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MEDICAL INTELLIGENCE IN COUNTER-INSURGENCY (COIN) AND COUNTER-TERRORIST (CT) OPERATIONS

Abstract: *Medical intelligence (MEDINT) is now regarded as critically important across a broad spectrum of security concerns. Its usual functions are either in force protection, evaluating risks to personnel at the tactical and operational levels, or, at a strategic level, in considering threats to the health and stability of nation-states. The uses of MEDINT in Counter-Terrorism (CT) and Counter-Insurgency (COIN) have received little attention except in so far as they overlap with these concerns; for example, where they involve matters of force-protection or the threat of bioterrorism. But this was not always so. In the past, information relating to health and medicine was considered crucial to the success of COIN operations, if not to domestic terrorism. By adapting some of these techniques to contemporary practice, and utilizing technologies that were not available in former times, we can use MEDINT in innovative ways to exploit the vulnerabilities of hostile groups and to isolate them from surrounding populations. This paper indicates some of the ways in which intelligence from a range of sources can be utilized to engage with communities more effectively; to anticipate the behavior of target groups/individuals; to determine their whereabouts, interactions and supply chains; and ultimately to exploit their weaknesses or dependencies. The paper is not intended as definitive but as a starting point in a conversation as to how MEDINT could or should contribute to CT and COIN operations.*

Keywords*: Medical, Intelligence, Counter Terrorism, Counter Insurgency.*

1. Introduction

1.1 Medical intelligence (MEDINT) is usually defined as a form of intelligence derived from medical, biological and other health-related information. It therefore stands out from most other categories of intelligence, which are defined by the modality of information (e.g. signals, images) rather than being subject-specific. In the formulation of the US Department of Defence, MEDINT entails the collection, evaluation, analysis, and interpretation of foreign medical, bio-scientific, and environmental information that is of interest to strategic planning and to military medical planning and operations … and the formation of assessments of foreign medical capabilities in both military and civilian sectors (US DoD, 2013).

This definition is useful but unduly restrictive. Firstly, it is concerned exclusively with foreign sources of information, overlooking the potential for security threats to arise in the domestic arena. As the recent pandemic shows, outbreaks of infectious disease can impact national security in multiple ways, e.g. by escalating social tension and increasing political polarisation. The prospect of bioterrorism is also arguably more likely than before. Although bioweapon attacks are rare (0.02% of terrorist incidents), there is increased potential due to new technologies such as CRISPR and the nihilistic tendencies of certain extremist groups. Secondly, the standard definition of MEDINT assumes that such intelligence is derived solely from technical sources. The DoD definition refers solely to technical sources of information, whereas medicine and health are socially embedded and can only be fully understood concerning a wider range of sources. For the same reason, effective analysis requires a toolkit that draws from the social sciences and humanities as well as epidemiology and the biomedical sciences.

1.2 Some definitions of MEDINT allow for greater variety in sources of information (NATO, 2020), but the doctrine of medical intelligence, in so far as it exists, is narrowly construed. Its chief purpose is the mitigation of health risks within operational and strategic domains. Indeed, MEDINT has been characterized as a ‘theatre engagement tool’ whose purpose is to enhance the protection of deployed forces (Kaufman, 2001). However, the potential uses of MEDINT extend far beyond force protection, as becomes evident from a close reading of history. In particular, MEDINT has played a vital part in COIN operations, in which it was employed to reveal the vulnerabilities of hostile actors and predict their behavior. In this paper, we review the use of MEDINT in such operations and suggest ways in which older practices can be adapted and augmented using new technologies and/or methodologies. We also explore the potential use of

such methods in countering forms of terrorism and violent extremism which fall short of full-blown insurgency.

2. Background

2.1 The origins of MEDINT in a formal sense can be traced to 1941 and the creation of a Medical Intelligence Department within the Office of the Surgeon General of the US Army (Marble, 2020; Jarcho, 1991; Anderson, 1945). Although armed forces had long collected information on health hazards in operational environments, this new department had a wider brief and employed intelligence professionals in addition to medical personnel. As well as considering medical threats to deployed forces, some of the department's reports evaluated the broader security risks arising from the medical situation, e.g. the potential for political instability to arise from epidemic disease or unmet medical needs (JANIS, 1945).

