

The Historical Pedigree and Relevance of Suicide 'Martyr' Bio-Terrorism

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Abstract

The history of warfare is terrible in its brutal nature, but is insightful in the lucid education it offers both terrorist operatives and counter-terrorism experts alike. History illustrates that both the terrorist and counter-terrorism expert read from the same pages of history. Yet more effort must be made to use such knowledge towards a constructive threat analysis of biological weapons and suicide terrorism. After examining the history of biological warfare, and examining scientific aspects of biological weapons, this report blends the use of 'biological terrorism' with a means the delivery by a 'suicide terrorist'. A complex 'piggyback' attack by a suicide terrorist using both the 'plague' and 'smallpox' illustrates how difficult the containment of an orchestrated outbreak would be. Only through predicting the means and potential of a *complex* threats can anti-terrorism and counter-terrorism initiatives mitigate the horror.

Introduction

Around the world, security and intelligence disciplines are facing new challenges since the end of the Cold War. Symmetrical threats between super-powers are no longer foremost in the minds of world leaders, rather the asymmetric threat posed by terrorism is the issue of greatest concern to global security. Nation states are seeking to contain the threat of terrorism through preventing terrorists acquiring weapons of mass destruction (WMD). Failing this, nations seek to prevent the effective delivery of a WMD attack.

Efforts must be made to clearly understand and disseminate knowledge of the history of biological weapons, of suicide terrorism, and scientific aspects of biological weapons amongst emergency response planners, and those at the coal face – hospital staff and physicians in all fields. Only then can complex scenarios be developed that accurately depict the terrible potential of terrorism and develop containment strategies. This report finds that a suicide terrorist – a martyr for their belief, could employ a biological weapons attack where both the plague and smallpox (piggybacking) is used. Only through recognising such a threat, can the international community engage in an informed debate on methods to respond to the suicide ‘martyr’ bio-terrorist.

A Background to Biological Weapons

Military legends like Alexander the Great, Hannibal and Julius Caesar, all knew of the merits of biological warfare to break the morale and take the lives of opposing armies. Early methods of biological warfare included the dipping of arrows in snake venom, putrefied human blood, faeces, or immersing an arrow in a toxin derived from the black or white hellebore plant. In 1449, Caterina Sforza attempted to assassinate Pope Alexander VI (1431-1503).¹ She prepared a sealed box to transport letters to the pope and the letters therein were wrapped in the bandages of plague victims.² Another example is the Great Plague of AD 65-80, which is thought to have begun when an invading Roman soldier opened a chest in the Temple of Apollo in Babylon and allowed the plague to escape.³ This ploy operated as a scorched-earth tactic, leaving contaminated loot for the invading force.

The logic behind the use of biological warfare in the ancient world, as it is today, is in its insidious effectiveness at intensifying suffering beyond the levels resulting from conventional warfare. Thereby, aside from biological warfare's effectiveness at causing death, it also serves the purpose of destroying the morale of an opponent's army and provides a 'deterrent' to the waging of war against an opponent possessing biological weapons. The convenience in using biological weapons is that nature has already done much of the necessary development to achieve an inhumane method of destroying an enemy.

Today, as in the ancient world, the disadvantages of using biological warfare remain relatively unaltered. Aside from some legal implications that did not exist in the ancient world, unleashing a bio-weapon remains a liability for *all* involved.⁴ Wind-patterns, air temperature, rain and the presence of ultraviolet light can affect both the mortality rate of a bio-terror attack and the life span of the bio-organism.⁵ Unlike conventional warfare, a reliance on the luck of weather is a logistical problem for both the terrorist in

ensuring maximum casualties, and the victim state or region in guarding against a bio-terror attack.

Whilst a victim state can generally regulate and monitor the use of crop-dusters over open-roofed stadiums, it remains impossible to regulate the wind blowing across the top of the stadium.

Wind carrying a bio-agent released two kilometers away is exceptionally difficult to take counter-measures against, yet this uncertainty cuts both ways, for if the wind-speed dies down, the attack could be a non-event, and the potential for containment of the bio-weapon is greatly improved. Of course, *if* the operative releasing a bio-weapon is a suicide ‘martyr’ operative – a person willing to sacrifice their life, who will create the right conditions for a targeted attack, then the chance of a successful attack is greater.

