

IT's Supportive Role in Disaster Preparedness and Recovery: A Best Practice Guide

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Reference Material

- LSU AgCenter's Safety and Continuity of Operations Planning - http://collaborate.extension.org/wiki/Safety_and_Continuity_of_Operations_Planning
- "Improving Disaster Management: The Role of IT in Mitigation, Preparedness, Response, and Recovery" - <http://www.nap.edu/catalog/11824.html>
- "Practical Disaster Recovery Planning, A Step-by-Step Guide" - http://ca.com/files/WhitePapers/storage_practical_disaster_recover_plan.pdf
- <http://www.dplan.org>
- "Examining Factors Associated with IT Disaster Preparedness" - <http://ieeexplore.ieee.org/iel5/10548/33368/01579710.pdf>
- "Disaster Recovery: Best Practices White Paper" - <http://www.cisco.com/warp/public/63/disrec.pdf>
- "Disaster Recovery Planning Process" (parts 1, 2, and 3) - http://www.drj.com/new2dr/w2_002.htm
- "Weathering the Storm" - http://www.cisco.com/web/about/ac123/iqmagazine/archives/q1_2006/well_prepared.html
- "Disaster Recovery & Information Technology: Proactive Preparedness & Planning" – <http://www.npowergdc.org/it+disaster+planning+full+handout.pdf>
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- "Cyber Security: Make it a Habit" – Homeland Security bulletin, http://www.dhs.gov/xprevprot/programs/gc_1202746448575.shtm
- "Role of internet-based GIS in effective natural disaster management" - <http://www.gisdevelopment.net/technology/gis/techgi0030.htm>
- "Disaster Recovery Plan Template" – <http://www.techrepublic.com>
- "IT Answers Call in California Wildfires" – Computerworld, October 29, 2007
- "Pandemic Threat Still Getting IT's Attention" – Computerworld, December 3, 2007
- "A Study of Disaster Recovery Procedures" – Byron Beasley, Troy State University, research paper
- "Roadmap to Recovery", CIO Decisions, October, 2007
- "Promoting Readiness", Dan Wilson, <http://www.slideshare.net/dtw2t/pnr-training0308>
- <http://www.npowergdc.org/resources/guides>

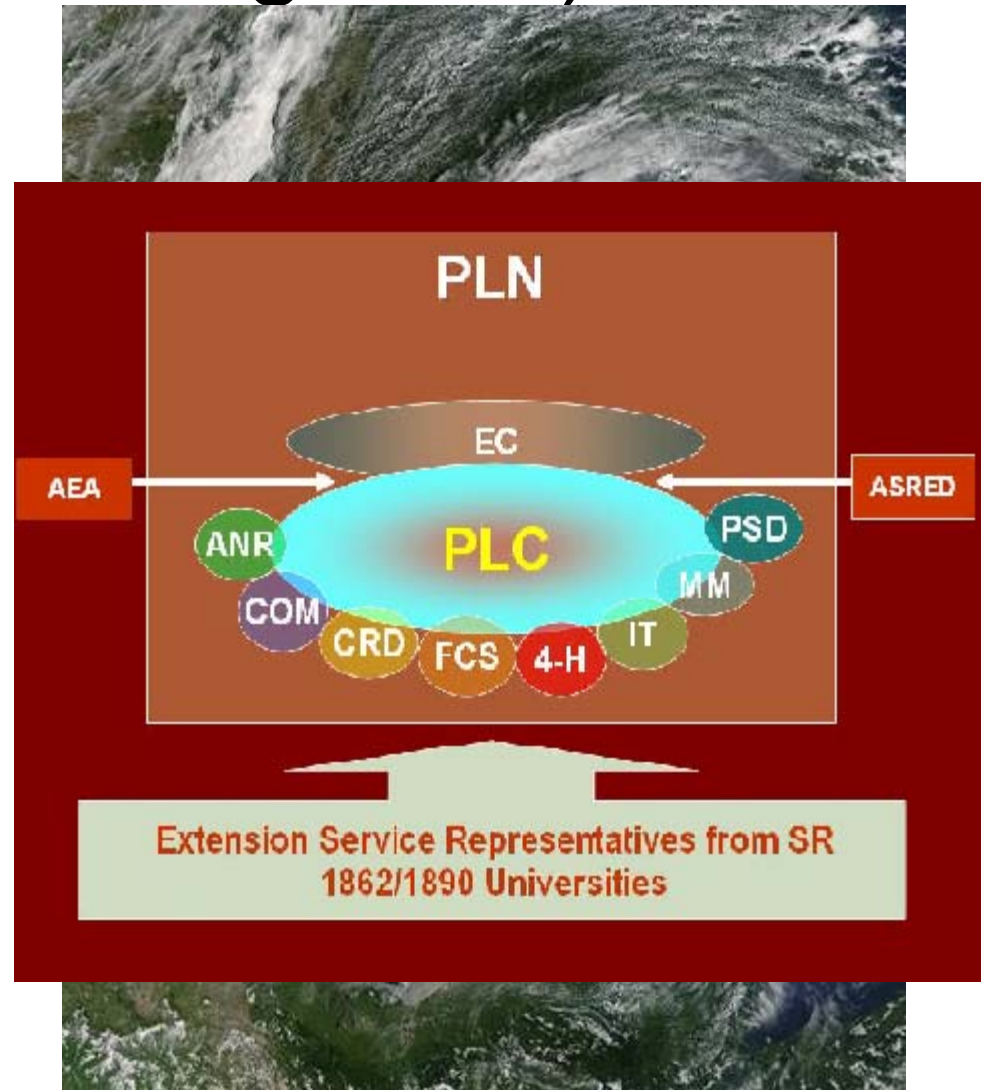
Presentation Objectives

- Background
- Common issues in disaster preparedness and recovery (DP/R)
- Opportunities and examples of using IT in DP/R
- Barriers to adoption
- Disaster Management 101
- Pandemic