2.2 Although the United States remains the only country known to have an agency devoted exclusively to MEDINT (the National Center for Medical Intelligence, which sits within the Defense Intelligence Agency) (Clemente, 2013), most other nations have some MEDINT capacity, although it tends to be much smaller and distributed across a range of military and civilian agencies. Given this, the contribution of MEDINT to the wider apparatus of intelligence and security is often overlooked. Indeed, most medical intelligence is not recognized as such because it forms part of the day-to-day operations of armed forces and law enforcement agencies.

2.3 One area in which MEDINT has been used extensively and to good effect is in counter-insurgency operations. As well as being essential for the protection of forces involved in COIN operations, MEDINT has contributed to assessments of the strength or weakness of insurgents and to determine their patterns of behavior. MEDINT has also informed interventions devised to drive a wedge between insurgents and the populations from which they could potentially draw support, e.g. by informing 'hearts and minds' operations and countering propaganda spread by insurgents concerning matters of health or medical interventions. The following examples illustrate some of the uses of MEDINT in historical COIN operations and provide insights into how such intelligence might be employed (with adaptations) today.

3. MEDINT in COIN operations

3.1 Apart from MEDINT's contribution to the protection of security forces, its primary role in COIN operations has been to detect vulnerabilities in key individuals or insurgent groups. This practice was first developed during the Malayan Emergency of 1948-60, which subsequently became a template for the conduct of many other COIN or 'low-intensity' operations (Kitson, 1971). Jungle patrols were tasked with recording medical items found on captured or deceased insurgents and in abandoned or captured camps. This enabled security forces to determine insurgents' medical needs and how far the supply of drugs and medical equipment went in meeting them.

3.2 After a few years of systematic information gathering, it became clear that the supply of key drugs (e.g. antibiotics and antimalarials) and medical equipment (e.g. bandages, syringes) was dwindling and that the insurgents (who were mostly ethnic Chinese) were forced to rely on Chinese traditional medicines and use old clothes to dress wounds (KORWKR, 1951-54). From this information, it was possible to determine whether insurgent cells were likely to be sick or wounded and hence susceptible to propaganda in the form of leaflets and aerial loud-speakers inducing them to surrender in return for safe conduct and medical treatment. While it remains unclear how many did so (some were too sick to move), information on the health of insurgents often played a vital part in devising operations for their arrest. As well as following the medical 'trail' of insurgents as they moved through the jungle, useful information on their health was obtained from aboriginal villagers. Indeed, in some cases, the insurgents had forced villagers to buy medicines for them (GR, 1953a). Together, these various sources helped to paint a picture of the condition of insurgents and their ability to resist the patrols sent to arrest them. If apprehended alive, most insurgents were provided with medical care prior to interrogation, which also in turn revealed information on the health of those who had yet to be captured (GR, 1956).

3.3 In Malaya, and in many subsequent COIN operations, medical intelligence was also used to guide civil assistance programs. Medical aid was a prominent part of these 'hearts and minds' operations, which were intended to demonstrate the benevolence of the authorities to those who remained loyal and peaceful. To be successful, the needs of the population – including their medical needs – had to be carefully ascertained. This took the form of normal public health measures, augmented by Red Cross teams assigned to villages used to settle displaced ethnic

Chinese (a largely benevolent form of confinement). In remote rural areas of Malaya and northern Borneo during the Indonesian Confrontation (1963-66), rudimentary medical and dental care dispensed by soldiers helped to win over local villagers, who subsequently provided vital intelligence (GR, 1953b; Monk, 1963). In some cases, helicopter evacuation of injured or wounded villagers secured their assistance and loyalty (GR, 1962). The same techniques were later used to good effect in Oman (1963-76), with the addition of veterinary assistance (Higgins, 2011).

