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Professor Nigel Lightfoot CBE

Recovery from an Anthrax attack: Policy and Strategy Challenges

Professor Nigel Lightfoot CBE

Formerly

- Surgeon Commander Royal Navy
- Bioterrorism expert advisor to UK government
- Ministry of Defence Advisory Committee on MCMs
- Director of Emergency Response HPA
- Responsible for pandemic planning
- UK Chief Advisor to the Global Health Security Initiative (G7)

Currently

- Advisor to Emergent Biosolutions
- Advisor to global companies on risk management
- Executive Director CORDS
- Fellow at Chatham House Policy Think Tank

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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

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Emergency Response & Preparedness

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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

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Anthrax Numbers

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

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10,000 people

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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?

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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

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What do the public need?

- ANTIBIOTICS – Fast
  - How do we get them to the public
- INFORMATION – Rapidly, to make their own risk decisions

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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.

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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

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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

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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

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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

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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

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The Ideal Vaccine

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

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