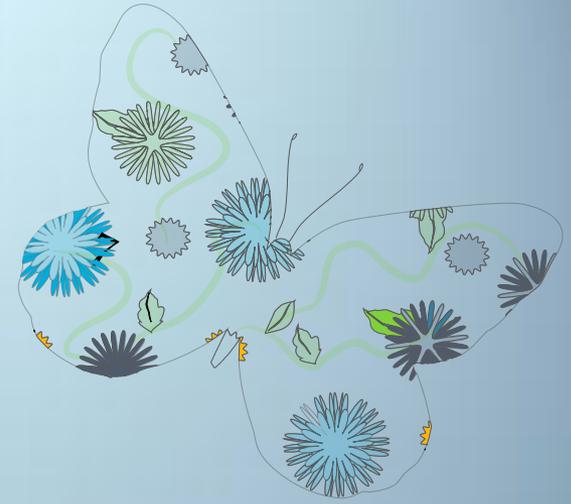


# Lessons learned in Haiti



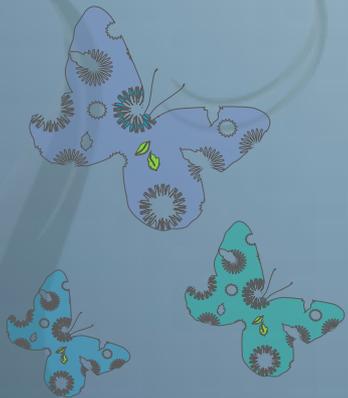
Virginia EMS Symposium

Audrey Snyder, PhD, RN, ACNP-BC, CEN,  
NREMT-P

November 11, 2011

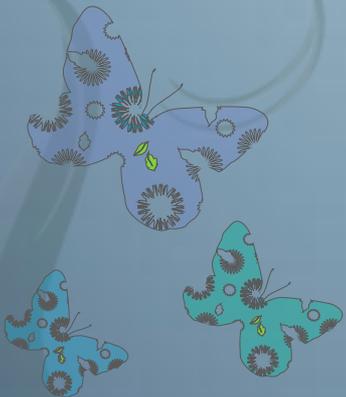
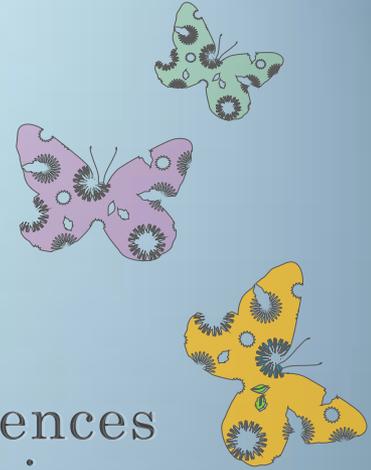


The majority of this talk  
will be told with  
pictures presented  
during lecture



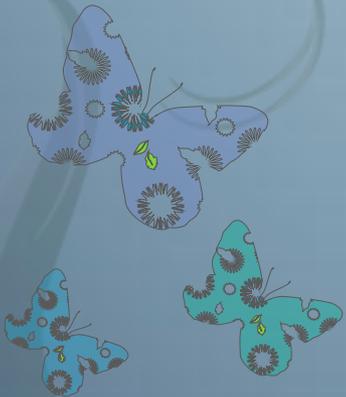
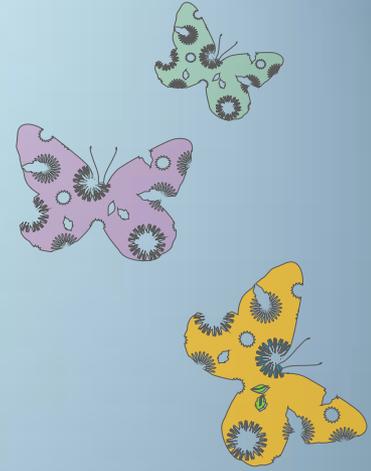
# Objectives

- Compare disaster relief experiences following the 2010 earthquake in Haiti.
- Describe disaster needs and relief challenges
- State common injuries and illnesses
- Verbalize communicable disease concerns for relief workers.
- Discuss international medical opportunities.



