

# **Pittsburgh Matrix for PPE**

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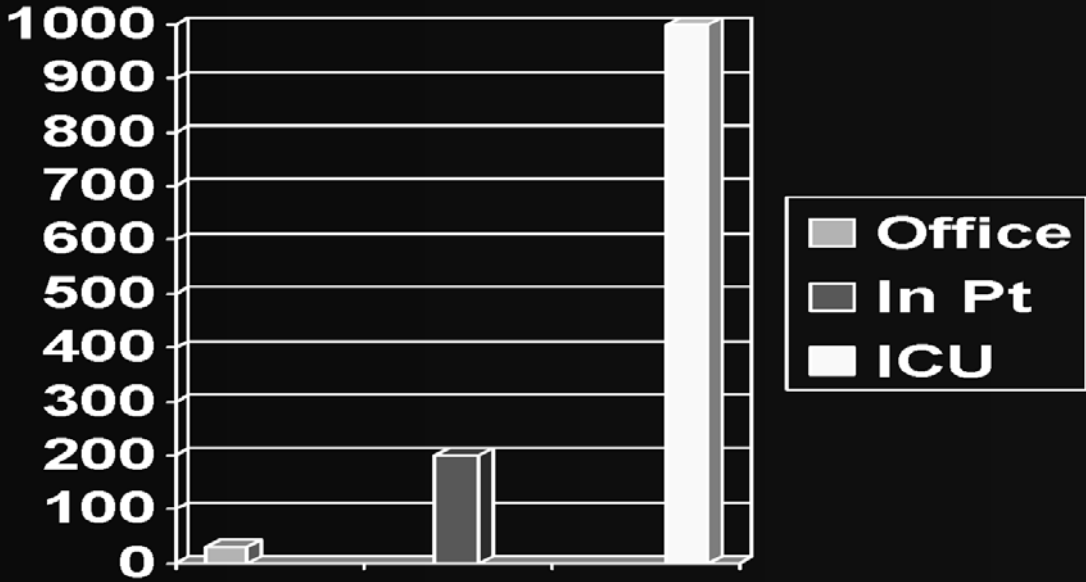
# The Pittsburgh Matrix

Above all Resources					
Augmented Capacity					
Surge Capacity					
Current Capacity					
	Pre Release	Release	Symptom Occurrence	Illness Occurrence	Deaths/Epidemic

Allswede, MP, Watson SJ., *AHRQ Pittsburgh Matrix, 2002*

# Demo of Matrix

# UPMC Costs of Care



# Gap Analysis

- Combines "Survivor Benefit" with Key Resources
- High Value Resources and Decisions are found in those vignettes with high survivor benefit
- Cost Bioterrorism Units (BTUs) determine per unit pricing for development of key determinants
- Expert panel can predict the impact of gap

# Guides Facilities and National Strategy

- Threat will “float” with world events
- Assess value of mitigation strategies
  - Costs of strategy vs. lives saved
- New Technology
  - New tech or medical therapy will alter survival and the value of the asset can be compared with current to justify expenditure

# Pre-Event Planning

- Working with local planners, the potential victim load is estimated
- Medical facilities are queried as to their bed counts, numbers of antibiotics, and available personnel to assess civic healthcare capacity
- Plot the number of victim load vs. capacity to determine scale of event

# Pittsburgh Matrix for PPE

- PPE solutions must provide safety in the workplace
- PPE solutions must be affordable and easy to store and use
- PPE solutions must not impair work performance in medical niches



# Four Studies

- Assessment of Air Movement Factors and Hospital Grading Scale
- Assessment of selected pathogens and chemicals in air
- Assessment of PPE strategies related to affordability and risk
- Assessment of PPE strategies with increasing scale

# Assessment of Air Movement

- Fixed Features
  - Single Floor/multi-floor
  - Elevators
  - HVAC characteristics
- Variable Features
  - Use of Elevators/HVAC/Vacuum Tubes
  - Building “envelope”

# Assessment of Selected Pathogens and Chemicals

- Pathogen transmission characteristics
  - Survival in suspended air
- Vapor risks
  - Gas characteristics
- Particulate risks
  - Radiation assessment

# Assessment of Affordability and Risk

- Matrix assessment combining hospital types and pathogen risks to determine safety strategies for different job descriptions
- Matrix assessment of costs/benefits associated with each strategy
- PPE Recommendations related to risk, and affordability

# Assessment of PPE needs with scale

- Assess PPE recommendations over surge capacity spectrum for hospital response to increased victim load.
- Recommendations on PPE strategy vs. facility improvements.