

ORIGINAL RESEARCH

The neglected role of the military as a disease vector: Implications for Covid-19 and for global public health policy

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Abstract

Since the onset of the Covid-19 pandemic, mass testing, contact tracing, isolation of confirmed cases and varying degrees of restriction on population movements have contributed to flattening the global disease curve, with hopes now placed on the development of vaccines. However, the role of the military as a disease vector of Covid-19 has been largely overlooked, not only by the military itself but also by government officials, policymakers, and even medical professionals, despite the wealth of evidence for this role spanning at least a century.

In this commentary we call attention to this omission, offer a snapshot of the historical evidence for military-civilian transmission of infectious disease and its disproportionate impact on vulnerable populations, highlight the reasons for and mechanisms of this transmission, and underscore the need to acknowledge the neglected role of the military as a disease vector for the health and safety of the world and the successful design and implementation of a more equitable Covid-19 global public health policy.

Introduction

The potential for novel human viruses to cause global pandemics has never been higher than today. With the development of technologies of communication and transportation, increase in international trade, and mass population movements - due to tourism, business, or conflict-driven mass displacement - chances of human-to-human transmission of infectious disease agents have increased. Covid-19, the disease caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV2), is a case in point, as the virus has spread faster than the other two recent, major and deadly coronavirus diseases: Severe Acute Respiratory Coronavirus (SARS-CoV) and Middle East Respiratory Syndrome Coronavirus (MERS-CoV). With the first confirmed case of Covid-19 identified in Wuhan City, China, in December 2019, at the time of this writing Covid-19 has affected around 170 million people and killed over 3.5 million worldwide.¹ In an increasingly interconnected world, understanding the mechanisms of transmission of emerging viruses, as well as vulnerabilities and gaps in current public health measures, is crucial to developing effective and equitable responses to contain the viral spread.

Early research on Covid-19 focused on identifying transmission patterns from epidemiological data pertaining to confirmed cases. Once sufficient evidence for sustained person-to-person community spread was collected, given the otherwise limited state of knowledge at the time – in terms of true prevalence, lethality or treatment - the Chinese government implemented strict travel restrictions and locked down Wuhan, a city of 11 million residents. The initial reaction to these measures of leading mass media in the West

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ranged from dismissing them as “brutal” - incompatible with Western liberal notions of freedom - to suggesting that they were a means for China’s president to vindicate his “control over everyday life in China”.² Both the NY Times and the Washington Post published influential opinion pieces by experts arguing that these lockdowns would not be effective from a public health perspective and could only be explained as expressions of authoritarianism. However, as Covid-19 broke national boundaries, overwhelmed unprepared and underfunded health systems, and seemed to spare no one – not even prime ministers and presidents – similar restrictions were imposed in many Western countries, with major urban centres such as New York, Berlin and Rome experiencing lockdowns at least as strict as those in Wuhan.³ More recently, many countries initially rejecting China’s “extreme” measures have replicated similar *cordon sanitaires*, restricting travel and/or demanding a clean bill of health to anyone entering the country, including their own citizens.^{4 5}

What is missing from public debates on Covid-19?

While steps to restrict population movements have contributed to flattening the global disease curve of Covid-19, and multiple vaccines developments are now providing hope, one key transmission vector has been overlooked by government officials, policymakers, and scientists alike in their responses to the pandemic: the role of the military as a disease vector with a unique ability to find its way through some of the most rigorous public health measures. The underreporting of this disease vector notwithstanding, as our analysis will show there is well documented evidence for the military as a pathogen transmitter spanning over a century.⁶

Examples include the so-called Spanish flu, the deadliest pandemic in history that infected around 500 million people, one third of the world’s population at the time, and killed at least 50 million - by some counts up to 100 million. Recent historiography suggests that this pandemic originated not in Spain but in the United States of America, specifically in Camp Funston in Fort Riley, Kansas, with US soldiers carrying it to Europe as they crossed the Atlantic to join allied

troops in the first World War.⁷ Yet another example is the case of Sexually Transmitted Diseases (STDs), which ravaged both military personnel and Korean civilians living close to US military bases (kijichon), between the end of the Korean War and late into the 20th century. Endorsed by a South Korean state-controlled prostitution industry designed to strengthen the US-South Korean alliance, the kijichon economy contributed up to 5% of South Korea’s Gross Domestic Product.⁸ The STD phenomenon is by no means unique to major war zones: according to a recent article in the Military Times, military towns in the USA tend to have the highest rates of STDs, including chlamydia, HIV, syphilis and gonorrhea, in the country.⁹

