

Infectious Disease Preparedness: From A to Z



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Antibiotic Resistance



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ANTIBIOTIC RESISTANCE

- Imagine you are the parent of a 3 month old with high fever. You find out the problem is an infection in the kidneys. Antibiotics are started but the baby remains ill. Why? The bacteria are resistant
- Now imagine you are a teenager with cystic fibrosis; the bacteria in your lungs are no longer susceptible to any antibiotics



ANTIBIOTIC RESISTANCE

- What if we have an outbreak of infectious diarrhea due to resistant bacteria?
- What if a hospital intensive care unit has catheter related infections or ventilator related infections due to resistant bacteria?
- The future is now
- The time to act is now



WHAT TO DO?

- Antibiotic stewardship: pick the right drug at the right dose for the right amount of time
- Use antibiotics only when needed
- Encourage development of new agents: we needed them long ago
- Address drug shortages as these can lead to use of broader spectrum agents



Vaccines



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VACCINES

- The modern day success story BUT
- Consider this recipe for failure:
 1. Pockets of unvaccinated children and adults
 2. International travel
 3. Global underutilization of vaccines
- Mix together for the next measles outbreak



Zika Virus



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ZIKA VIRUS

- Pretty much unknown until 2015
- Rapid increase in knowledge: modes of transmission, illnesses, complications
- Mosquitoes, sex, mild illness (fever, rash, joint pain, red eyes), microcephaly, Guillain-Barre syndrome
- Unknown: how often, risk in pregnancy, how long is a person contagious



WHAT HAVE WE LEARNED?

- Children are special and valued by all
- Young children do best with their parent(s)
- Medication doses vary for children: weight, organ function (newborns, premature), route
- Planning for outbreaks and disasters must include considerations for children



WHAT MORE DO WE NEED?

- Medical countermeasures for children: currently many are untested and unavailable in sizes and formulations suitable for young children, newborns
- Transportation, equipment, surge capacity – children are not just small adults
- Partnerships work: AAP, CDC, BARDA, DOD and the multitude of letters do better together



**Children Are Our Future
We must treat them well!**



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