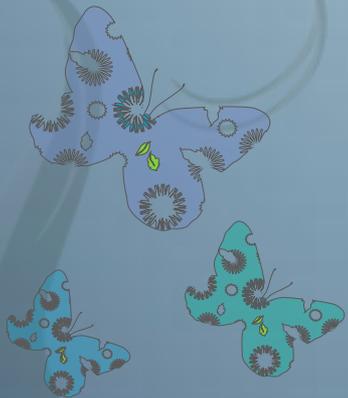
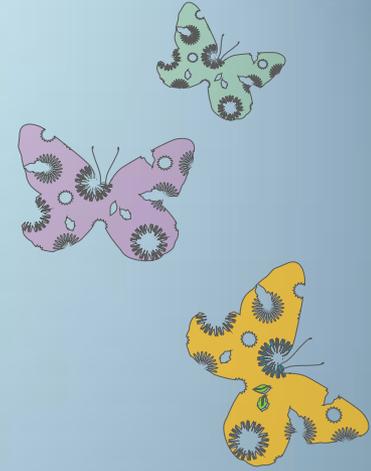
# Recent Historical Natural Disasters

- ✿ 2004 Tsunami Aceh
- ✿ 2005 Earthquake Kashmir Pakistan
- ✿ 2005 Katrina and Rita Gulf Coast
- ✿ 2010 Earthquake Haiti
- ✿ Earthquake and Tsunami Japan  
March 11, 2011



# Haiti- marginalized population

- Third largest country in Caribbean
- Poorest country in Western hemisphere
- Governmental structure
- UN Human Development Index 149/182
- Life expectancy 55 years
- Mortality <5 years 117/1000 births
- Malnutrition in children 9.1%
- Healthcare structure pre-earthquake
  - \* 1 physician/11,000 persons
- Employment
  - \* 67% population survive on <\$2 US/day



# SOUTHEAST DEPARTMENT

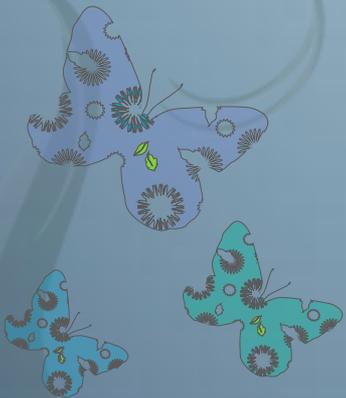
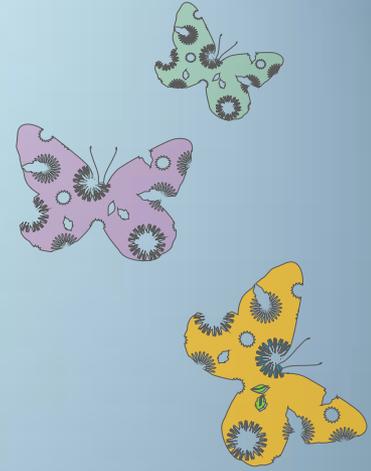
## health indicators

<b>HEALTH INDICATORS</b>		values
<b>INFANT HEALTH</b>	BCG	55.1%
	DTP	38.7%
	MEASLES	45.0%
<b>DELIVERIES</b>	ASSISTED	12.5%
<b>MAIN CAUSES OF MORBIDITY</b>	ARI (acute respiratory infection)	9.2%
	FEVER	21.4%
	DIARRHEA	16.4%
<b>MORTALITY</b>	NEONATAL	20 per 1000
	INFANT	59 per 1000

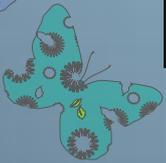
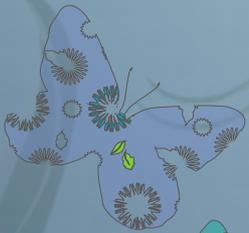
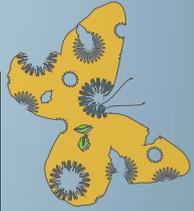
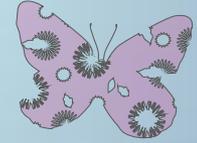
source: EMMUS IV 2006

# Health Status

- HIV
  - \* 10-19 5.8%
  - \* 20-59 21.6%
- Tuberculosis
- Malaria

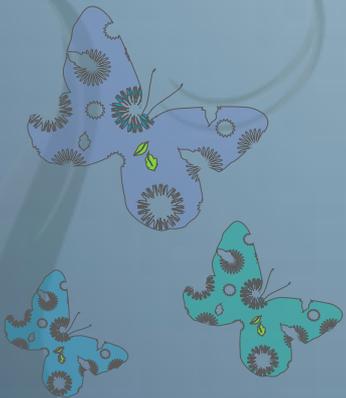
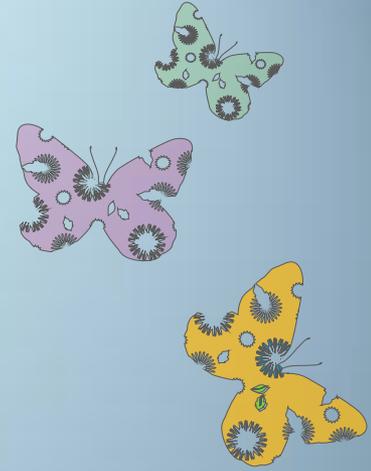