Another salient example is that of meningococcal disease, a worldwide life-threatening infection associated in many cases with debilitating long-term sequelae, both within the military and civilian populations. Military recruits are at a higher risk of acquiring this infection due to numerous factors, such as young age, high carriage rates (i.e., presence of the infectious agent with no symptoms of the disease) due to communal and crowded living quarters, and global deployment or training in regions with different meningococcal serogroup epidemiology. Although these risk factors among young recruits have been well established and are easily preventable, there are numerous historical and ongoing outbreaks of the disease within the military.¹⁰ Similarly, the 2009 H1N1 Swine Flu, which killed over half a million people worldwide, was first detected in the United States in San Diego, a city with a significant military presence, at a military clinic in a military family.¹¹ Finally, as recently as 2016, the United Nations belatedly acknowledged that its peacekeepers – essentially military personnel borrowed from UN member states – were responsible for the cholera epidemic that in 2010 affected at least 600,000 Haitians after an earthquake that killed over 200,000 and displaced over 1 million.¹²

Much like these historical and contemporary examples, instances of military missions acting as disease vectors are quickly accumulating in the current Covid-19 era: for instance, in a period of less than three weeks more than 40 US Navy warships had at least one sailor

test positive¹³. As recently as March 2021, in South Korea, one of the most militarized countries on earth, a staff member of the military, four servicemembers in quarantine, and one on vacation, tested positive for Covid-19, bringing the total number of infections reported among the military to 658 - 31 of whom are undergoing treatment - as infections appear to be accelerating throughout the country¹⁴. In Germany, also heavily populated by US military bases, the commander of a unit in which hundreds of troops contracted Covid-19 soon upon arrival in the country was accused of deploying a “bullying” leadership style that may have led to his violating quarantine rules. The commander was later reported to have returned to his home country, the USA, for “unspecified health reasons”.¹⁵ Around that time Japan was reporting a new cluster of close to 100 Covid-19 cases in military bases in Okinawa, alongside a worrying increase in newly infected civilians in the capital, Tokyo.¹⁶ It is reasonable to hypothesize that these outbreaks within the military may explain at least in part subsequent outbreaks in adjacent populations.

The abundant, well-documented evidence notwithstanding, an increasing number of even mainstream sources have of late revealed the lack of transparency in the military to communicate to global audiences these facts that are critical to make sense of the success or failure of Covid-19 public health containment measures¹⁷. Even when they are communicated, by the time they are - often because incidents have reached a magnitude that makes it hard to conceal them – the damage has already been inflicted and very little can be done to repair the harm. By way of example, as the Irish Minister for Foreign Affairs recently communicated, US military troops arriving in Ireland were found to have breached Covid-19 regulations. While the civilian population is required to present a negative Covid 19 PCR test and fill out a passenger locator form upon arrival, US troops did neither. The US military admitted that “the error was on the US side”¹⁸, yet too late to do anything about the potential public health consequences of the breach.

Our own systematic review of the literature, documenting evidence as early as 1810, confirms the multiple mechanisms of transmission as well as the unique features of the military that

make it a unique risk factor¹⁹. Mechanisms and contextual factors driving transmission within military missions, bases, and more recently, medical institutions, into civilian populations are multiple: they include person-to-person transmission, contaminated food and water, and vector-borne and airborne routes. Contextual factors that facilitate transmission include crowded living, sleeping, and training practices, unhygienic conditions, strenuous working or training conditions, high-risk behaviours, absent or inadequate vaccination programs, poor compliance with public health advice, and contractor mismanagement. The exceptional case of the massive deployment, rotation, and movement of US troops in 800 bases around the world - exceptional due to its sheer magnitude – added to the covert deployment of Special Operations Forces into 170 countries generates serious and enduring public health risks.

Of special concern from a global public health perspective is that these deployments, rotations and movement are generally exempt from visa and passport control and therefore excluded from related national public health measures, screening, and prohibitions. Exemptions are facilitated through a range of mechanisms: institutional US Status of Forces Agreements (SOFA) with host countries which include exemptions from airport screening procedures, visa restrictions, and host countries’ laws, the extraterritorial status of US military airports and airbases within the host country, and the clandestine nature of covert operations not subject to any guidelines, disclosures or notifications.