Adrienne Mayor’s research on biological warfare in the ancient world talks of the use of ‘smallpox martyrs’ and ‘poison maidens’.⁶ Poison maidens, according to legend were sent to assassinate Alexander the Great and his commanders.⁷ Myth has it that Aristotle foiled the plot. A factual example occurred during the Naples Campaign of 1494, where the Spanish chased beautiful, infectious ‘poison prostitutes’ into the French army camp to infect the French army.⁸ Thereby, biological ruses using contaminated humans to counter strong military powers have an ancient and terrifying pedigree in both legend and fact.

Ruses of war such as employing trickery to deliver an attack are often considered to be immoral and cowardly by their victims. In the minds of those who employ them, such ruses are clever and necessary to achieve their endgame. After all, history recalls the use of the Trojan Horse as a tactic of military genius, despite the trickery involved. For this reason, the search for global security and the necessary threat analysis entailed therein requires an approach unlimited by our own philosophical aversion to biological weapons. It is necessary to look at all the means available to all adversaries.

Defining the Bio-Terror Threat

Biological terrorism can loosely be categorised based on the agent used. First there is the category of “bio-toxins”. Biological toxins are poisons produced by living organisms. Examples include botulinum, staphylococcus enterotoxin aflatoxin and shigella toxin. A bio-toxin consists of an amino-acid chain of several hundred peptides to several thousands proteins. Some organic compounds, which are not peptides, can however, also be classed as toxins. Gorka and Sullivan make the point that in nature, bacteria, fungi, algae, plants and animals produce a substantial range of toxins with a potential to be more lethal than the greater magnitude of nerve agents.⁹ Moreover, type-A botulinal toxin (BTX), with a mean lethal dose estimated to be as low as a few tenths of a microgram, has been described as “the most lethal substance known”.¹⁰ BTX could surpass the lethality of a nuclear explosion in terms of the number of casualties.¹¹

The second category is the “virus threat”. Examples include smallpox, influenza, dengue fever, yellow fever, Rift Valley fever, and hemorrhagic fevers like lassa, ebola and marbug.¹² Smallpox spreads directly from person to person, primarily by droplet nuclei expelled from the oropharynx (the space beneath the mouth cavity) of the infected person or can be disseminated by aerosol spray. Natural infection occurs following implantation of the virus on the oropharyngeal or respiratory mucosa. Exposure to smallpox could therefore occur through inhalation of an aerosol or exposure to droplets through a “suicide carrier”.

Smallpox symptoms include fever, vomiting, headache and backache. After two to four days, skin lesions appear.¹³ Smallpox is thought to be fatal in thirty percent of people who have never been vaccinated. This risk is further exacerbated by the fact that medical practitioners can easily mistake smallpox for chicken pox.¹⁴ Persons with smallpox are not infectious during the incubation period, they are most infectious during the first week of severe illness and this is when the largest amount of virus is present in saliva. This non-contagious period explains the effectiveness of the containment of cases during the global eradication

program. Importantly, post exposure vaccination can prevent smallpox even after exposure to the virus. In the twentieth century, naturally occurring smallpox killed around 300 million people.¹⁵

The third category of bio-threat is “bacteria” which includes anthrax, plague, cholera, brucellosis, typhoid fever, tularemia and rickettsial agents like typhus, Rocky Mountain spotted fever and Q-fever. Brucellosis (Crimean – fever is a form) is delivered through inhalation of aerosols, or ingestion via sabotage of the food supply.¹⁶ Cholera is contracted by ingesting contaminated food or water. Glanders and Melioidosis are delivered by inhalation of aerosols. Tularemia is delivered through inhalation or ingestion of aerosols or contact with a tick or other tularemia-infected arthropod or animal.¹⁷ Q-fever is delivered by inhalation of aerosol or ingestion.

Democracies, even in the broad definition of the term, are poorly organised to prevent a suicide bio-terrorist from entering a public space, such as an airport, stadium, school, or shopping mall and spreading a biological weapon before the symptoms become apparent. Social freedoms can be exploited to the advantage of a suicide bio-terrorist. In a suicide ‘martyr’ scenario – an operative willing to sacrifice their life for their vehement belief, is used demonstrate my scenario developed in the next paragraph. It is comprised of: (i) a bacteria threat (pneumonic plague) as an initiator; is piggybacked with (ii) a virus threat (smallpox); (iii) targets a democracy, and: (iv), it involved uses suicide terrorists.

Developing a Suicide Martyr’s Scenario

The clandestine suicide operative

Modern suicide operatives are difficult to profile. Suicide bombers can be young, middle-aged or elderly, any gender, married or unmarried, and some are parents. In Palestine for example, the male *shaheed* (martyrs) have been known to wear green Israeli military fatigues, or be dressed as *haredim* (ultra-

Orthodox Jews), complete with *yarmulkes* and *tzitzit* - the garb that devout Jews display as part of their everyday clothing. Suicide bombers need only locate an effective biological weapon.