4. An Under-utilised Resource

4.1 The examples given above illustrate the importance of MEDINT in the COIN operations of the 1950s, '60s and '70s. However, it ought to be acknowledged that such tactics were not always successful. Despite a sophisticated and systematic US MEDINT operation in Vietnam, the lack of human security for civilians meant that it was difficult to secure compliance using medical or other forms of civil assistance (Wilensky, 2004). Indeed, in Vietnam and some more recent COIN operations, such as that in Afghanistan, medical initiatives were often deliberately targeted (NPR, 2010). Also, the tactics used in Malaya and Borneo to ascertain the medical vulnerabilities of insurgents were of little use in theatres in which adversaries could more easily conceal themselves, e.g. by blending with civilians. The Malayan Emergency, in other words, does not provide a template that can necessarily be imposed elsewhere (Dixon, 2012).

4.2 But these limitations do not necessarily invalidate the contribution of MEDINT to COIN operations. The potential success of a 'hearts and minds' approach – now more likely to be termed 'Defence Engagement' – is context-dependent. It works in some places but not others. Good intelligence is therefore vital in assessing the potential of such interventions, e.g. in the case of medicine, to determine the needs of the population and to avoid conflicts with local healers or aid agencies. Other elements of MEDINT can also be used to good effect and can be enhanced using technologies not available in the 1970s or before. Moreover, engaging with medical matters in the information domain is more important than ever because of the increasing use of medically-related propaganda by insurgents, terrorists and other extremists. Recent examples include the COVID-19 pandemic and the suspicion that was deliberately cultivated around vaccination and medical research. In the following sections, we consider some recent

examples of how MEDINT has been employed in support of COIN and CT operations and their potential for future use.

5. Needs and dependencies

5.1 MEDINT continues to be useful in determining the vulnerabilities of insurgent and terrorist groups. Some of the best examples of this are to be found in relation to insurgencies in Africa. One common feature of these insurgencies has been attacks on hospitals and medical staff, and in some cases on ambulances and supply trucks (Anderson, 2022). There were over 600 attacks of this type in the period 1974-2022 and they have not ceased. Most such attacks have occurred in the Sahel, perpetrated by insurgents linked to Boko Haram or Isis in West Africa (Kindeza, 2022; Maina, 2017) but they are also fairly common in the Horn of Africa (Reuters, 2023; Insecurity Insight, 2021). In some cases, these attacks are intended to destroy beacons of Western influence, being part of a broader campaign against foreign culture, or are simply attempts to increase instability and fear. However, in a substantial number of cases, it appears that other intentions lie behind such attacks. Hospital stores and supply vehicles have often been raided to obtain drugs and medical equipment which are vital to the health and operational capacity of insurgent groups (e.g. Haruna, 2017). Equally common are raids to obtain opioids, as there is a very high level of opioid addiction among these groups (Gigova, 2017).

5.2 Although some of these raids afterward destroy medical facilities, this is not always so. In such cases, it is possible to determine which stores have been plundered and which remain, thus indicating the most pressing medical needs and/or narcotic dependencies of the insurgents who conducted the raid. In areas that are prone to insurgent attacks, raids on medical facilities can be anticipated and precautions are taken, including the marking of supplies or insertion of trackers in order to determine the movements of insurgents or the location of their camps. Taking steps to deny the supply of opioids such as Tramadol to groups known to be highly addicted is also likely to demoralize and destabilize them, and well as induce them to break cover in search of such drugs (Obaji, 2019).

5.3 Once the vulnerabilities of insurgent groups have been ascertained, such information can help to formulate assessments of their capacity for resistance on point of contact, or in deciding the optimal timing of CT operations. For example, if antimalarial drugs appear to be in short supply in a malarious area, a CT force with adequate protection could choose to mount an attack

in the malaria season, when opposition is likely to be weakest. Such intelligence has long been used to gain comparative advantage during military campaigns. Information concerning the medical needs of key individuals – who would have the financial capacity to obtain higher quality medical care – could also be used to predict the movements of such persons, e.g. the need for regular hospital attention for chronic conditions. However, raids on medical facilities to apprehend terrorists need to be considered carefully in view of the danger posed to civilians and the political optics of violence (even legitimate violence) within such institutions.

