A Sanitarian’s Role During Disaster Relief Efforts

Experience Following Hurricane Katrina at the George R. Brown Convention Center in Houston Texas

Houston Department of Health and Human Services

Houston, Texas

4th largest city with a population of 2.01 million
5 million people in the Houston Metropolitan area
38 million people travel through Houston airports each year
Home of the largest medical center in the world
600 square miles
ROLE OF A SANITARIAN

FOOD SERVICE & PREPARATION
- LIVING QUARTERS
- OUTBREAK CONTROL
- RESTROOMS & PLUMBING
- CHEMICAL SANITIZATION
- FACILITY SET-UP
- INSPECTIONS
- COMMUNICATION & TRAINING

FOOD SERVICE AND PREPARATION
Time and Temperature Control
- COOKING TEMPERATURES
- HOT HOLDING
- COLD HOLDING
- COOLING TECHNIQUES
  - QUICK CHILLING (FREEZER)
  - ICE BATH
**FOOD SERVICE AND PREPARATION**

**Food Service Techniques**

- **TRAINING OF VOLUNTEER**
  - SERVING
    - FROM BOTTOM TO MAINTAIN HEAT
  - PROPER UTENSILS
    - SCOOPS INSTEAD OF A CUP OR BUCKET

**FOOD SERVICE AND PREPARATION**

**Food Protection**

- **STORAGE AREA**
  - COVERING FOODS
- **PREPARATION AREA**
- **SERVICE AREA**
  - SERVICE LINE SET-UP
  - LIMIT SELF SERVICE
- **CONTROL OF FOOD**
  - FOOD ISOLATED TO DINING AREA
    - CONTROLLED EXIT
    - POSSIBILITY OF HORDING

**FOOD SERVICE AND PREPARATION**

**Single Service Items**

- **USE OF SINGLE SERVICE ITEMS**
  - DISPOSABLE UTENSILS (Wrapped)
  - DISPOSABLE PLATES
- **PROTECTION**
  - HANDLING
  - DISPENSING
FOOD SERVICE AND PREPARATION
Equipment Cleaning & Sanitizing

- PROPER USE OF DISH MACHINE
  - CHECKED FOR SANITIZER STRENGTH
  - INSTRUCTIONS: TO PROPERLY LOAD, OPERATE, AND MAINTAIN EQUIPMENT
- CONCENTRATIONS OF CHEMICALS SANITIZER

FOOD SERVICE AND PREPARATION
Personal Hygiene

- SIGNAGE
- HAND WASHING
  - PROCEDURE: "WHEN AND HOW TO"
  - USE OF APPROVED HAND SANITIZER
  - GLOVES
- PRE-SCREENING OF WORKERS

ROLE OF A SANITARIAN

- FOOD SERVICE & PREPARATION
- LIVING QUARTERS
- OUTBREAK CONTROL
- RESTROOMS & PLUMBING
- CHEMICAL SANITIZATION
- FACILITY SET-UP
- INSPECTIONS
- COMMUNICATION & TRAINING
LIVING QUARTERS

Layout

- LOCATION OF COTS
- SEPARATION OF POPULATIONS:
  - SEX
  - FAMILY
  - ILL PERSONS
- SAFETY
  - FIRE PATHS
  - EXIT DOORS

LIVING QUARTERS

Laundry Service

- CLEANING
  - OUTSIDE PROVIDER
  - PROPER SANITIZATION
- IDENTIFICATION
  - BAGGED ID
- ANNOUNCING OF LAUNDRY SERVICES

LIVING QUARTERS

Surveillance

- MONITORING BEDDING MOVEMENTS
  - BLOCKING OF EXITS
  - CONDENSE & RELOCATE
- CONDITIONS
  - UNSANITARY CONDITIONS
  - SPILLS & SPECIAL TECHNIQUE
- INCIDENT REPORTING TO SHIFT LEADER
  - SPECIAL MEDICAL NEEDS
**LIVING QUARTERS**
Cleaning & Garbage Control

- **LIVING AREA CLEANING**
  - SELF RESPONSIBLE
  - ITEMS PROVIDED BY FACILITY
- **GARBAGE**
  - REMOVED BY FACILITY AS NEEDED
- **ROUTINE CHECKS**