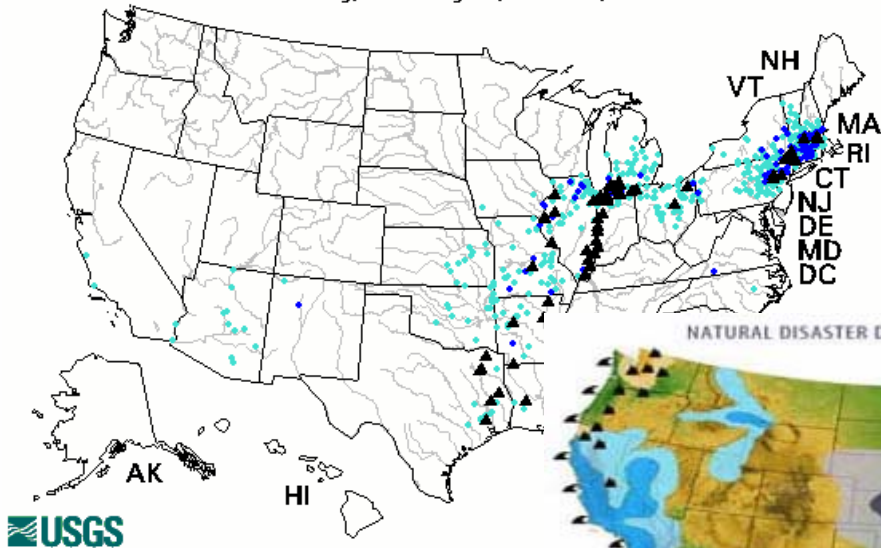
Background

(Why am I doing this?)

- Hurricane Katrina: 8/28/05
- SR-PLN's 2006 topic: Extension's Response to Disasters
- SR-PLN IT Cmte 2007 "Plan of Work" item



