Assessing the Proliferation of Smallpox

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Threat of Smallpox Attack: “Low Probability, High Consequence”?  

• The debate is focused on the consequences of a smallpox attack:  
  – How many people could die from an attack?  
  – How contagious is smallpox?  
  – How effective are different vaccination strategies?  
  – What are the side-effects of the vaccine?  

• Assessments of probability of attack are absent
Assessing Probability of Smallpox Attack

• The more nations that possess the virus, the higher the likelihood that smallpox will be used as a weapon, stolen, transferred to terrorists, or released accidentally.

• Nations with regimes hostile to the United States and history of state-sponsored terrorism are more worrisome.
Availability of Smallpox Virus

• Last naturally-occurring case in 1977; smallpox virus no longer exists in nature

• Officially located only at CDC in U.S. and State Research Center of Virology and Biotechnology (Vector) in Russia

• 14 nations alleged to possess smallpox today
Estimated Proliferation of Smallpox

- China
- Cuba
- France
- India
- Iran
- Iraq
- Israel
- Libya
- North Korea
- Pakistan
- Russia
- Syria
- Taiwan
- Yugoslavia (Serbia)

Sources: Wendy Orent, Richard Preston, Jonathan Tucker, Ken Alibek, CIA
Proliferation Routes

- **BW Program**: Retained virus after local and global eradication for use in BW program

- **Bioprospecting**: Acquired covertly from another country after local eradication but prior to global eradication

- **Inadvertent**: Accidental retention of virus after global eradication and appropriated for BW program

- **Theft or Transfer**: From depository or illegal stockpile to another country or to a terrorist group
Proliferation Assessment Framework

- **Possible**: Country had access to variola virus while engaged in BW program
- **Uncertain**: Country initiated BW program shortly after last recorded access to variola virus
- **Unlikely**: Country initiated BW program well after last recorded access to variola virus or after global eradication
- **Unknown**: Existence and/or duration of BW program unknown
Smallpox Proliferation Assessment

• **Possible**
  – China
  – Israel
  – North Korea
  – Russia

• **Uncertain**
  – Egypt
  – Iraq

• **Unlikely**
  – Cuba
  – France
  – Iran
  – Libya
  – South Africa
  – Syria
  – Taiwan

• **Unknown**
  – India
  – Pakistan
  – Serbia
Summary

• Variola virus not located only in two official depositories

• Proliferation of smallpox less widespread than popular estimates but more widespread than official estimates

• Only 1 hostile regime believed to possess variola virus: North Korea
Policy Recommendations

• More Information
  – Evidence of Possession Made Public
  – Security Clearances for Members of ACIP and IOM

• More Time
  – Iraq No Longer Threat
  – Complete Evaluation of Phase I
  – Delay Implementation of Phase II