Recovery from an Anthrax attack: Policy and Strategy Challenges
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Formerly

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- Advisor to Emergent Biosolutions
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Anthrax: Can it be done?

- Al Qaeda have stated their intent
- An attack on civilian targets is most likely
- Anthrax occurs naturally in many countries
- Western biosecurity standards do not apply
- Easy to grow up outside a laboratory
- Postgraduate expertise
- Can be easily disseminated
Anthrax: the Facts

- Spores - survive for many years
- Inhalation anthrax – respiratory symptoms
- Mortality – 95% if untreated
- Incubation period – 1 to 7 days
- Post exposure treatment – ciprofloxacin
- Time window – 48 hours
- Stockpiles + distribution
Anthrax Numbers

• A one litre culture vessel can produce enough to infect 10,000 people even if the efficiency of dispersion is only 1%
10,000 people
Implications

• This is just the beginning!
• Many more cases and deaths over the next days
• Covert attack – no scene of crime to go to - yet
• We do not know where the release occurred
• The area of contamination will be large, very large
• What is the role of the military?
Implications

• The airborne release must have occurred 24 to 48 hours ago
• Many people will have travelled to other countries
• The local population will have gone home and back to work twice
• Their clothes will be contaminated
• Transport will be contaminated
What do the public need?

• ANTIBIOTICS – Fast
  – How do we get them to the public

• INFORMATION – Rapidly, to make their own risk decisions
But!

- Many exercises performed.
- Who has done the day 5 onwards?
- Recovery is perhaps a more strategic goal.
- Decontamination is not the prime concern.
- Working in the contaminated environment is.
- Vaccines will be essential.
What this means

• External assistance will be required
• Coordination of the international response will be necessary
• Information to the public will be key
• Confident and calm military support will be a key factor
The Challenges

- Should borders be closed?
- Should transport hubs be shut down – if so, for how long?
- How do we decontaminate transport?
- The environment cannot be decontaminated
- How do the public decontaminate themselves
- Anthrax vaccine is essential
The Military Role

- Minimising the impact of civil unrest
- Logistics and protection of antibiotic delivery to the population
- Enabling a fast recovery
- How do you protect your forces?
- Access to vaccines will be essential
The Policy Change Required

- Complete decontamination is impossible
- Post dissemination minimal risk of inhalation
- The remaining risk is of cutaneous anthrax
- Prevented by vaccination
- Treatable with antibiotics
- Working in the contaminated zone is possible
Vaccines Available

• Emergent – Biothrax
  – Licensed in the US
  – Licensed in Germany - booster every 3 years
• UK anthrax vaccine
  – Licensed in the UK – booster every year
The Ideal Vaccine

• Initial dose to prime the immune system
  – Adjuvants - CPG
• Rapid response to a booster dose
• Delivered intranasally