Tuesday, February 19, 2008 07:40ET



USGS

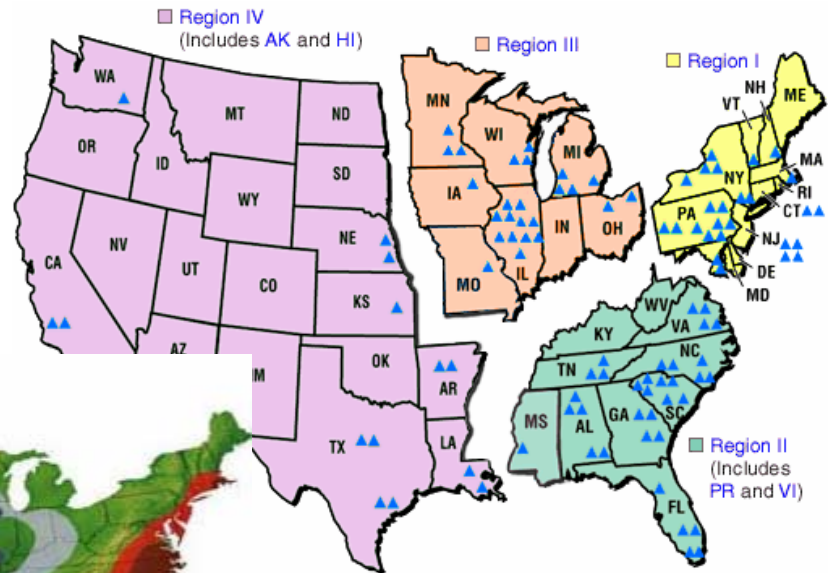
Flood Map ↑

Tornado Activity Map ↓

NATURAL DISASTER DANGER ZONES



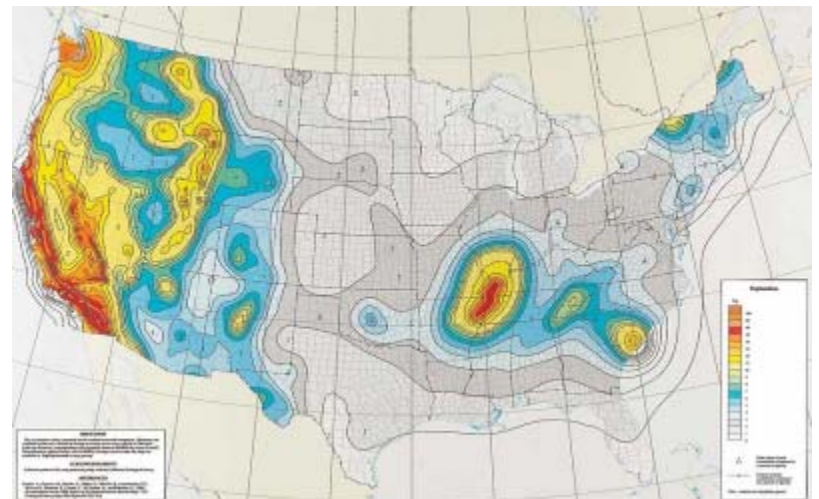
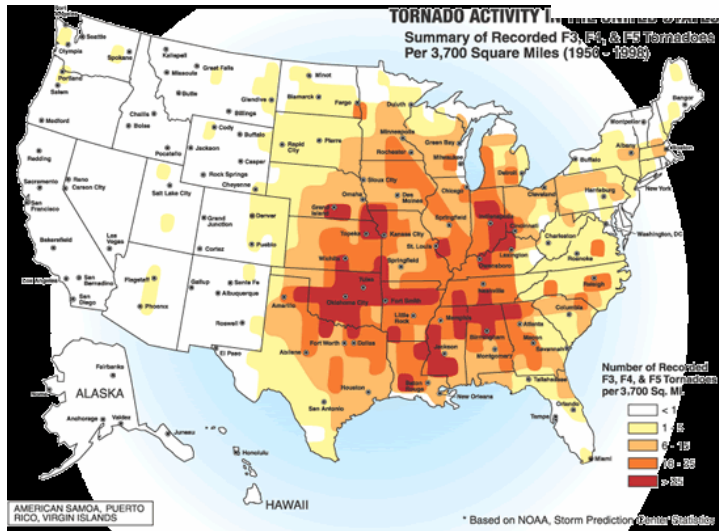
- | | | |
|--------------------|-----------------|-------------------|
| EARTHQUAKES | TORNADOS | HURRICANES |
| High Risk | Extreme Risk | Extreme Risk |
| Medium Risk | Some Risk | Some Risk |
| | OTHER | |
| | ▲ Volcano Risk | |
| | ▲ Tsunami Risk | |



I reactors in Alaska or Hawaii.

Nuclear Power Plants ↑

Earthquake Zones ↓



Other Influencing Events

- Extension as problem solvers
- IT as a facilitator
- Information Continuity = Business Continuity
- Crisis Prepared vs Crisis Prone

Definitions

Disaster: “Natural, technological, and human-initiated events that disrupt the normal functioning of the economy and society on a large scale.” and “Whatever will drive you out of business.”

IT: “Computing and communications technology”

Disaster Management: “mitigation, preparedness, response, and recovery efforts undertaken to reduce the impact of disasters”

Common Issues in DP/R

- Attentional tunneling
- Requisite memory trap
- Workload
- Anxiety
- Fatigue and other stressors
- Data overload
- Misplaced salience
- Complexity creep
- Errant mental models
- Out-of-the-loop syndrome
- Organizational affiliation

How can IT enhance DP/R?

- Bridging the communications and information processing gap
- Bringing together different information: types and sources
- Building decision trees
- Connecting tactical operations and strategic operations

Opportunities for using IT in DP/R

- Remote human-to-human communications
- Remote sensing
- Remote warning and alerting
- Emergency call systems and reporting
- Emergency modeling and simulation
- Shared data standards
- Triggers

Examples of using IT in DP/R

- Decision support systems with uncertainty modeling
- “Blackdoors”
- Logistics management; resource tracking and reporting

Examples...

- Improved credentialing and identification checks; digital identity
- Warning systems and alerts: broadcast and targeted
- Leveraging the public as providers of information

Examples...

- Information broker
- Online repository using of sensors, wikis, blogs, data-mining tools, and GIS to capture, analyze, and share information learned from operational experiences

IT Helping IT

10 ways network-based technologies can support preparedness objectives:

Communication

Secure remote access

Network delivered software

Posted IP telephony

Offsite data centers

Networking based security

IP security cameras

e-learning

Power Over Ethernet

In order for IT to be effective...

- Used on routine basis
- Seek technology that has the broadest possible application
- Distinguish between the user interface and the underlying technologies used to deliver a capability

Barriers to Adoption and Use of IT in DM

- Unique character of the institutions responsible
- The organizational structure of the community as a whole
- The need to focus on day-to-day operational missions
- The need to actively cooperate under the most trying circumstances

