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Cybercrime**

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**Terrorism and Targeting People,
Healthcare Systems and the Effect on
National Security During the COVID 19
Pandemic**

Max Kilger, Department of Information Systems
and Cyber Security

Strategic Environment Attacks on Critical Infrastructure

Nation State Actors Amid Covid-19

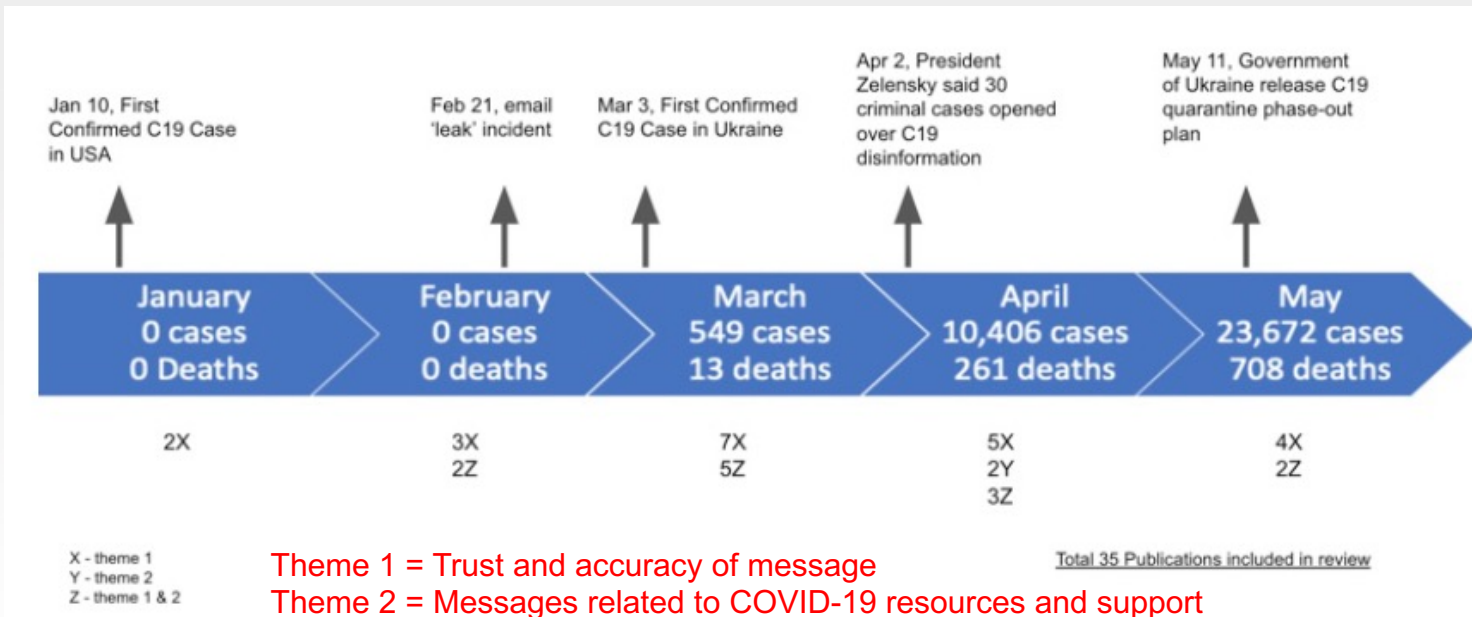
- Sowing discord, anguish, fear and confusion more efficient and effective in the Covid-19 pandemic environment
- The pandemic has driven typical nation state actors Russia and China into what Papageorgiou and Vieira (2021) call an “axis of convenience”



Papageorgiou, M. M., & Vieira, A. (2021). A Friend in Need? The Sino-Russian Relationship Under the Coronavirus Crisis in Twitter: a Russian Perspective. *East Asia*, 1-23..

Nation State Actors Amid Covid-19

In addition to its normal hybrid warfare campaign, Russia has deployed additional Covid-19 disinformation campaigns against the Ukraine (Patel et al, 2020).



Patel, S., Moncayo, O. E., Conroy, K., Jordan, D., & Erickson, T. (2020). The landscape of disinformation on health crisis communication during the COVID-19 pandemic in Ukraine: hybrid warfare tactics, fake media news and review of evidence.

