Solving Wicked Global Health Problems: Leadership, Networks, and Inter-agency Collaboration

COL Roberto N. Nang, MD, MPH, MSS

Joint Medical Chair for Global Health at National Defense University and Adjunct Professor of Global Health at USUHS
Disclosures

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Learning Objectives:

At the conclusion of this activity, the participant will be able to:

1. Understand how modern society has brought about the rise of megacities, improving efficiencies and comforts but also creating tremendous interdependencies and vulnerabilities.

2. Describe and explain how VUCA environments create complex strategic/global health problems that are akin to “Wicked Problems.”

3. Describe and explain the characteristics of a wicked problem.

4. Understand and analyze the best ways to address and solve wicked strategic/global health problems through leadership, medical and non-medical competencies, networks, and inter-agency collaboration.
Introduction: The environment that we live in today
- Urbanization and Megacities: more interconnected than ever before, leading to vulnerabilities
- VUCA and the problem of the Black Swan (from Taleb)
- Strategic and Global Health Problems
- Wicked Problems

Keys to Addressing These Challenging Problems
- Leadership
- Competencies: Medical and Non-Medical
- Networks
- Inter-Agency Collaboration

The Mission of National Defense University and the Joint Medical Chair for Global Health
Concentration of megacities in Asia
Cities with at least 10 million inhabitants

Source: UN Population Division, 2005
Urbanization and the Rise of Megacities

• Megacities’ attraction for individuals and organizations
  – Increased efficiencies in public delivery of goods and services
  – More education and employment opportunities, and creates need for specialized skills
  – Increased comforts and access to leisure activities
  – Major hubs for transportation, industries and trade, goods and services, banking and finance, education, entertainment, governments, etc.
  – Increased opportunity for social mobility and economic opportunity

• Complexities of megacities and large populations create interdependencies
  – Major consumers of electricity, water, foods, materials
  – Creates garbage, sewage, and pollution (air, water, soil)
  – Continued growth can outgrow infrastructure and capabilities for essential services (traffic jams, smog, blackouts, crime, etc.)
The Environment that We Live In Today

- Modern megacities are more interconnected than ever before with cramped high rise buildings or ghettos/favelas, public transportation, and the internet and social media with its benefits and risks
  - The Internet, Smart Devices & Social Media
    - Great way to get news, information, social trends, entertainment, banking
    - Censored news (China & Russia); Misinformation (fear of measles vaccine); Arab Spring good but also brought the rise of ISIS; flash looting; hacking of PII & monetary accounts; terrorist recruiting & brain-washing; huge government databases collecting all sorts of information
  - Relatively affordable & quick public modes of transportation
    - People and goods move faster than ever before
    - Quicker movements of IDPs & EDPS; Infectious Dzs & contaminated goods and produce
  - Complexities and interdependencies can lead to major disruptions in the fabric of society
The Changing Unpredictable VUCA Environment

Global Firepower Rankings
1. USA
2. Russia
3. China
4. India
5. United Kingdom
6. France
7. South Korea
8. Germany
9. Japan
10. Turkey

Current World Popn: 7.3B
   (Worldometer)
2014: 54% live in urban areas
   increasing to 66% in 2050 (WB)

Over 50% live in coastal strip,
   ~200 miles wide (NOAA)

Impact of Global Warming?!
VUCA: Volatile Uncertain Complex Ambiguous

- VUCA: The environment that we live in today
  - The complexities and interdependencies of large populations make them vulnerable to major natural disasters or man-made major disruptive events (protests, riots and revolutions; earthquakes, flooding, hurricanes, fires; economic recessions and depressions; major terrorist attacks; industrial catastrophes, etc.)
  - The problem of the Black Swan (from Taleb)
    - We are blinded by our experiential history and poorly estimate the likely occurrence of Black Swan events even though they are well chronicled in history books and history websites.
    - Unfortunately, even though Black Swan events may be very very rare, given enough time, we should anticipate these rare events will take place.
    - Casinos count on the occurrence of these rare events to destroy your bankroll, why shouldn’t we do the same for S/GH Crises?!
The Problem of the Black Swan

- Taleb: Most people in the western world could never even fathom the thought of a black swan, because until explorers in Australia found black swans, all western experiences were of white swans