# January 2010 Haiti



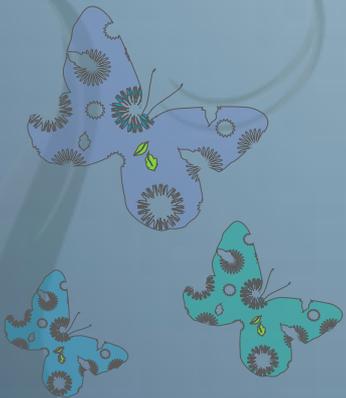
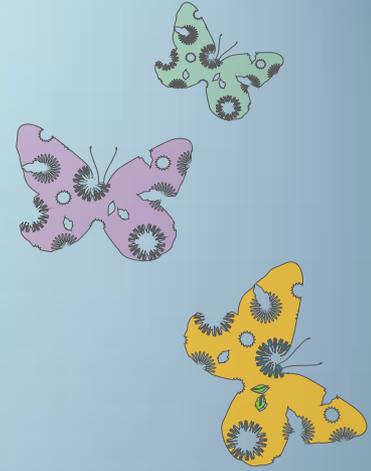
# Response

- ✿ Dependent on
  - ✿ Type of disaster
  - ✿ Location
  - ✿ Climate
  - ✿ Level of response
  - ✿ Resources needed



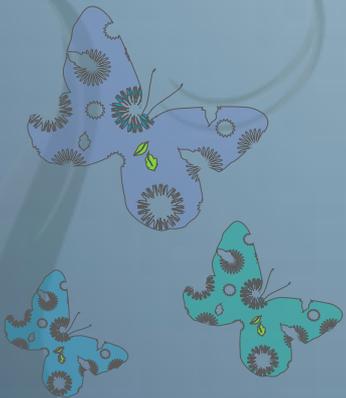
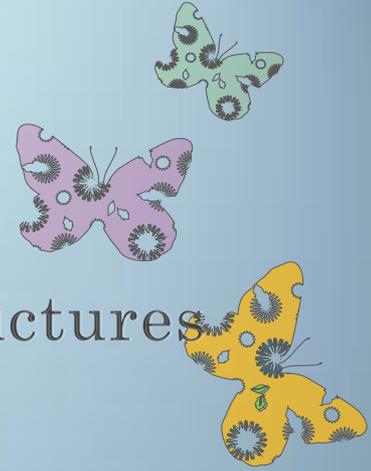
# Determinations

- Staff selection
- Equipment
- Preparedness Training
- Readiness Support
- Reentry program



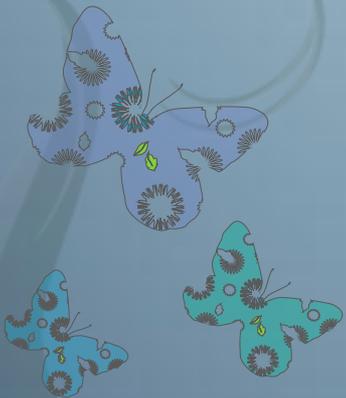
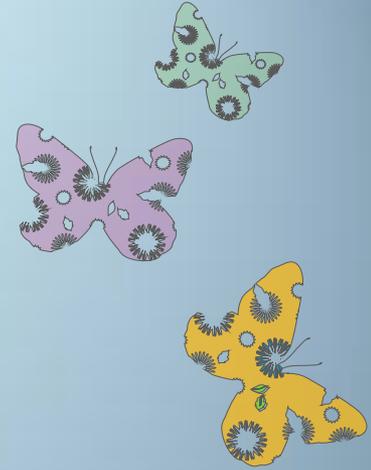
# Competencies

- Understanding of command structures
- Knowledge of general roles and responsibilities
- Knowledge of policies and procedures
- Recognition of an emergency situation
- Familiarity with back up communication systems and constructs
- Utilization of Personal Protective Equipment (PPE) and Health and Safety Precautions



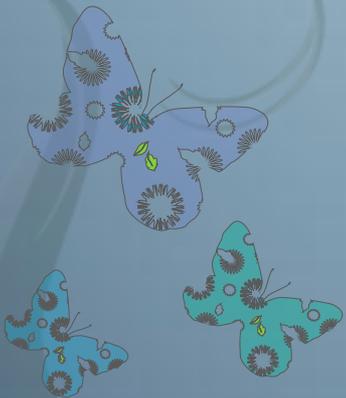
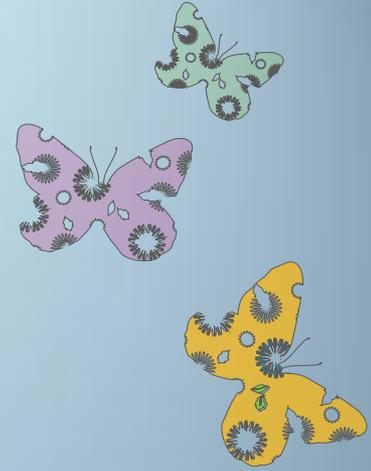
# Type of responder

- ✿ Medical Reserve Corp
  - ✿ Local and state response
  - ✿ Federal response
  - ✿ Volunteer Groups
- 
- ✿ Pre-affiliation with a response organization is best



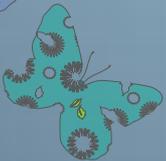
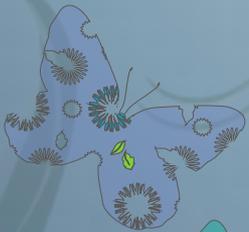
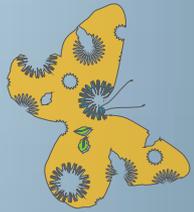
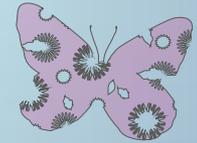
# Can you participate?