Covid-19, Terrorism and Attacks on Healthcare Systems

Terrorism and Covid-19

- Increased attacks and data breaches during the pandemic period (Pranggono and Arrabo, 2020)
- Pandemic has created significantly more public attention and stress on a large number of critical infrastructure components that already exist or arise out of government action
- Pandemic has produced opportunities for terrorist groups to escalate their activities beyond their traditional trade of online disinformation.



Pranggono, B., & Arabo, A. (2021). COVID-19 pandemic cybersecurity issues. *Internet Technology Letters*, 4(2), e247.

Terrorism and Covid-19

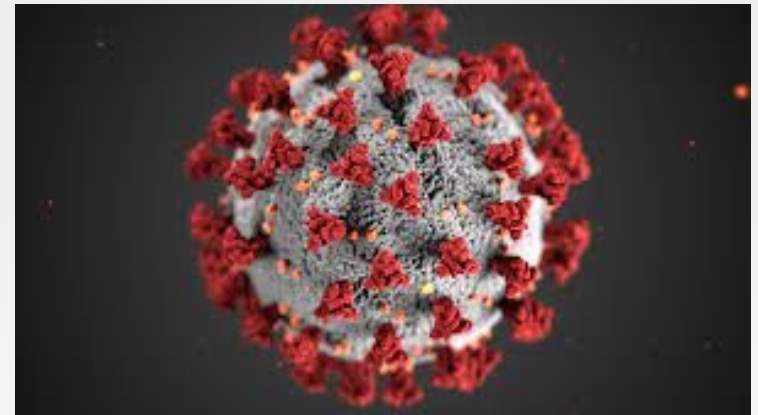
- Kilger (2016) argues that a suitable definition of a terrorist attack is “an event or threat of an event that targets a specific population with the purpose of causing fear and terror in that target population”.
- Given that ransomware attacks on hospitals likely cause fear and terror for the resident patients at the hospital, their family and friends, there is some case to be made for labeling these specific types of ransomware attacks on hospitals and other healthcare centers as terrorist events.



Kilger, M. (2016). Evaluating Technologies as Criminal Tools. In M. McGuire and T. Holt (Eds.), *The Handbook of Technology, Crime and Justice*. New York, New York: Routledge.

Covid-19 Environmental Pressures on Healthcare Systems

- Over capacity ICU wards
- Chaos involved in creating separate Covid wards
- Increased general healthcare system loads
- Lack of information about the nature of the covid-19 virus



Covid-19 Environmental Pressures on Healthcare Research

- Incentives to compromise Covid research
 - Theft of intellectual property related to Covid-19 tests and vaccines (Muthuppalaniappan and Stevenson, 2021)
 - Increased incentives by medical research facilities to pay ransomware demands
 - Significantly increased opportunities to generate fear, anxiety and chaos in another nation state's healthcare research infrastructure



Muthuppalaniappan, M., & Stevenson, K. (2021). Healthcare cyber-attacks and the COVID-19 pandemic: an urgent threat to global health. *International Journal for Quality in Health Care*, 33(1), mzaa117.

Terrorist Pandemic Opportunity Vectors

- Terrorist strategies
 - Contamination of research test data
 - Manipulation of public health records
 - Significantly increased opportunities to generate fear, anxiety and chaos in another nation state's healthcare research infrastructure



Terrorist Pandemic Opportunity Vectors

- Terrorist strategies
 - Significantly increased opportunities to generate fear, anxiety, distrust and chaos in another nation state's healthcare research infrastructure
 - Corruption of research test data
 - Manipulation of public health records
 - Exaggerate hospitalization and death statistics
 - Downsize epidemiological statistics to conflict with local real world experience



For example, see Kilger, M. Terrorism and Targeting People, Healthcare Systems and the Effect on National Security During the COVID 19 Pandemic. In Zlatogor Minchev (Eds.), Digital Transformation in the Post Informational Age. Sophia: Institute of ICT, Bulgarian Academy of Sciences & Softtrade Publishing House.

Terrorist Pandemic Opportunity Vectors

- Terrorist strategies (more)
 - Vaccination records
 - Easy to forge paper records for money
 - Forge digital vaccination certificates (Georgoulas et al, 2021)
 - Manipulation or corruption of vaccination databases



Georgoulas, D., Pedersen, J. M., Falch, M., & Vasilomanolakis, E. (2021). COVID-19 vaccination certificates in the Darkweb. arXiv preprint arXiv:2111.12472.

