Peran Farmasis pada kejadian bencana alam
Pharmacists are one of the nation’s most accessible and trusted health professionals

• ~2,300 public health pharmacists work in public health agencies¹ (~ 500,000 public health workers in US)

• Opportunities (and Needs):
  – Pharmacists located in virtually every community
  – Few LHD employ pharmacists, yet medicines are among the most important interventions for health maintenance and promotion

¹Public Health Workforce Enumeration (2000)
Bencana

- Ulah Manusia ( teroris)
- Akibat aktivitas kita ( bahaya industri)
- Kejadian alam ( bencana, Gempa)
- Yang paling sering terjadi interaksi manusia dgn lingkungannya meningkatkan kerusakan
Emergencies Will Happen, Will You Be Ready? King County
ALLIED HEALTH CARE RESPONDERS DURING

“ALL-HAZARD” DISASTERS

Photos by permission: NDLS

Photo: Colvard
Pharmacy Emergency Response Team (PERT)

- Trained to respond to chemical, biological, radiological, and nuclear agents
- Identify a lead pharmacist and set responsibilities for team members
- Involvement of pharmacy director, administrative support, clinical pharmacists
- Establish collaboration and coordination of the role pharmacy has in disaster management
- Set procedures for emergency cart fills
- Resources are provided for efficient communication and protection
- Provide staff education
- Conduct drills to optimize functioning of the team
How to Prepare: Be Educated and Trained

• Become familiar with agents of concern, their treatment, prophylaxis and epidemiology

• Take training classes in emergency preparedness

• Learn first aid and become certified in cardiopulmonary resuscitation (CPR) and advanced cardiac life support (ACLS)
How to Prepare: Get Involved

• Develop the following
  – Antibiotic selection guidelines
  – Dosing charts for pediatric patients
  – Counseling information
  – Immunization guidelines (especially for high risk patients)
  – Post exposure prophylaxis recommendations both primary and secondary exposure

• Assist in writing pharmaceutical distribution plans

• Take part in development of guidelines or treatment algorithms in management of patients exposed to bioterrorism

• Work with wholesalers to develop plans to obtain emergency pharmaceuticals
Emergency & Disaster Preparedness and Response Plan: Pharmacists

• Emergency Dispensing Provisions
• Designate Pharmacists as First Responders
• Access to prophylactic medications & vaccines
• Educate licensees in Disaster roles/expectations
Various disasters like volcanic eruptions, fires, flood, earthquake, landslides, and cyclones are natural hazards that kill thousands of people and destroy billions of dollars of habitat and property each year.

Asia tops the list of casualties due to natural disaster-affecting very large areas and population in the Indian subcontinent and southeast Asia yearly.
Jepang, jum’at, 12 Maret 2011

• Gempa 9,1 + tsunami
• Lebih 5000 meninggal, 10000 msh hilang
• Tsunami at Pagai Island West Sumatra, Oct 25, 2010.......more than 250 dies and 500 lost
• Merapi volcano eruption, more than 20 dies Oct 25, 2010
• Flood at Jakarta Oct 25, 2010
Earth Quake 30 Sep 09 West Sumatra, 7.9 SR, big destruction in Padang, almost 1000 died

- Too frequent occurring of big disaster around the world
- Szechuan earth quake – almost 70,000 kills
- Nargis in Myanmar – 100,000 lost of life
- Typhoon in Phillipines
- Tsunamis in Indonesia and South East Asia – almost 250,000 died

- Historical Background – 28 June, 1926 – Padang Panjang Indonesia – destroyed the whole city
- Earth Quake in 1917 causing big destruction in Los Angeles, USA
  Flood and landslide occurring almost every year with 100,000’s of life in Bangladesh and India
- Radioactive plant – radiation killed many life in India and Russia
• Disasters impact our health, community, and economy; they devastate the environment and significantly disrupt our daily life.

• The fundamental goals of disaster mitigation are to understand and define the threat, limit our vulnerabilities, prevent the occurrence when possible, and minimize the effects and losses when they arise.
• Aids from all over the world reached the site with millions of USD in term of medication

• Doctor, nurses, other volunteeres....

• But where is the pharmacists?
  – Drugs – a lot of almost expired or expired drugs
  – Pharmacotherapy- choice of drugs for specific conditions
  – Pharmacokinetics – not even focus due to lack of expertise
• Many healthcare providers mainly doctors and nurses contributed significantly during the catastrophe.

• Unfortunately the role of pharmacist remains unclear. So far the involvement of pharmacists in this issue seems to be almost none.