- Characteristics of a Black Swan event
  - Hard to predict/anticipate
  - Can have dire and devastating consequences
  - Experts after the event, provide explanations as to how they should have spotted the event, but not before the event happened. Then they say trust us, because we will anticipate the event in the future.
  - The problem is that with time, very rare events can & will happen
  - Taleb: To humans, eating turkey on Thanksgiving is a normal recurring event. To the turkey, it is a Black Swan event!
The problem is, over a long time, rare events can happen (casinos)
1. Who could have predicted Fukushima 2011? 9.0 Earthquake, 15 m Tsunami, Disruption of cooling, 3 core reactors melted
2. Hurricanes: 2005 Cat 5 Rita - New Orleans & Gulf Coast; 2011 Cat1 Sandy – NYC & NE
4. Deepwater Horizon Gulf Oil Spill: 20 Apr – 15 July 2010

- Origin – Probably in the 1330's in China
- Carried by Mongols through the Silk Route to the Black Sea
- Fleas on rats infected ship traders from the Black Sea who landed in Sicily in 1347
- Quick and terrible transmission – due to poor hygiene & rats
- From 1347-1352, over 25 million people in Europe died!
- Terrifying disease symptoms and high case fatality rate
  - Painful bubos, fever, weakness, pneumonia, death
  - [http://www.history.com/topics/black-death/videos/plague](http://www.history.com/topics/black-death/videos/plague)
- What happens when HC capacity is overrun? Would HCW stay?
- What happens when people panic and flee?
- What happens to transportation, food markets, trade, business, police/security, governance?
Bubonic Plague
1918 Pandemic Influenza

World War 1 (PBS documentary)
Total Mobilized Forces: 65 million; Killed: 8.5 million;
Wounded: 21.2 million; POW/Missing: 7.8 million;
Total Casualties: 37.5 million

1918-1919 Influenza (CDC Vol 12, Number 1, Jan 2006)
Estimated infected worldwide: 1/3 world population,
>500 M
Severe case fatality rate >2.5%, previously 0.1%
Total deaths: ~ 50 million!
Strategic and Global Health Challenges/Problems

- Many definitions
- Definition that I like:
  - An important or strategic health problem
  - That crosses and/or can cross borders
  - That is important not only for the health industry to address but also for political, military, economic/business, and other leaders to address
  - Has linkages to national security
  - Usually easier and cheaper to address earlier or pre-emptively versus later.
  - Remember, Taleb also points out that often, after the black swan event, you will see many experts (although they never predicted/anticipated the black swan event) will come up with retrospective analysis to show that “we should have foreseen these events and taken steps to prevent or mitigate them.”

-- Are we ready for a Flu Pandemic like that of 1917-1918?
-- How about other Strategic or Global Health Problems?
Who is in charge of anticipating and addressing these problems?
Elements of a Wicked Problem

• Problems go beyond the responsibilities and missions of agencies
  – Not my problem or jurisdiction; not my mission; not my lane

• Problems extend beyond an individual’s or an agency’s specialties
  – Not my expertise
  – We have no capabilities
  – Who wants to share important information? (Stovepipes)

• Complex problems
  – Arising from and residing in the VUCA environment
  – With 2nd and 3rd order effects; may not be easily anticipated
  – May be strategic & long term (climate change) or operational (counter-terrorism)
  – Is there any federally-codified enterprise leadership curriculum? (War Colleges and OPM’s FEI)

• Community of Interest and Enterprise Solution required
  – Create a Community of Interest to share information, personnel & capabilities to create an Enterprise Solution
  – Just as 9/11 was a wake-up call to the Intelligence agencies to come together, so too was the 2015 Ebola Crisis a wake-up call for the Health agencies.
Were our medical leaders meta-leaders?
Were our non-medical leaders meta leaders?
Keys to Solving Wicked Strategic / Global Health Problems

• Keys to Addressing These Challenging Problems
  – Leadership and enterprise solutions
  – Competencies: Medical and Non-Medical
  – Redundant Networks and Inter-Agency Collaboration