Terrorist Pandemic Opportunity Vectors

- Terrorist and nation state health disinformation strategies
 - Many health precaution disinformation campaigns led by nation states (Drugă, 2020; Kwiat, 2020)
 - Negatively affect preventative healthcare behaviors and enhance health fears, anxiety and discord (Alexander and Jaffer, 2021)



Drugă, D. (2020). Digital Disinformation In The Context Of Covid-19 And The Impact On Global Public Health. In International Scientific Conference Strategies XXI (p. 62).

Kwiat, M. (2020). Pandemics, Grey Zone Warfare, and (Inter) National Security. *Israel Journal of Foreign Affairs*, 14(2), 259-274

Alexander, K. B., & Jaffer, J. N. (2021). COVID-19 and the Cyber Challenge. *The Cyber Defense Review*, 6(2), 17-28.

Terrorist Pandemic Opportunity Vectors

- Not everyone is affected equally by Covid-19 related disinformation
 - Level of emotional impact associated with self-other discrepancies (Liu et al, 2020)
 - For example, if an individual has close friends for whom they think the disinformation will have a large impact then the disinformation will have a lesser impact on that individual



Liu, P. L., & Huang, L. V. (2020). Digital disinformation about COVID-19 and the third-person effect: examining the channel differences and negative emotional outcomes. *Cyberpsychology, Behavior, and Social Networking*, 23(11), 789-793.

Terrorist Perspective on Covid-19 Pandemic

- Creates a favorable environment for terrorist activities
 - Terrorist groups thrive and excel in adverse environments such as those generated by the Covid-19 pandemic (Basit, 2020)
 - Basit (2020) posits that the pandemic is seen by terrorist and extremist groups as retribution against the West for anti-Islamic policies and activities



Basit, A. (2020). The COVID-19 Pandemic. *Counter Terrorist Trends and Analyses*, 12(3), 7-12.

Terrorist Perspective on Covid-19 Pandemic

- Creates a favorable environment for terrorist activities
 - Pandemic has motivated terrorist groups to reshape their social media content to “produce negative states of mind and grievances associated to a sense of injustice, that tend to underlie various forms of violent extremism.” (Marone, 2021)



Marone, F. (2021). Hate in the time of coronavirus: exploring the impact of the COVID-19 pandemic on violent extremism and terrorism in the West. *Security Journal*, 1-21.

COVID 19 Pandemic in the Broader Perspective of Security, Terrorism and BioCyber Warfare

The Synergy of the Covid-19 Pandemic and Terrorism as a National Security Issue

“Rather than becoming a healthcare issue or an information security issue, nation state as well as terrorist organization attempts on healthcare systems become national security issues that may attempt to destabilize the national institutions of another nation state.

The presence of a national or global crisis can be a natural force multiplier in the consequences of the effects of malicious cyber actors operating against the best interests of a nation state.”



Kilger, M. Terrorism and Targeting People, Healthcare Systems and the Effect on National Security During the COVID 19 Pandemic. In Zlatogor Minchev (Eds.), Digital Transformation in the Post Informational Age. Sophia: Institute of ICT, Bulgarian Academy of Sciences & Softrade Publishing House.

The Synergy of the Covid-19 Pandemic and Terrorism as a National Security Issue

- Creates a favorable environment for extremist activities
 - Burchill (2020) suggests that crises such as the Covid-19 pandemic reinforce the power of extremists as the pandemic functions as a dynamic that strengthens the definition and boundaries of extremist groups as in-group and the government as out-group.



Burchill, R. (2020). Extremism in the Time of COVID-19. Bussola Research Paper, (6).

The Synergy of the Covid-19 Pandemic and Terrorism as a National Security Issue

- Potential tactics
 - It is not inconceivable that given the current COVID 19 pandemic crisis that individuals within these organizations might think of strategies to technically weaponize infectious COVID vectors on a large scale that could be used to expose a large number of individuals in larger scale venues
 - Concept of martyr = send infected individuals out to public venues to spread the COVID 19 virus among members of the general population, perhaps even to large public events if the current pandemic restrictions allow such events to occur.



Kilger, M. Terrorism and Targeting People, Healthcare Systems and the Effect on National Security During the COVID 19 Pandemic. In Zlatogor Minchev (Eds.), Digital Transformation in the Post Informational Age. Sophia: Institute of ICT, Bulgarian Academy of Sciences & Softtrade Publishing House.