Even where the US military has *voluntarily* agreed to follow the host country’s public health practices, or has self-imposed public health guidelines, a visible culture of impunity and rule-breaking, inadequate systems for coordination and enforcement, and a general attitude of exceptionalism have resulted in multiple reported outbreaks at or near military bases caused by breaches of Covid-19 quarantine and screening regulations at locations where the virus may have already been contained or extinguished. Rule-breaking has been most striking in island states like Guam or islands like Okinawa, with a large military presence. On these islands Covid-19 had

been thoroughly contained, but the cordon sanitaire was breached by troop deployments to local bases, allowing the virus to spread to the general population.²⁰ Disturbingly, as our systematic review is revealing, most reports on transmission mechanisms within the military or between it and civilian populations normalize the presence of the military, such that whatever recommendations are offered address only downstream factors in the chain of transmission, yet overlook structural and causative ones, making it virtually certain that the harms will continue.

Notably, it is not only the military that appears reluctant to discuss its own role in the pandemic: shortly after the Covid-19 outbreak, an article in the leading medical journal *The Lancet* alerted readers about the threat of transmission posed to the African continent by international visitors, then as now an important warning. However, and even as the authors acknowledged the “fast evolving nature” of what would soon be declared a pandemic, they based their policy recommendations on a modelling study that used as the key predictor variable data the volume of air travel to African countries *only from three civilian airports in China*. The authors seemingly assumed that only visitors from China could pose a risk, yet all but ignored the presence of (largely US) *military* airports in the continent.²¹ In fact, they failed to even *mention* the risks posed by US military missions in Africa given the unique exemptions enjoyed by US military personnel via the SOFA mentioned in most African countries. A letter to the Lancet critiquing this oversight was rejected, as well as an appeal to the rejection (a mechanism available to authors). The reason offered for rejecting the appeal was that while in ordinary circumstances decisions concerning appeals are formally considered, due to the “logistical difficulties of operating a journal remotely” because of Covid-19, the Lancet had temporarily suspended appeals for Covid-19 content (personal communication), the very issue that had brought about the “logistical difficulties” for the Lancet to operate normally.

While the African continent is at especially high risk of experiencing military-driven Covid-19 outbreaks, given the density of the US military and the exemptions to freedom of movement afforded to it by SOFA agreements, the

continent is not alone, as these exemptions have been “globalized” through major international documents. In 2005 the United States carved out an exemption for its own military in the UN International Health Regulations, which included its refusal to “notify the WHO of potential public health emergencies of international concern” if they “undermine the ability of the US Armed Forces to operate effectively in pursuit of our national security interests”²². In other words, the US government has unilaterally reserved for itself the right to not report transmissible epidemics if this reporting could disclose troop deployments or movements, signal vulnerabilities, or otherwise undermine strategic goals. This is ironic given that key sectors of the US leadership blame China’s alleged failure to disclose cases in a timely manner for the spread of Covid-19. Understandably, the attempt to evade IHR regulations raised concerns among other member nations who argued that “the universal applicability of the IHR for the protection of all peoples of the world from the international spread of diseases leaves no room for exempting the American Armed Forces” (*ibid*).

Why the omission of the military as disease vector matters to global health equity and what to do about it

Neglecting or outright ignoring the role of the military as a disease vector, especially in these pandemic times, has significant implications for the wellbeing of communities, for public health prevention policy, and for global health equity, not only in low- or middle income countries but also in high income ones: as is well-known, the military is frequently assigned tasks that overlap those of humanitarian and medical personnel,²³ especially in times of crises such as the current ones. To bring the point closer to home (literally for the first author), a month into the pandemic, the Canadian province of Ontario, faced with an explosion of cases of Covid-19, many of them lethal, in long-term care facilities – about 80% of deaths in Ontario have occurred in these facilities – deployed the military to assist with senior care,²⁴ increasing the risk of infection, both within the military and between it and civilians. The practice of calling upon the military to assist with nursing home care continues to this day, with

little evidence for any policy responses to reverse years of privatization, underfunding and neglect.