• Meta-Leadership working to create Relationships & Enterprise Solutions
  -- Agile leaders, willing to share the blame & the praise (egos aside)
  -- Willing to collaborate for the greater good vs. protecting their organization’s mission, funding, LOEs
  -- Not afraid to cede control to another person or agency
  -- Ever learning to improve their SME but also broadening their education & training beyond their SME
  -- Senior leaders creating institutions and programs that educate up-and-coming leaders to become meta-leaders
  -- Establishing relationships between formal/informal leaders & SMEs
Creating an Enterprise Solution

• Enterprise definition
  – Multiple organizations
  – Semi-autonomous or independent
  – Some overlapping goal or interest about the wicked problem
    • Discuss VP Biden’s descriptions of strange partnerships to counter ISIS

• Why we in the Federal Govt must act
  – Who does the public turn to when there is a wicked problem?
  – But the Fed Govt structure may not be nimble enough (slowly evolving structures; legal & political hurdles; austere budgets; elections changing leadership and priorities) to deal with the VUCA environment
  – So how can the Fed Govt act?

• Enterprise Solution required
  – Educating & developing Enterprise/Meta Leaders -- those who can bridge boundaries; develop networks; access not only formal leadership but informal leaders (top, down, sideways); articulate common interests & goals; understand
Medical and Non-Medical Competencies for Meta Leaders

• Medical Competencies
  – Achieve individual clinical/administrative competence and SME certification
    – Medicine, Surgery, Nursing, HC Administration, Environmental Health
  – Obtain education and training in Public Health and Global Health
    – Epidemiology, Biostatistics, Infection Control, Community Health Education,
      – Surveillance, General Preventive Medicine strategies, Occupational and Environmental Medicine, Hygiene and Safety
    – Public Health Ethics, Legal understanding of individual rights vs. the Public Health
    – Health Economics

• Non-medical competencies
  – Leadership and Management (Incident or Joint Task Force commands)
  – Strategic Communication, Risk Communication, Engagement of the Media
  – Social and Environmental determinants of disease; Culture and Organizational Climate
  – Micro and macro economics; Sustainability; Partnership and Capacity Building
  – Governance, Legitimacy, Rule of Law, Stability Operations
  – Anticipating, Planning, and Developing Operational Plans
  – Engineering, City Planning, Management of IDPs/EDPs, Immigration, Terrorism
  – Information Technology, Innovation, Social Media
Interagency Collaboration and Redundant Networks

• Interagency Collaboration
  – Establish communication, coordination, & collaboration on projects & education/training with other agencies
  – Promote professional and personal interactions to build professional and personal relationship between formal and informal leaders
  – Regularly meet in conferences or roundtable to discuss progress or setbacks with projects; Work together on desk-top exercises on possible Strat/Global Health crises
  – Provide opportunities for cross-organizational education, training, and internships

• Redundant Networks
  – Given the medical and non-medical SME and the enterprise solution required to solve Wicked Strategic/Global Health problems, it will be important to expand collaborative networks beyond our normal SME.
    – The medical community must create contacts with outside networks.
    – Political and military leaders, police and fire leaders, city planners, media organizations, the justice system, transportation experts, supply and logisticians must be educated about the linkages between health and their areas of concern beforehand, by linking to Public Health and Global Health networks and SMEs.

º The above coordinations and relationships for interagency collaboration and easy access to other networks must be in place BEFORE the next Strat/Global Health crisis!
MISSION: National Defense University (NDU) supports the joint warfighter by providing rigorous Joint Professional Military Education to members of the U.S. Armed Forces and select others in order to develop leaders that have the ability to operate and creatively think in an unpredictable and complex world.

PURPOSE: "Educating, Developing and Inspiring National Security Leaders"

THE JMC at NDU (in partnership with USUHS): The mission of the Joint Medical Chair for Global Health is to support the DoD and the ASD(HA) to anticipate and address strategic or global health (SGH) issues; inform and engage geo-politically that health is a national strategic imperative; expand GH networks; direct and coordinate the Interagency Health Leaders Group; improve inter-agency coordination and collaboration; educate and develop senior medical and non-medical leaders about SGH issues; improve the wellness and resiliency of DoD troops, dependent and civilian employees; direct, develop, and teach the Health Enterprise curriculum at NDU.
Strategic/Global Health Issues, the Black Swan and Tackling Wicked Government Problems

Hurricane Sandy hitting NJ, NY and New England States
Questions?

Short Comments?