Recovery



Government



Businesses

Supply Chain
Logistics

Inventory



Event



X weeks

Reserves & Inventory Management

Respirator Inventory Considerations

- The mix of respirators currently being used
- The characteristics of the user population (e.g., gender)
- The applications for use
- Potential for reuse

Respirator Shortages

- Special care should be taken to ensure that respirators are available for situations where respiratory protection is most important
- Prioritized Use: Where a shortage of respirators exists despite reasonable efforts to obtain and maintain a sufficient supply for anticipated needs

CDC's Interim Guidance on Infection Control Measures for 2009 H1N1 Influenza in Healthcare Settings, Including Protection of Healthcare Personnel (July 15, 2010)
http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm



Business Continuity Planning

Good Planning Now Can
Eliminate Problems in the
Future!

PPE Program Management

- Identify individuals to implement emergency PPE program very quickly
- Have a “skeleton” program ready to complete very quickly
- Identify and assemble materials necessary to properly implement the program
- Work with manufacturer’s and distributors to map out options and supply chain

Respiratory Protection Program Management

- Identify methods to quickly medically clear individuals
 - *Medically clear critical individuals in advance*
 - *On-line medical clearance*
- Identify desired respirator models and back-up
 - *Consider*
- Develop methods to train and fit test workers in a condensed period of time
 - *Train the trainer sessions*
 - *Identify and secure necessary materials or their locations*
- Consult respirator manufacturers and resources from NIOSH, CDC, OSHA for training aids (e.g. videos, posters)
- Revisit periodically

Summary

- Identify types of PPE necessary for different types of events
- Understand your inventory of PPE that is most likely to be needed or those already in use at the facility
- Develop a plan to obtain PPE quickly and efficiently
- Understand regulations and prepare to implement a program in a very quick amount of time
- Establish your EHS Professional expertise as a Value to the business

THANK YOU