Plague (bubonic, pneumonic, septicemic)

Currently there is no widely available 'rapid' confirmation diagnosis test to identify the plague.¹⁸

Confirmatory tests can be done through blood and sputum (if pneumonic), bubo aspirates (if bubonic), and central spinal fluid (if meningitis occurs). Antibiotics are an effective treatment, however waiting for laboratory results before starting the treatment is, according to Weintraud, effectively a death sentence.¹⁹

The bubonic plague is contracted through the bite from a flea or through handling infected animals. Thus the bubonic plague is not very practical for suicide bio-terrorism. The pneumonic plague is widely considered to be a more practical option. Yet for suicide bio-terrorism, this remains somewhat impractical as those suffering from pneumonic plague are visibly sick within one to six days and thus can quickly be identified and removed from the community. This is not to suggest that forms of the plague would not cause havoc and a considerable number of deaths.

A suicide terrorist infected with the pneumonic plague terrorist would not look out of place in a hospital ward or a physician's surgery, whilst he or she spread the plague. The suicide pneumonic plague carrier would not be seeking to be diagnosed with the plague but would be relying on the "flu-like symptoms" to remain undiagnosed as a pneumonic plague carrier. The terrorist may also stay long enough to spread the plague, but leave before the physician examines them. It is often assumed that the "visible sickness" of the plague-infected terrorist would make plague-based bio-terrorism easily detected, but spreading the pneumonic plague at hospitals makes its symptoms less suspicious than coughing heavily on trains, in the workplace or in foyers of Congress or Parliament.

Terrorists' Ability to Acquire Plague

Experts in biological terrorism consider the plague a serious threat. Not only is it highly fatal and contagious, it is also stored in microbe banks around the world.²⁰ In the 1950s and 1960s there were many institutions and thousands of scientists studying variants of the plague. It thus remains probable that this expertise could be purchased at any time, given the level of poverty, for example, in the former Soviet Bloc countries.²¹ Terrorist networks could acquire the plague with minimal effort, and even if aerosolising equipment could not be acquired, havoc would still result.

In May 1995, Larry Wayne Harris, an anti-government "Christian Patriot" and former member of the Aryan Nation, a neo-Nazi organization, ordered samples of *Yersinia pestis*, from the American Type Culture Collection.²² Harris, a microbiologist, said he feared an "imminent invasion from Iraq of super-germ-carrying mice", and planned to do research for a "plague antidote".

Reports claim that despite the improved security after the Harris incident, acquiring of samples of the plague is still a relatively easy task, especially in the former USSR.²³ Alternatively, there are still legitimate outbreaks of the plague. Whilst writing this report, in July 2004, the United Nations Office for the Coordination of Humanitarian Affairs reported a plague outbreak in the Turkmen province of Dashoguz in Turkmenistan (which borders Uzbekistan).²⁴ A suicide martyr or suicide cell need only visit the region to be infected by the plague bacteria.

Terrorists' Ability to Acquire Smallpox

Intelligence agencies and international relations scholars are concerned that Russian researchers of the former Biopreparat, many whom have are unemployed since the 1990s, and feel disenfranchised, could be tempted to smuggle and sell smallpox to those terrorist groups with the financial resources and

microbiological expertise to use it, or further weaponise it.²⁵ Marvin Cetron, president of Forecasting International Ltd, a risk assessment company working with both the US Defense Department and the FBI, has stated, "I think the chance is about eighty percent of terrorists obtaining smallpox..."²⁶. Thereby, in the opinion of several experts, the potential for a serious smallpox attack is frightening feasible.

States' Ability to Counter with Vaccinations and Containment

Australia can illustrate the potential problems with the containment of biological outbreaks. Routine vaccination against smallpox was introduced in that country in 1917, because of an epidemic in one of its states.²⁷ However, by the 1950s, in most parts of Australia, vaccination was only mandatory for people traveling overseas or for medical students, nurses and others at potentially greater risk of exposure.²⁸

Vaccination was no longer required for *any* Australian following global eradication of smallpox in the 1970s. The World Health Organization (WHO) reported that the last smallpox death occurred in 1977 and announced worldwide eradication in 1979. As a result, most countries ceased vaccination against smallpox decades ago. As a result, the Dark Winter exercise which was conducted on 22-23 June, 2001 at Andrew Air Force Base (US), illustrates to some degree how vulnerable U.S. citizens are to a covert smallpox attack.²⁹ This finding is very serious as the Dark Winter exercise was conservative in the narrow scope of the smallpox threat it was responding to. Unlike the suicide martyr scenario developed below, hospitals were not 'targeted' and no 'piggyback' strategies were employed.