- ✿ Sanctioned by Employer
- ✿ Coworkers willing to cover unit if vacation time is used
- ✿ Permission to be off from supervisors



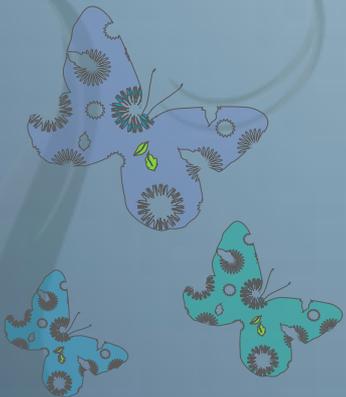
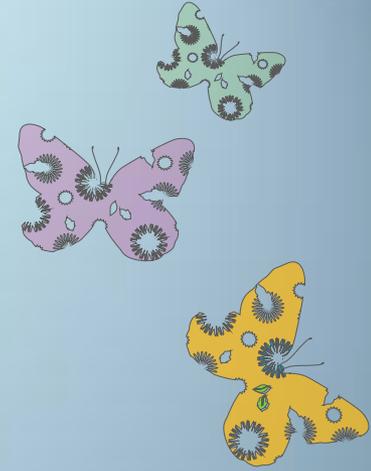
# Willing volunteers

- ✿ Licensing- always carry copies of licenses
- ✿ Reciprocity
- ✿ Volunteer structure
- ✿ Relief from position responsibilities
- ✿ Support
  - ✿ Airline
  - ✿ Lodging
  - ✿ Meals
- ✿ Safety



# Pretravel anticipated needs

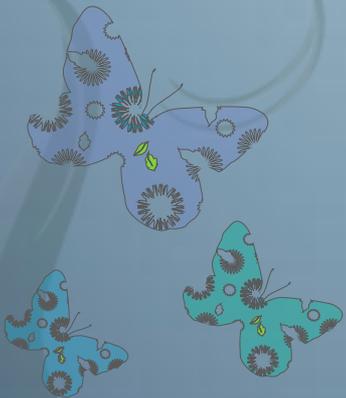
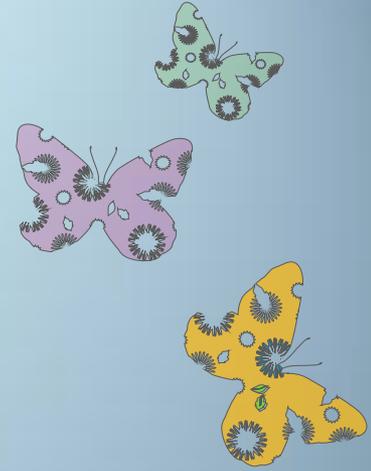
- Dehydration (limited access to clean water)
  - \* Gatorade for oral hydration
  - \* IV Fluids
- Monitoring system
- Oxygen
- Emergency Meds
  - \* Code Drugs
  - \* Antihypertensive agents
  - \* Insulin
- Intubation kit
- BP cuffs: all sizes pediatric to thigh
- Basic first aid supplies



*Special thanks to the MERCI program*

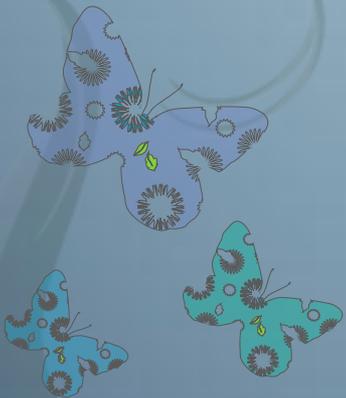
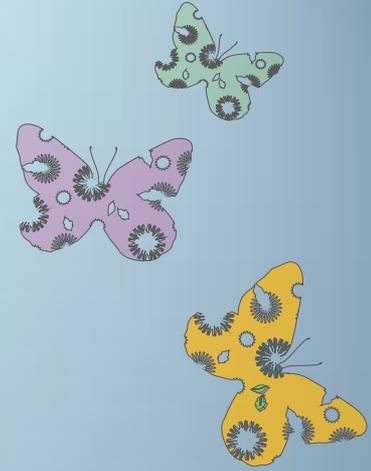
# Post-earthquake Disaster Needs