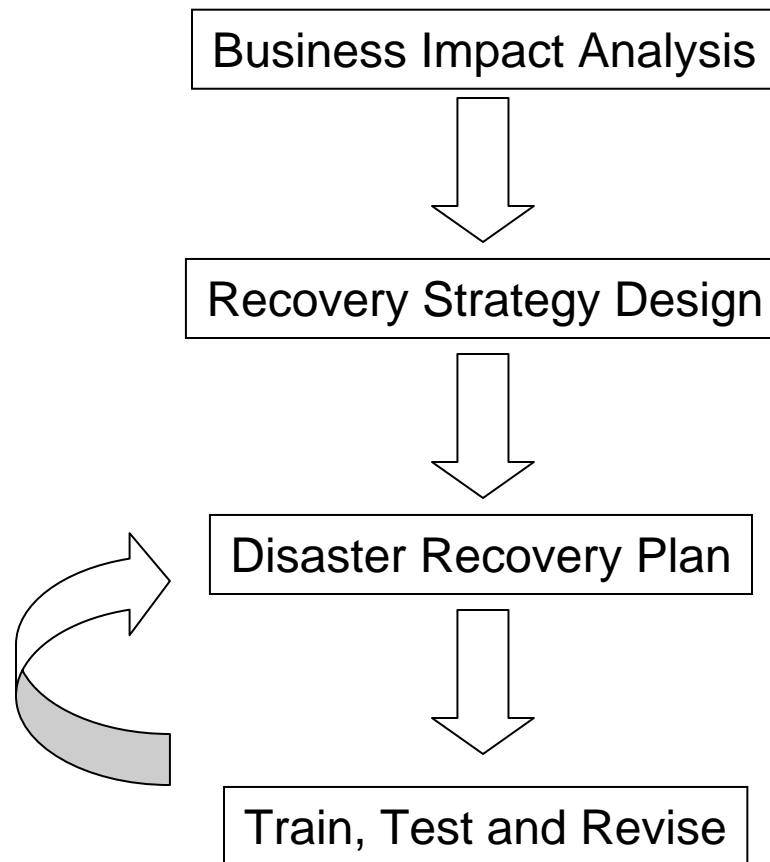
Example from TN State University

Disaster Preparedness and Recovery Planning 101

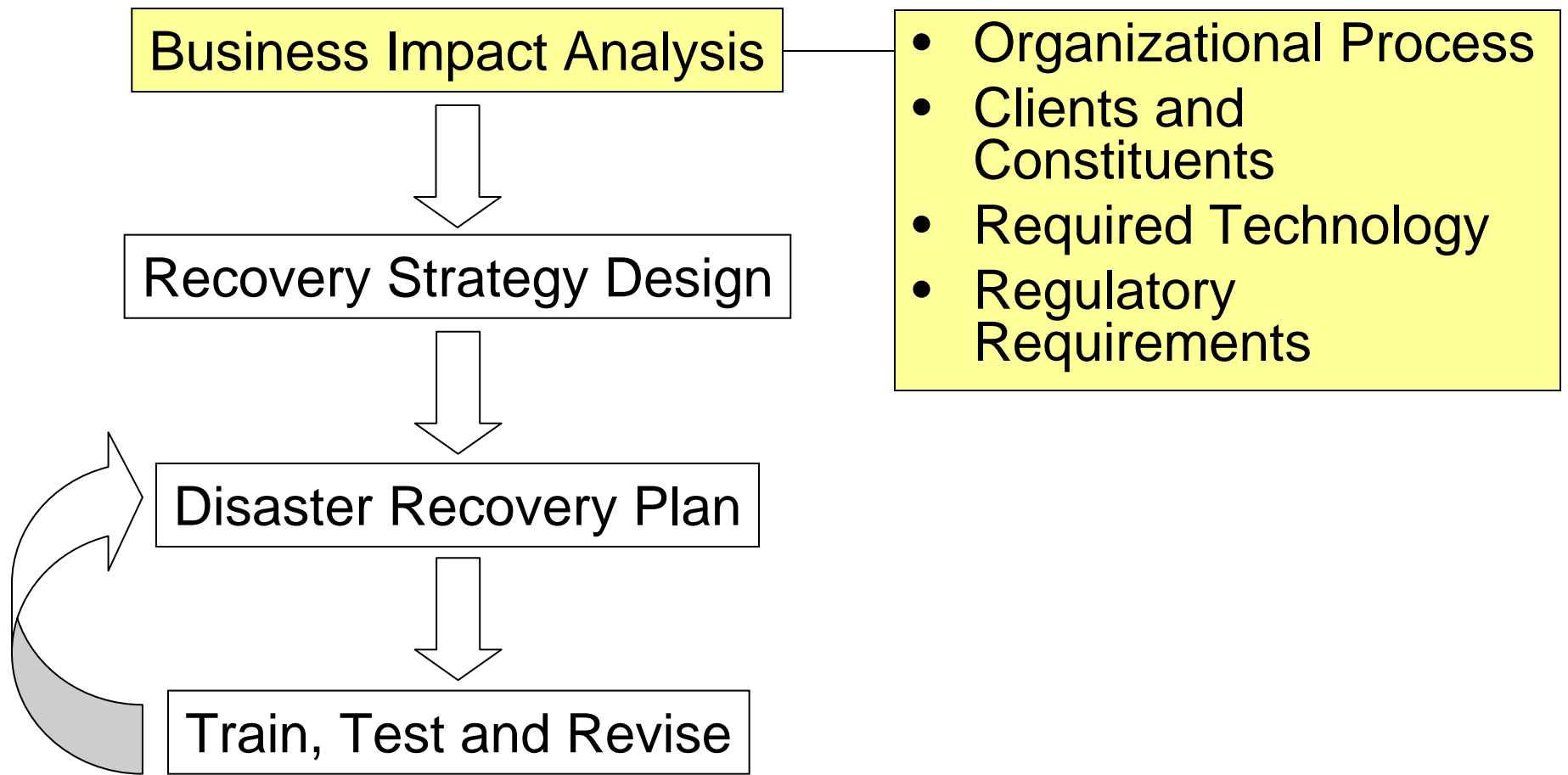
- Develop a planning policy statement
 - kinds of disasters do you intend to cover?
 - Where does the responsibility of the plan and the planners end?
 - Who is responsible for the various components of the plan and what is their authority?