**ROLE OF A SANITARIAN**

- **FOOD SERVICE & PREPARATION**
- **LIVING QUARTERS**
- **OUTBREAK CONTROL**
  - RESTROOMS & PLUMBING
  - CHEMICAL SANITIZATION
  - FACILITY SET-UP
  - INSPECTIONS
  - COMMUNICATION & TRAINING

**OUTBREAK CONTROL**
Separation of the Ill

- **SELECTIVE ISOLATION**
  (AS PER PHYSICIAN)
- **RECOVERY AREA**
  - AMENITIES TO ENCOURAGE SELF IMPOSED ISOLATION
**OUTBREAK CONTROL**

**Education**

- Identification: Staff, Volunteers, Survivors, Medical Personnel
- Proper hand washing & use of hand sanitizer
- Proper use of effective sanitizer

**OUTBREAK CONTROL**

**Tracing of Illness**

- Identify illness vs. food-borne illness
- Quarantine of infected
- Epidemiological investigations

**ROLE OF A SANITARIAN**

- Food service & preparation
- Living quarters
- Outbreak control

- Restrooms & plumbing
  - Chemical sanitization
  - Facility set-up
  - Inspections
  - Communication & training
**RESTROOMS & PLUMBING**

**Toilet Facilities**
- AVAILABLE IN FACILITY
  - AUTOMATIC FLUSH
  - AUTOMATIC FAUCET
- PORTABLE ADDED
  - HAND-WASH SET UP
- MAINTENANCE
  - SUPPLIES

**RESTROOMS & PLUMBING**

**Hand Washing**
- FACILITY ALLOWED FOR ADDITIONAL PLUMBED CONNECTIONS (HOT/COLD WATER)
- TEMPORARY HAND WASH STATION SET-UP WHERE NEEDED

**RESTROOMS & PLUMBING**

**Showers**
- LAYOUT
  - PERSONAL STALLS
  - SHOWER SCHEDULE BY SLEEPING AREA
- CLEANING
  - PROPER SOLUTION AND PREPARATION RECIPE
- MAINTENANCE
ROLE OF A SANITARIAN

- Food Service & Preparation
- Living Quarters
- Outbreak Control
- Restrooms & Plumbing
- Chemical Sanitization
- Facility Set-Up
- Inspections
- Communication & Training

CHEMICALS & SANITIZATION

- Hand Sanitizers
  - Effective Sanitizer
- Cleaning Agents
  - Approved Agents
  - Not Mixing Chemicals (Safety)
- Identification of High Risk Areas (Frequent Cleaning)
**Facility Set-Up**
Specific to the Shelter

- Specific to Shelter
  - Separation of Areas
  - Plumbing
  - P.A. System
  - Food Preparation
  - Air Conditioning
  - Available Staff

**Role of a Sanitarian**

- Food Service & Preparation
- Living Quarters
- Outbreak Control
- Restrooms & Plumbing
- Chemical Sanitization
- Facility Set-Up

**Inspections**

- Inspections
  - Communications & Training

**Inspections**

- Frequency
  - Every Day & Every Meal
- Surveillance on Floor
- Reporting System
  - Consistency
- Multiple Departments and Specialties
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COMMUNICATION

- VOLUNTEER
  - KITCHEN HELPERS
  - FOOD SERVICE HELPERS
  - CHILDREN’S AREA
  - FLOOR HELPERS
  - TRAINERS
- SURVIVORS
  - SIGNAGE & NEWSLETTER
  - SPECIAL NEEDS

IN CLOSING.....

- DISEASE OUTBREAKS DURING THE SHELTERING = ZERO
- OFFICIALS, PUBLIC SERVICE EMPLOYEES, WORKERS, & VOLUNTEERS
- HOUSTON (ONE OF MANY THAT TOOK CARE OF THE SURVIVORS) MAY NEVER MOUNT AN OPERATION LIKE THIS AGAIN, BUT THERE WERE LESSONS LEARNED.
- IF THEY COME TO YOUR CITY, WILL YOU BE READY?

- GET YOUR STAFF READY AND GET SPECIFIC DETAILS. GENERAL EMERGENCY PLANS ARE OFTEN TOO VAGUE. DEFINE YOUR CAPACITY AND NEEDS, IDENTIFY RESOURCES OBTAINABLE IN AN EMERGENCY. SHARE YOUR PLANS AND START TODAY!