• Contribution of pharmacist’s expertise should be there, as in most disasters, drugs are being used regularly and the counseling during such event almost not exist.
Pharmacy system during disaster

- Pharmacy service set up during the event usually consist of:
  - Mobile pharmacy and temporary pharmacy related services,
  - Distribution of drugs and related medical care,
  - Educate the community on health, hygiene, and wellbeing,
  - Mental health assessment and community characteristic, and
  - Cooperation to support sustainable health sector
Pharmacy system during disaster

- Those are some of the relevant issues pertaining to pharmacist’s role in disaster management.
- Contribution from pharmacists may have bigger impact if such role are being properly trained and implemented.
- Quality of therapy would be increased with intervention from pharmacists.
Am I Qualified to help?

- Who is more qualified then a pharmacist on issues regarding medications?
  - Dosage form
  - Adequate doses
  - Optimize pharmacotherapy
  - Minimize adverse effect
  - Evaluate drug potential interactions
  - Education and prevention of diseases especially infectious diseases
Understanding Emergencies

- Crisis will determine the type of response
- Assessment is crucial
  - Understanding the disaster
  - Identify critical needs
  - Engage local contacts
  - Plan relief delivery
- Have a Masterplan
Limited Ability of Pharmacy System to Respond

- During disasters, the demand for healthcare will rapidly increase and likely exceed the capacity the local community.

- At the same time, there will be loss of infrastructure further limiting the ability to meet this increased demand.

- Healthcare providers are, in themselves, a limited resource and there is a shortage of doctors, pharmacists and nurses, especially in critical care.
Limited Ability of Pharmacy system to Respond

- During disasters, especially in emerging infectious diseases, healthcare workers (HCW) may be disproportionately affected.

- During the severe acute respiratory syndrome (SARS) outbreak, HCWs represented 60% of cases.

- It is estimated that H5N1 would have a similar predilection for HCWs—this would further limit the capacity to meet increased demands.
Limited Ability of Pharmacy system to Respond

- Disasters both increase the demand for healthcare and limit our ability to provide it.

- The effect on the infrastructure reduces the medical response and increases our susceptibility to future events.

- Concerns over the medical community's ability and capacity to respond to a significant event are justified.
Pharmacist roles in Disasters

• Flooding, for example, is the most common type, and causes death in Asia.

• Treatment for hypothermia, trauma (lacerations, ulcers), rashes, and burns (secondary to fires caused by flooding).

• Flooding may also cause disruption of water treatment and sanitation, resulting in exposure to infectious diseases.
Pharmacist Roles in Disasters

- Tornadoes, on the other hand, primarily cause traumatic injuries, and survivors may be most likely to suffer from fractures.

- Trauma also occurs in earthquakes and tsunamis, although with a different profile.

- In addition to fractures, crush injuries with rhabdomyolysis and compression syndromes may occur alongside dust inhalation injuries and heat or cold exposure injuries.
Pharmacist Roles in Disasters

- For communicable diseases, the breakdown of sanitary barriers, crowding at shelters and other elements can enhance spread of disease in any population, although it is most likely and most problematic in a community with previous endemicity.

- Usage of vaccines for some conditions and special drugs in specific disaster definitely requires pharmacists for intervention.
Pharmacist Roles in Disasters

• For each of these specific hazards, the psychosocial effects will create an additional area of significant healthcare needs.

• After any major disaster, an increased need for treatment of anxiety, posttraumatic stress disorder, neuroses, and depression can be expected.

• Usage of drugs in these situations is unavoidable.
Pharmacist Roles in Disasters

- Reviewing the drug supply and dosage used in specific situation: diabetes, cardiac problems, pediatrics population etc.
- Education for the residents on sanitation, nutrition, personal hygiene, life skills
- Prevention of respiratory tract infections
- Prevention of diarrhoeal diseases
- Educating on Women’s health issues
Pengalaman Bantuan gempa

- Makanan
- Obat-obatan
- Sarana tempat tinggal
- dll
What can be done to overcome the problem?

- Prepare the pharmacists with disaster management – trained them

- Academic level – introduction into the syllabus

- Team work with other healthcare providers
Conclusion

- Recent events have reminded us that disasters, both natural and manmade, can and will occur, often with little or no warning.

- There exists a real threat and pharmacists must be prepared to provide a competent response and mitigate potential losses.

- Previous events and the threat of future disasters reinforce the fundamental need for pharmacists preparedness- Disasters are inevitable, predictable, and expected; we must be ready to face them

It’s About Making a Difference