- ✿ Immediate
  - ✿ Trauma
  - ✿ Post Traumatic Stress
- ✿ Short term
  - ✿ Displaced persons, overcrowded conditions
- ✿ Long term
  - ✿ Rehabilitation
  - ✿ Primary Care



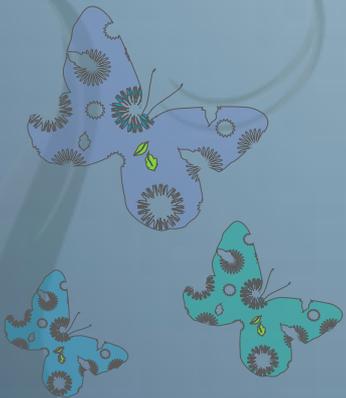
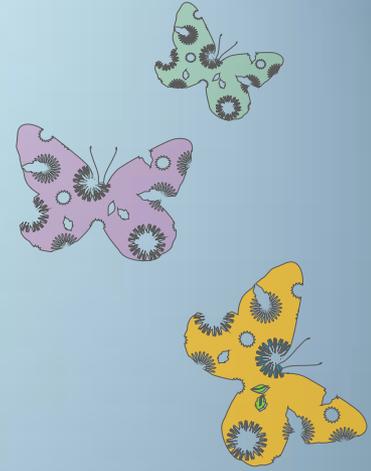
# Challenges in Disaster Relief

- ✿ Language Barrier
- ✿ Cultural Differences
- ✿ Lack of supplies, access
- ✿ Differences in utilization of supplies



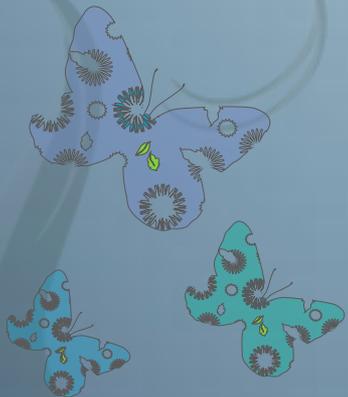
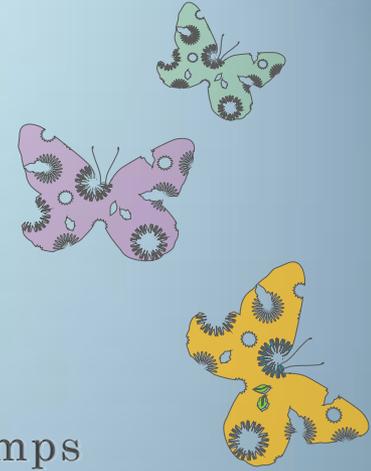
# Common Injuries Post earthquake

- ✿ Crush injuries
- ✿ Amputations
- ✿ Head injuries
- ✿ SC trauma
- ✿ Soft tissue injuries in rescuers



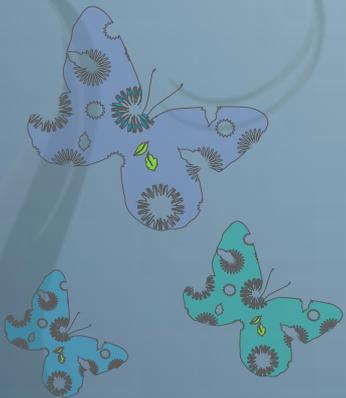
# Common Illnesses Post earthquake

- ✿ Childhood illnesses
- ✿ Lack of immunizations
- ✿ Impact of internally displaced persons camps
  - ✿ Inadequate shelter
  - ✿ Overcrowding
  - ✿ Lack of food
  - ✿ Insufficient hygienic supplies
  - ✿ Poor healthcare services
- ✿ Communicable diseases
  - ✿ Respiratory
  - ✿ Gastrointestinal
  - ✿ Febrile illness
  - ✿ Genitourinary



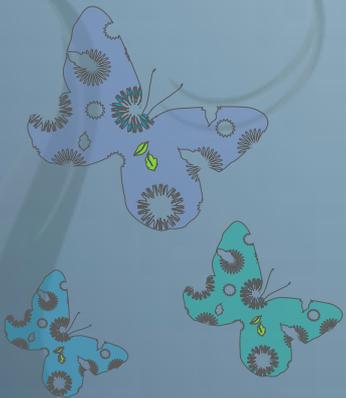
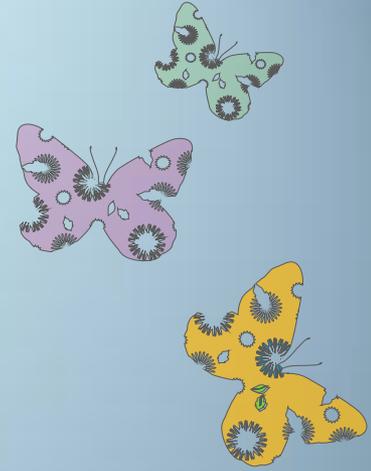
# Poverty