Illustrative of the selective concern for the well-being of its population was the response of the Canadian Federal Government, nearly a month into the WHO declaring Covid-19 a pandemic, to a request from indigenous Canadians. Even as the government was issuing calls to the military to support nursing home care, it was turning down a request for assistance from Indigenous Canadian communities in Manitoba. These communities were requesting that the Cuban Health Brigades - which have received some 50 nominations for the Nobel Peace Prize for its “unparalleled humanitarian service” in the Covid-19 crisis²⁵ - be allowed to support them in their plight. The explanation offered by then Deputy Prime Minister Chrystia Freeland was that “Canada's health care system is staffed by outstanding health care professionals and has the capacity to deal with this extraordinary challenge”²⁶, a claim obviously belied by the need to deploy the military throughout Ontario nursing homes precisely due to inadequate staffing.

In concluding, we believe that serious attention to the role of the military as a disease vector in the public health policy literature is long overdue. Under the unprecedented circumstances of the Covid-19 pandemic, the failure to even name, much less discuss, a significant epidemiological vector cannot but undermine public health efforts in ways that, as the public health record shows, hit especially hard the most vulnerable communities - low income, racialized, and underserved as a result of decades of neoliberal underdevelopment. Our analysis is an attempt to call attention to this absence and invite researchers and policymakers to join in the attempt with the goal of informing the successful formulation, development, and implementation of effective and equitable global health policy.

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References

- 1 Worldometer. (2021). *Covid-19 coronavirus pandemic*. Retrieved April 19, 2021, from <https://www.worldometers.info/coronavirus/>
- 2 Hernández, J.C. (2020, February 28). China spins coronavirus crisis, handling itself as a global leader. New York Times. <https://www.nytimes.com/2020/02/28/world/asia/china-coronavirus-response-propaganda.html>
- 3 Schallom, R. (2020, March 21). Diary of a lockdown: What it feels like in 17 cities during the pandemic.

- 4 Fortune. <https://fortune.com/2020/03/21/coronavirus-lockdown-new-york-berlin-rome-cities/>
- 5 Global Affairs. (2020, December 17). *Flying to Canada: COVID-19 testing for travelers - Travel restrictions in Canada.* [https://travel.gc.ca/travel-covid/travel-restrictions/flying_canada-checklist/covid-19-testing-travellers-coming-into-canada?utm_campaign=gac-amc-covid-20-21&utm_source=travel-covid_travel-restrictions_flying_&utm_medium=redirect&utm_content=en](https://travel.gc.ca/travel-covid/travel-restrictions/flying-canada-checklist/covid-19-testing-travellers-coming-into-canada?utm_campaign=gac-amc-covid-20-21&utm_source=travel-covid_travel-restrictions_flying_&utm_medium=redirect&utm_content=en)
- 6 Maltz, J. (2021, January 19). Israel extends lockdown, demands all international arrivals present COVID test. *Haaretz.* <https://www.haaretz.com/israel-news/.premium-israel-extends-lockdown-demands-all-international-arrivals-present-covid-test-1.9465657>
- 7 Zemke, J.N., Sanchez, J.L., Pang, J., & Gray, G.C. (2019). The double-edged sword of military response to societal disruptions: A systematic review of the evidence for military personnel as pathogen transmitters. *The Journal of Infectious Diseases,* 220(12), 1873-1884. <https://doi.org/10.1093/infdis/jiz400>
- 8 Barry J. M. (2004). The site of origin of the 1918 influenza pandemic and its public health implications. *Journal of Translational Medicine,* 2(1), 3. <https://doi.org/10.1186/1479-5876-2-3>
- 9 Shorrock, T. (2019, December 2). Welcome to the monkey house. *The New Republic.* <https://newrepublic.com/article/155707/united-states-military-prostitution-south-korea-monkey-house>
- 10 Kime, P. (2020, January 15). These military towns have the highest rates of sexually transmitted diseases in the country. *Military Times.* <https://www.militarytimes.com/news/your-military/2020/01/15/these-military-towns-have-the-highest-rates-of-sexually-transmitted-diseases-in-the-country/>
- 11 Brundage, J. F., Ryan, M. A., Feighner, B. H., & Erdmann, F. J. (2002). Meningococcal disease among United States military service members in relation to routine uses of vaccines with different serogroup-specific components, 1964-1998. *Clinical Infectious Diseases,* 35(11), 1376-1381. <https://doi.org/10.1086/344273>
- 12 Cohen, J. (2009, April 25). Behind the scenes: Navy researchers helped spot swine flu in the United States. *Science.* <https://www.sciencemag.org/news/2009/04/behind-scenes-navy-researchers-helped-spot-swine-flu-united-states>
- 13 Zarocostas, J. (2017). Cholera outbreak in Haiti from 2010 to today. *The Lancet,* 389(10086), 2275-2275. [https://doi.org/10.1016/S0140-6736\(17\)31581-7](https://doi.org/10.1016/S0140-6736(17)31581-7)
- 14 Starr, B. (2020, April 26). How the coronavirus pandemic has shaken the US military. *CNN.* <https://www.cnn.com/2020/04/25/politics/coronavirus-impact-us-military/index.html>
- 15 Yonhap. (2021, March 31). Arms procurement agency official tests positive for virus. *The Korea Herald.* <http://www.koreaherald.com/view.php?ud=20210331000352>
- 16 Vandiver, J. (2021, March 29). Fort Hood-based brigade commander under investigation after allegations of toxic leadership, flouting coronavirus rules. *Stars and Stripes.* <https://www.stripes.com/news/europe/fort-hood-based-brigade-commander-under-investigation-after-allegations-of-toxic-leadership-flouting-coronavirus-rules-1.667669>
- 17 Ditzler, J. (2021, March 30). US military on Okinawa tightens coronavirus restrictions as case numbers increase. *Stars and Stripes.* <https://www.stripes.com/news/pacific/us-military-on-okinawa-tightens-coronavirus-restrictions-as-case-numbers-increase-1.667774>
- 18 Ismay, J. (2020, April 5). Navy captain removed from carrier tests positive for Covid-19. *New York Times.* <https://www.nytimes.com/2020/04/05/magazine/navy-captain-crozier-positive-coronavirus.html>
- 19 Power, J. (2021, February 15). US military troops travelling into Shannon breached Covid-19 rules. *Irish Times.* <https://www.irishtimes.com/news/politics/us-military-troops-travelling-into-shannon-breached-covid-19-rules-1.4485263>
- 20 Chaufan, C., Dutescu, I., Fekre, H., & Noh, K. J. (2020). The military as a disease vector, from the World Wars to Covid-19: A systematic review. *Prospero: International Prospective Register of Systematic Reviews.* https://www.crd.york.ac.uk/PROSPEROFILES/188699_PROTOCOL_20200604.pdf
- 21 Robson, S. (2020, August 20). Military on Guam enters health condition ‘Charlie’ as island’s coronavirus cases surge. *Stars and Stripes.* <https://www.stripes.com/news/pacific/military-on-guam-enters-health-condition-charlie-as-island-s-coronavirus-cases-surge-1.641882>
- 22 Nkengasong, J.N., & Mankoula, W. (2020). Looming threat of COVID-19 infection in Africa: Act collectively, and fast. *The Lancet,*