Study the organization and processes;
prioritize what's essential to keep the
business running

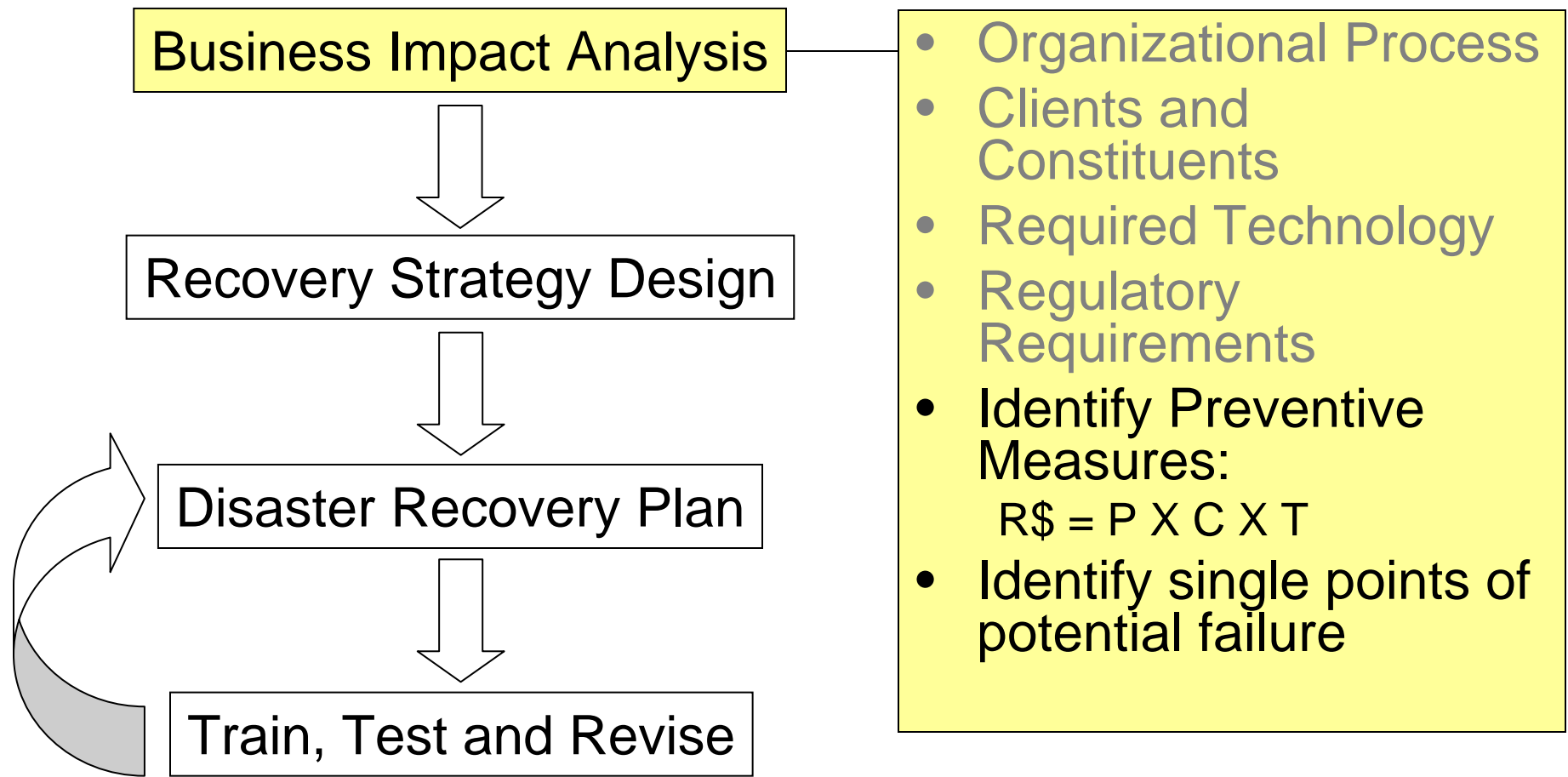
DR/P 101



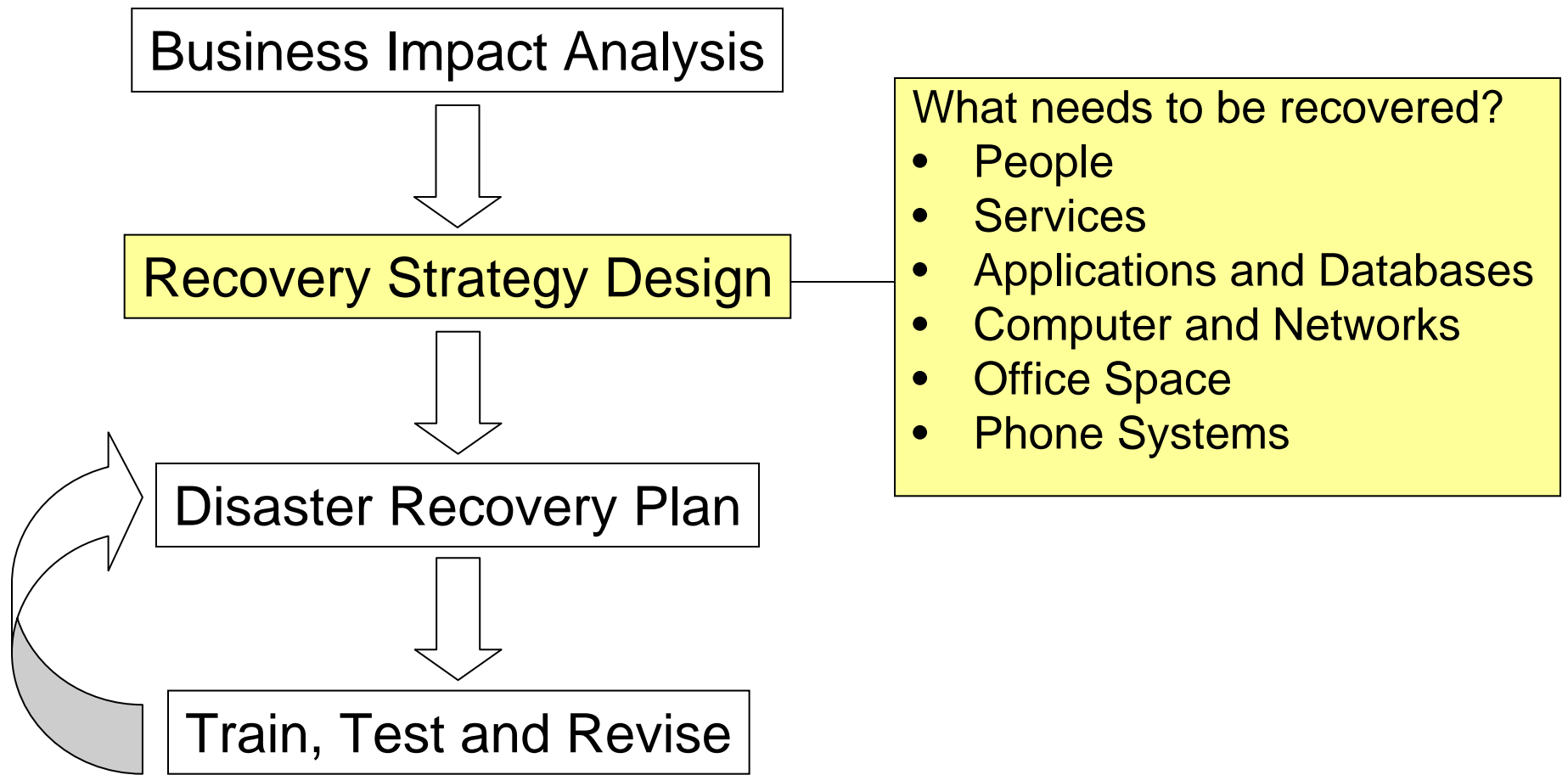
DR/P 101 - BIA



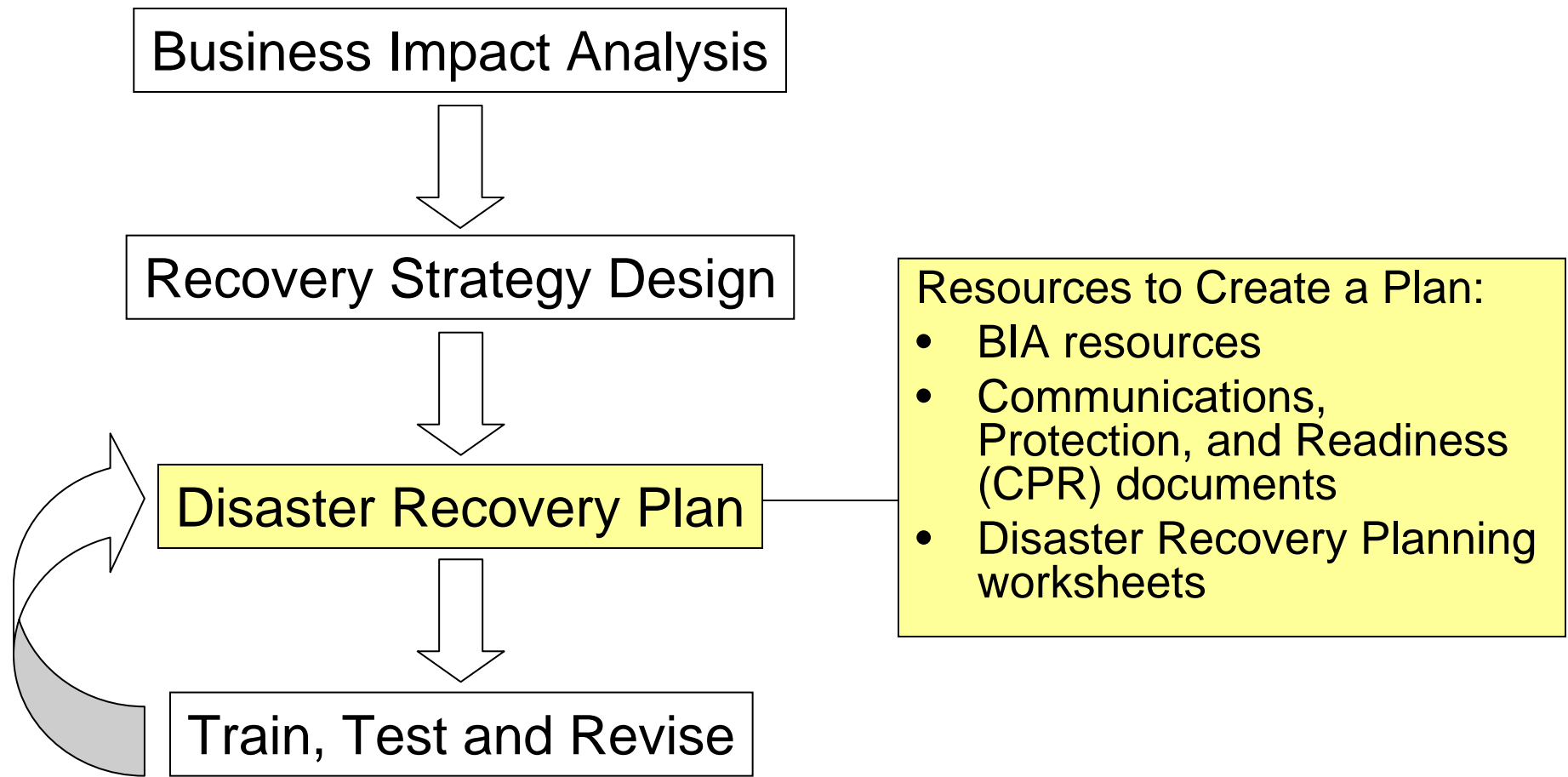
DRP 101 – BIA cont'd



DR/P 101 – Recovery Design



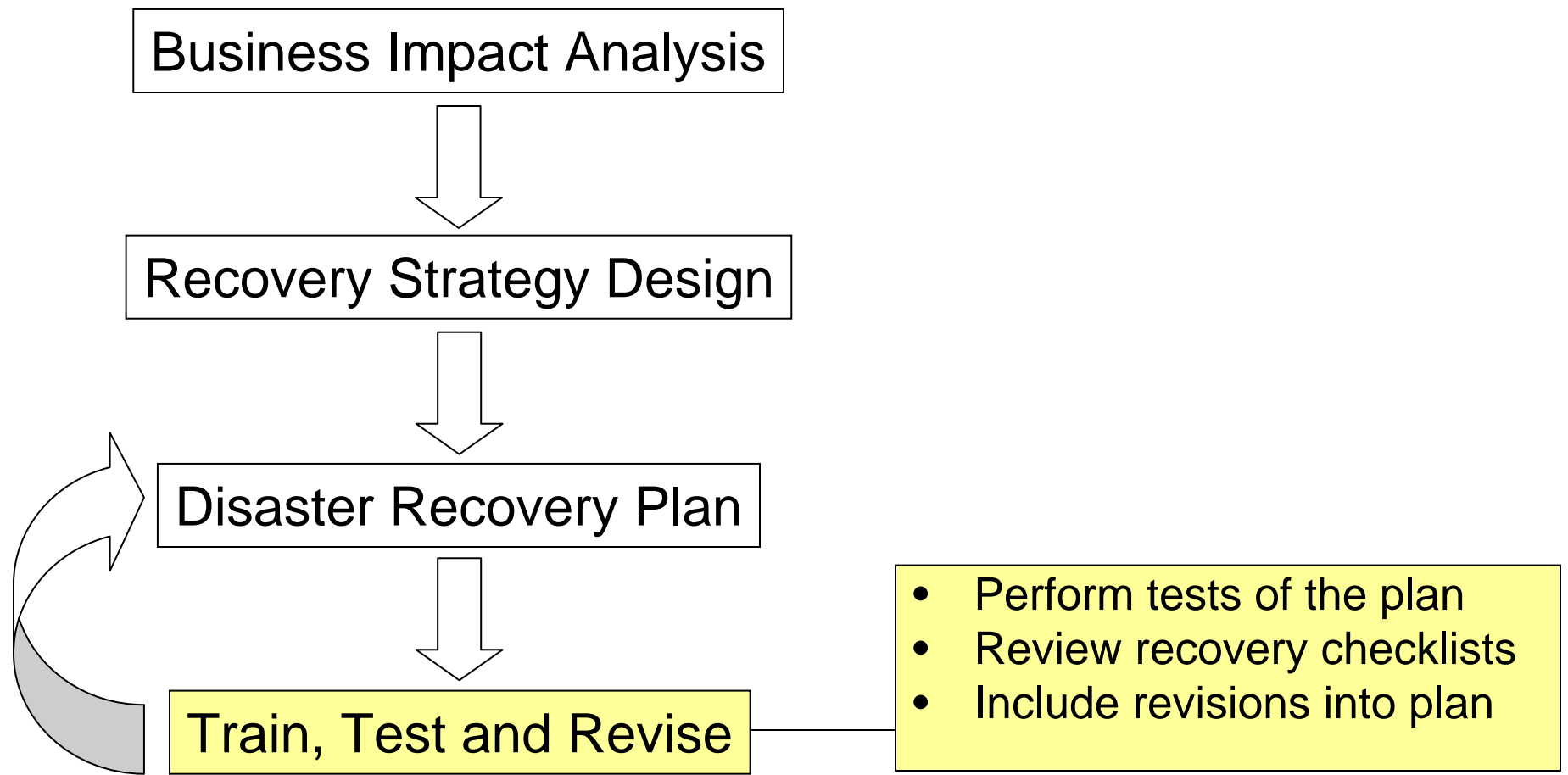
DR/P 101 – Recovery Plan



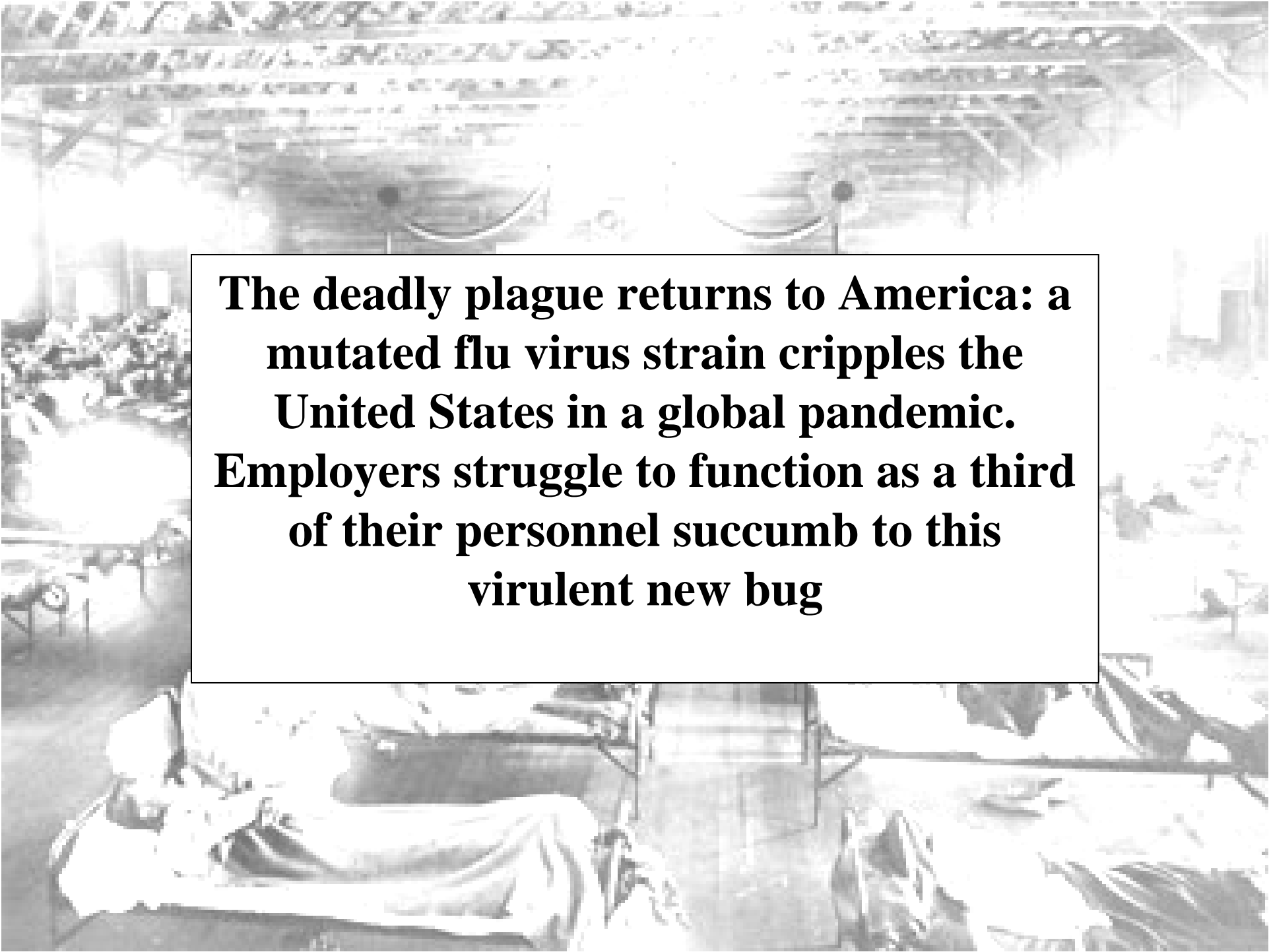
Communications, Protection, and Readiness (CPR)

- Conduct a business impact analysis
- Designate a CPR Team
- Train all staff on emergency preparedness
- Develop contact information/call list and employees schedule
- Designate an emergency meeting location
- Setting up temporary workplace
- Protect your data
- Ensure document preservation
- Critical resource retrieval list
- Insurance and liability

DR/P 101 – Train, Test, Revise



LSU AgCenter - SCOPE

A black and white photograph of a crowded hospital ward. In the foreground, a patient is lying in a bed, partially covered by a white sheet. The ward is filled with rows of beds, many of which are occupied by patients. The room has a high ceiling with exposed pipes and a large window in the background. The overall atmosphere is one of a busy, crowded medical facility.

The deadly plague returns to America: a mutated flu virus strain cripples the United States in a global pandemic. Employers struggle to function as a third of their personnel succumb to this virulent new bug

Pandemic

- Ensuring that operations won't close if the university is forced to suspend classes and close offices
- Preparing for students who won't be able to return home –quarantines in communities
- Quarantines and travel restrictions on travel force work from home.