- ✿ Major factor in disease transmission
- ✿ 1.6 million homeless
- ✿ 1.3 million resettled



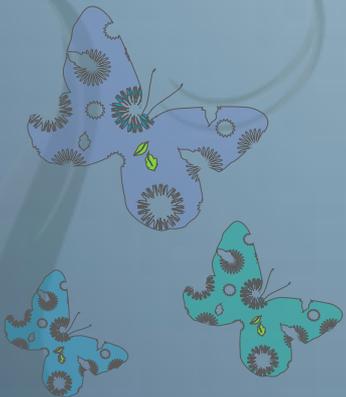
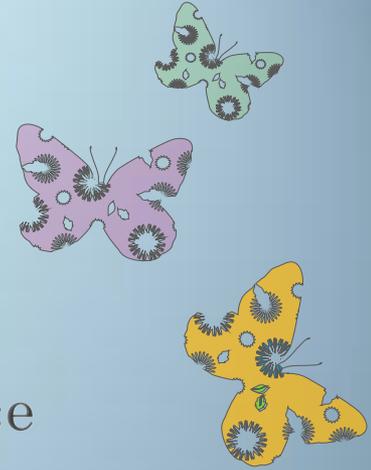
# Tropical storm September 26th

- ✿ 6 deaths
- ✿ 67 injuries

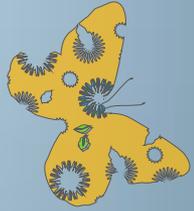
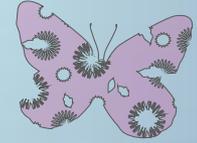


# October

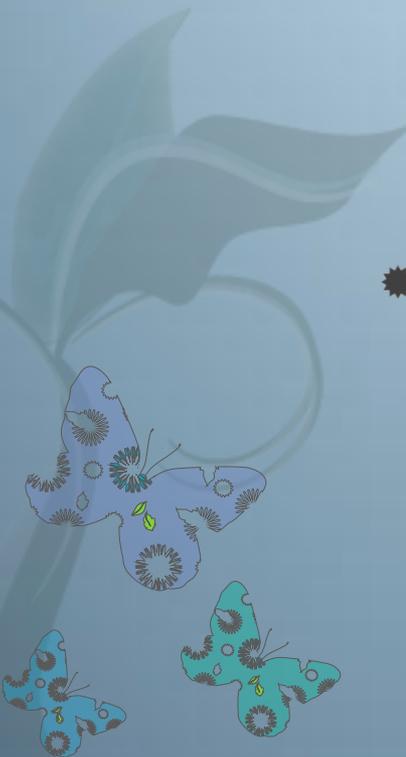
- 19<sup>th</sup> Cholera in Artibonite province
- 21 Official outbreak declared
- Hurricane Tomas
- 200,000 cases in 3 months



# Illnesses in international disaster relief workers

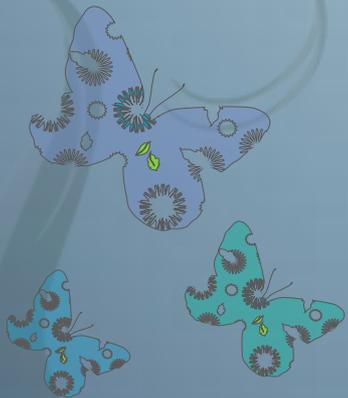
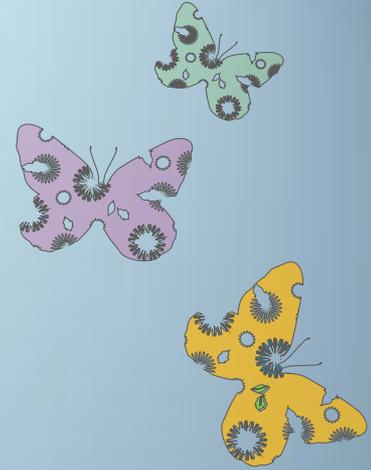


- ✿ Personal planning for international relief work
  - ✧ Carry your health history
  - ✧ Carry all possible medications you may need
- ✿ Caring for relief workers returning ill
  - ✧ Consider endemic illnesses in population