The Concept of Cyber-Bio Warfare

- Bernard et al (2021) suggest the malicious and synergistic combination of biological threat and digital technology be labeled “cyber-bio warfare”
- Utilizes cyber as a key component of the conflict is to pursue traditional bioterrorism goals without direct manipulation of the infection agent but rather utilize the cyberdomain to undermine sociopolitical infrastructures by “virtually escalating: natural outbreaks of disease”



Bernard, R., Bowsher, G., Sullivan, R., & Gibson-Fall, F. (2021). Disinformation and epidemics: Anticipating the next phase of biowarfare. *Health security*, 19(1), 3-12.

The Concept of Cyber-Bio Warfare

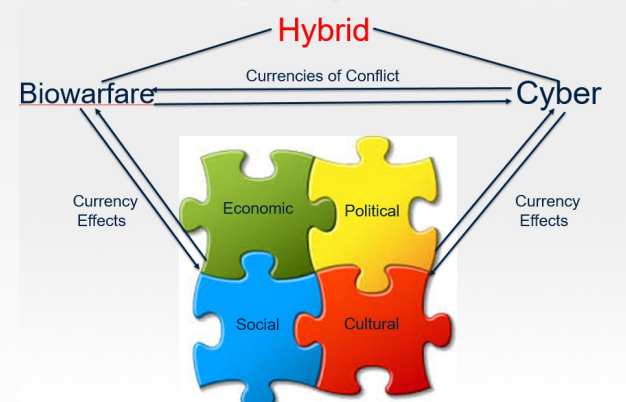
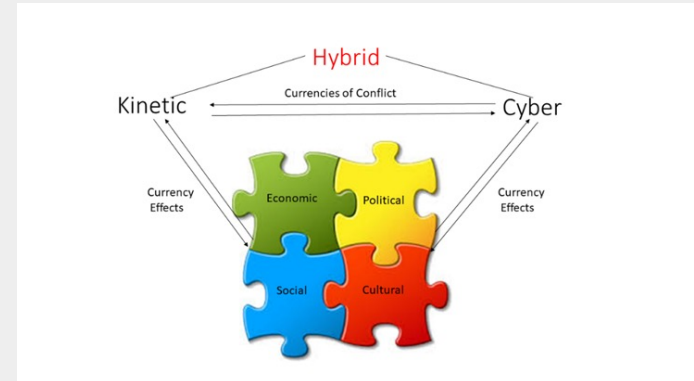
- Schier (2021) suggests that this should be a wake up call for policy makers and national security experts that there are serious synergistic effects when mixing cyber threats with other more traditional forms of warfare and that we must develop the capability to predict how our adversaries might take advantage of these synergies.



Schrier, R. (2021). COVID-19 and Cyber–Foreshadowing Future Non-Kinetic Hybrid Warfare. *The Cyber Defense Review*, 6(2), 29-38.

Currencies of Conflict

- Kilger (in press) suggests that understanding synergies and equivalencies of different forms of conflict in how they affect political, economic, social and cultural systems are critical elements in avoiding miscalculations in conflict and warfare.



Kilger, M. Strategic Complexities of Kinetic-Cyber Relationships in Conflict. In Itamara Lochard (Eds.), Information-Related Hybrid Threats in SE Europe (pp. 12). Brussels: NATO. (In Press)

Summary



Thematic Objectives

- Develop a better understanding of how the Covid-19 pandemic has created an favorable environment for nation state and terrorist actors in which to operate
- Learn about how a vector of opportunities for terrorism has emerged from the Covid-19 pandemic
- Examined some of the details of these pandemic spawned opportunities for terrorism
- Discussed how synergies between the Covid-19 pandemic and terrorism present national security challenges in the form of the adoption by extremist groups
- Understand the important concept of cyber-bio warfare and the threats that it entails
- Conceptualize synergies between different types of conflict (cyber, bio and kinetic) and the importance of examining these synergies and using concepts like Currencies of Conflict to better understand their potential equivalencies in avoiding serious miscalculations in warfare



Contact: max.kilger@utsa.edu

For a more comprehensive perspective on this topic, see
Kilger, M. Terrorism and Targeting People, Healthcare Systems and the Effect on National Security During the
COVID 19 Pandemic. In Zlatogor Minchev (Eds.), Digital Transformation in the Post Informational Age. Sophia:
Institute of ICT, Bulgarian Academy of Sciences & Softrade Publishing House.