Testing the Suicide Martyr Scenario

In this scenario, two "suicide pneumonic plague infected terrorists" strategically target doctors' offices (in winter) to obtain a medical certificate to explain their absence from work. (They could even leave before seeing the physician). They blend in with people suffering flu symptoms in the waiting room, but they are already effectively spreading the pneumonic plague amongst staff and patients. A terrorist organisation

claims responsibility for the plague outbreak. Citizens are too terrified to seek medical attention, as they are now aware that medical facilities have been targeted. This is when the second stage of the bio-terror attack occurs. Smallpox is delivered to the target city through either aerosolized delivery, or through an infected set of suicide terrorists passing on smallpox through exhaled droplets.

Mass terror is created by the paradox that smallpox needs to be contained and treated, yet the mass plague (and smallpox) infection of patients and staff at hospitals causes citizens to stay away from medical facilities. A radio-talk-back host ponders on-air whether by attending the doctor to get checked for the flu, or vaccinated for smallpox, you may acquire both the pneumonic plague and smallpox before the vaccination takes effect. Large segments of the community avoid medical treatment. The strain placed on the infrastructure of the city brings it to a halt: planes do not arrive or leave, police at roadblocks turn back fleeing residents, and the “terror” caused by the bio-terror attack is unmatched by any previously experienced health catastrophe. The economy is brought to a standstill and the bio-terrorists now have political influence as they have demonstrated their capacity to inflict terror.

Worse still, a rumor circulates that the smallpox is a weaponised variant from the former USSR, for which there is no vaccine. Thus the containment of infected people proves to be impossible even though WHO vaccines arrive quickly. There are not enough respirator masks to go around.

Conclusion

The suicide ‘martyr’ scenario posed in this report is logically feasible, albeit requiring more planning and resources than a suicide martyr using a grenade. The ‘martyr’ scenario has a potential to inflict greater death and terror than the simulated “Dark Winter” bio-terrorism exercise, given the piggyback strategy employed in the suicide ‘martyr’ scenario. Worse still, if the scenario introduces smallpox of a

weaponised variant, this variant may render the existing WHO smallpox vaccine ineffective, no matter how quickly the vaccine is administered.

For the disciplines of intelligence, security and emergency response, the Dark Winter scenario is a useful means to gain an insight to mitigating the horror of a biological outbreak. Yet the Dark Winter scenario was modeled at the safer end of the biological outbreak scale, it did not employ a multifaceted approach to biological terrorism.

The Suicide ‘Martyr’ Scenario demonstrates that the potential for the containment of a biological outbreak is influenced by the means of delivery and also the venues targeted. Once a serious biological outbreak has occurred, the existing infrastructure of a democracy could not easily cope with Dark Winter, and would thus fail to respond to the more complex scenario detailed in this article. Improvements can however be made, they will ultimately include research into rapid confirmation tests for the plague and smallpox, the development of anti-viral drugs, bio-chemical awareness training for all physicians and hospital staff, and anti-terrorist initiatives aimed at preventing ‘conversions’ to militant organisations.

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- The Dark Winter exercise portrayed a fictional scenario depicting a covert smallpox attack on U.S. citizens. The scenario is set in three successive National Security Council (NSC) meetings (Segments 1, 2 and 3) which take place over a period of 14 days. Former senior government officials played the roles of NSC members responding to the evolving epidemic; representatives from the media were among the observers of these mock NSC meetings and played journalists during the scenario's press conferences. The exercise itself was held at Andrews Air Force Base, Washington, D.C. on June 22-23, 2001. The Dark Winter exercise was the collaborative effort of four organisations. *John Hamre* of the Center for Strategic and International Studies (CSIS) initiated and conceived of an exercise wherein senior former officials would respond to a bioterrorist induced national security crisis. *Tara O'Toole* and *Tom Inglesby* of the Johns Hopkins Center for Civilian Biodefense Studies and *Randy Larsen* and *Mark DeMier* of Analytic-Services Inc. (ANSER) were the principal designers, and controllers of Dark Winter. *Sue Reingold* of CSIS managed administrative and logistical arrangements. *General Dennis Reimer* of the Memorial Institute for the Prevention of Terrorism provided funding for Dark Winter.