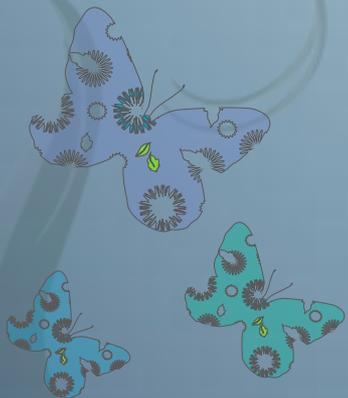
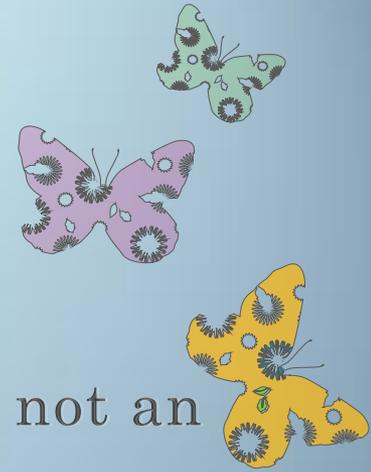
# Self care

- ✿ Personal and family plan
- ✿ Logistics
- ✿ Lodging
  - ✧ Carry sleeping supplies, toiletries (wet wipes), food, changes of shoes
- ✿ Care for own health needs
- ✿ Psychological impact
- ✿ Safety in team- know capabilities
- ✿ Communicate with home
- ✿ Rest before during and after event



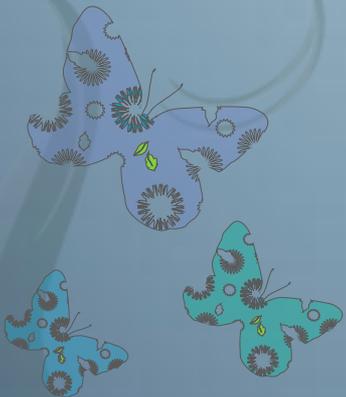
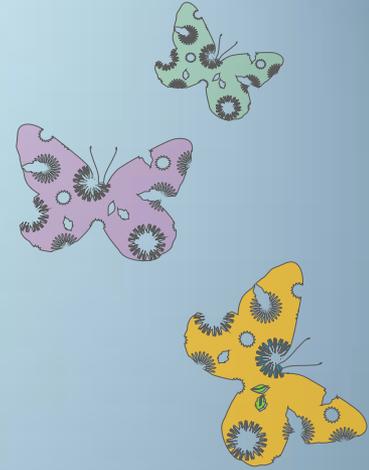
# Cultural Competence

- Cultural competence is a process, not an event
- Five constructs: cultural awareness, cultural knowledge, cultural skills, cultural encounters, and cultural desires
- More variations within ethnic groups than across
- Direct correlation between competence of HCP and their ability to provide culturally responsive care,
- Competence is essential to provide care to diverse clients.



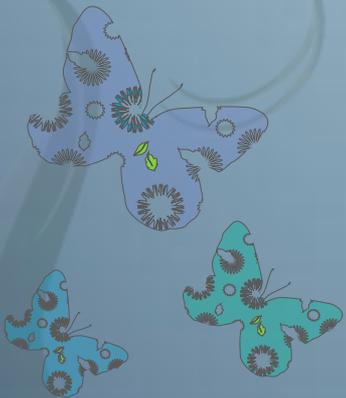
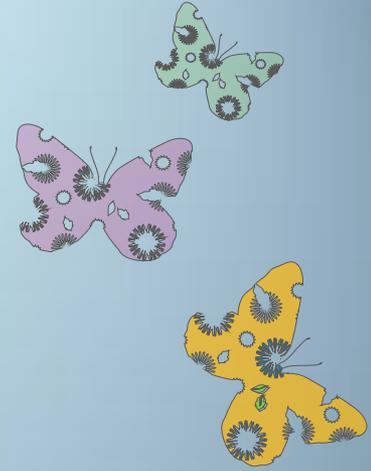
# Acute Respiratory illnesses

- ✿ Pneumonia
- ✿ Meningococcal meningitis
- ✿ Measles (no cases since 2001)
  - ✧ Vitamin A
  - ✧ Antibiotics for superinfections
- ✿ Diphtheria
- ✿ Polio
- ✿ H1N1



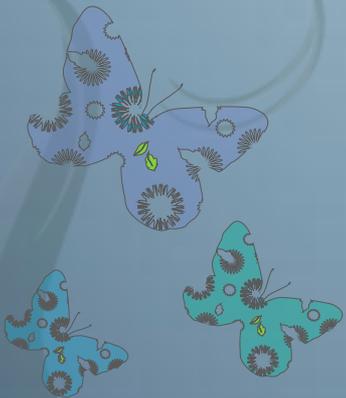
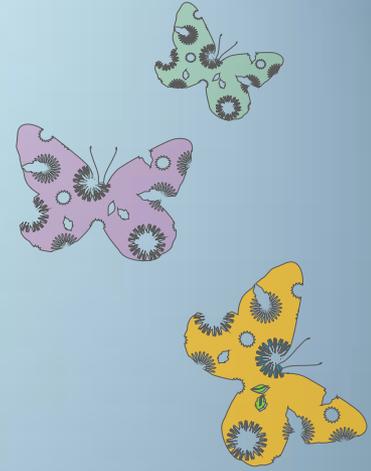
# Vector Borne Illnesses