- 395(10227), 841-842.
[https://doi.org/10.1016/S0140-6736\(20\)30464-5](https://doi.org/10.1016/S0140-6736(20)30464-5)
- 22 World Health Organization. (2005). *International Health Regulations* 3rd ed. <https://apps.who.int/iris/bitstream/handle/10665/246107/9789241580496-eng.pdf;jsessionid=74BDCFFCEAA7BC89B8CBCFD0746426ED?sequence=1>
- 23 Michaud, J., Moss, K., Licina, D., Waldman, R., Kamradt-Scott, A., Bartee, M., Lim, M., Williamson, J., Burkle, F., Polyak, C. S., Thomson, N., Heymann, D. L., & Lillywhite, L. (2019). Militaries and global health: Peace, conflict, and disaster response. *The Lancet*, 393(10168), 276–286. [https://doi.org/10.1016/S0140-6736\(18\)32838-1](https://doi.org/10.1016/S0140-6736(18)32838-1)
- 24 Herholt, C. (2020, April 24). Army deployed to five GTA long-term care homes ravaged by COVID-19. *CTV News*. <https://toronto.ctvnews.ca/these-are-the-five-struggling-long-term-care-homes-the-military-has-been-sent-to-help-1.4910112?cache=yes>
- 25 Arnold, R. Council of Canadians makes landmark nomination of Cuban medical teams for Nobel Prize. (n.d.). *The Council of Canadians*. Retrieved March 12, 2012, from <https://canadians.org/analysis/council-canadians-makes-landmark-nomination-cuban-medical-teams-nobel-prize>
- 26 Barrera, J. (2020, March 30). Deputy PM Chrystia Freeland cool to Manitoba chiefs' request for Cuban doctors. *CBC News*. <https://www.cbc.ca/news/indigenous/cuba-doctors-sco-freeland-1.5515416>