- ✿ Malaria
- ✿ Dengue
- ✿ Microfilaria
- ✿ Louse borne rickettsial diseases
- ✿ Rabies
- ✿ Leptospirosis



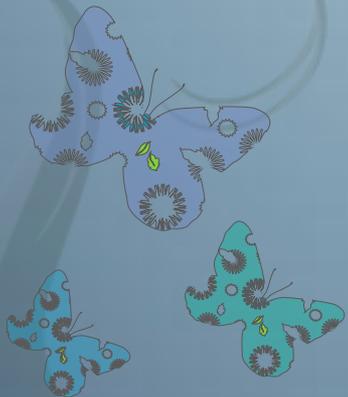
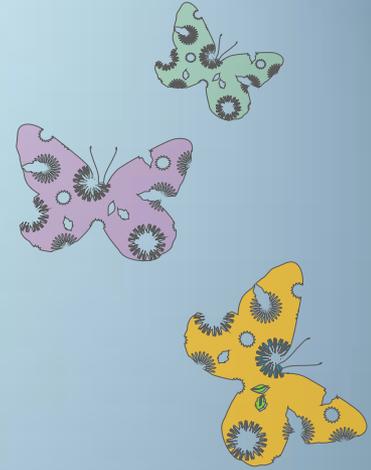
# Wound related infections

- ✿ Tetanus
- ✿ Staphylococci
- ✿ Streptococci
- ✿ Sepsis
  
- ✿ Scabies
- ✿ Lice
- ✿ Hypersensitivity skin reactions
- ✿ Superimposed bacterial pyoderma



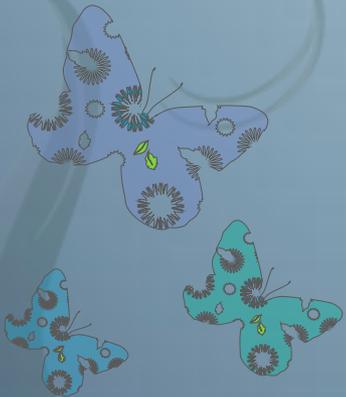
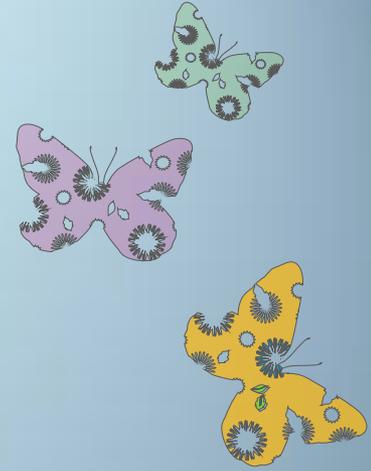
# CTCs

- ✿ Handwashing stations
- ✿ Education to churches and community groups
- ✿ ORS
- ✿ Training of Moto drivers



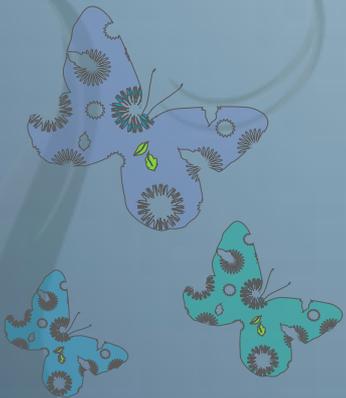
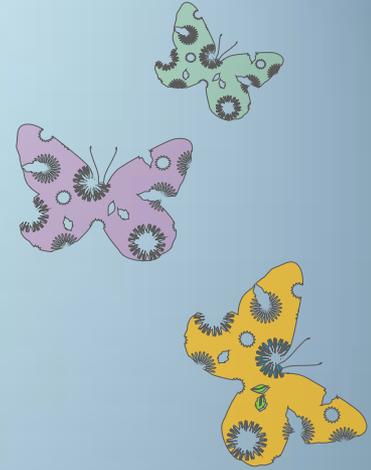
# Public health

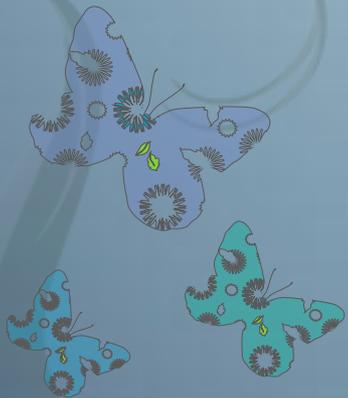
- ✿ Sanitation
  - ✿ Water
  - ✿ Trash removal
  - ✿ Latrines
- ✿ Home hygiene
  - ✿ Hygiene kits
  - ✿ Food preparation education
  - ✿ Immunizations
- ✿ Surveillance



# March 2011

- ✿ Rebuilding homes and lives
- ✿ Latrines
- ✿ Clinics in camps
- ✿ Nutrition programs





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