6. Supply Trails

6.1 Well-funded and well-organized insurgent and terrorist groups are normally able to obtain medical supplies and narcotics regularly. However, while some terrorist groups are involved in the trafficking of medicines, most are consumers. The serial numbers/barcodes on medical supplies or equipment can indicate their supply pathways and, in some cases, indicate key links in the supply chain. Evidence from medical packages found in terrorist camps in the Sahel, for example, shows that most of their medicines (e.g. antibiotics) originated in Belgium, France, India and China. This presents opportunities for cooperation between security agencies in different nation-states and the seizure of illegally trafficked pharmaceuticals at ports of entry. An impressive example of such an intervention is the seizure of over 5 million pills of Tramadol at Lagos airport, Nigeria in 2023 (PM News, 2023)**.** As well as depriving terrorist groups of the drugs that fuel their atrocities, interruption of the supply chain may also help to starve them of commodities which they also sell or 'tax' in order to raise revenue (UNODOC, 2022).

6.2 At the same time, surveillance of Organised Crime Groups (OCGs) suspected of supplying drugs to terrorist groups may reveal the location of insurgents/ terrorists. Some of the OCGs involved in the narcotics and illegal pharmaceutical trade in the Sahel are transnational and international cooperation in intelligence gathering is vital. Such cooperation is necessary for the interdiction of supplies, as mentioned above, but there may be occasions when it is more fruitful to allow movement along the supply chain to continue so that illegally imported pharmaceuticals may be tracked and monitored. In some countries, these supply chains are likely to terminate in terrorist groups or in OCGs who work under the sufferance of terrorists. The tracking of such supplies therefore has the potential to reveal the networks that supply terrorism and the whereabouts and movements of terrorists themselves.

7. Biosensors

7.1 Harvesting biomedical data for CT operations is a controversial matter that requires a good deal of ethical scrutiny before it can be fully operationalized. In most countries, there are also tight legal constraints on its use. However, there may be means of gathering useful intelligence that is potentially less controversial, for example, using so-called biosensors. Biosensors are devices that contain a biological and a physio-chemical component, which, when combined, generate a detectable signal that indicates the presence of microbes, fungi, chemicals, or other indicators of a person's health. These sensors come in several forms, e.g. electrical, electrochemical, optical, and magnetic. They have long been used in medical diagnostics and in public health to monitor pathogens in wastewater, for example (Bhatia et al, 2024; Yang et al, 2015).

7.2 Systematic collection of health information using biosensors presents some ethical issues, even if the intention is benevolent. Apart from questions of informed consent, there is the problem of data security, since such personal or community health data could be vulnerable to hacking. However, in the CT field, the application of biosensors would be directed towards individuals or groups known to be involved in, or suspected of having, the intention to inflict violence or sabotage. In such cases, the use of biosensors to provide vital information could be regarded as legitimate. These and other ethical issues related to biosensors – and also their relative strengths and weaknesses – need to be considered more fully.

7.3 Nevertheless, it seems likely that biosensors could augment the surveillance of hostile actors. For example, if the location of an insurgent group or terrorist cell is known, it may be possible to use biosensors to determine their state of health, e.g. by revealing the presence of pathogens, such as viruses or parasites, in wastewater. Biosensors can also be used against insurgents/ terrorists, to detect their use of narcotics and pharmaceuticals. There are many types of biosensors available, such as optical or electrochemical and while some are general, others are more disease or substance-specific. Samples can also be taken from organisms, such as molluscs, which may be useful in ascertaining the health status of insurgents in remote locations, where waste products are likely to be found in steams rather than sewerage pipes. In addition to their potential uses in surveillance, the utility of biosensors in forensic science is considerable and relatively well-established (McGoldrick and Halamek, 2020). Lastly, biosensors are

indispensable tools in the detection of biological agents such as may be deployed by hostile actors (Nikolelis and Nikoleli, 2016).

8. The information domain

8.1 In COIN and CT operations, the information domain is of critical importance. Sensitivities relating to health and medical intervention are potent causes of social and political instability and dramatic events such as epidemics have the capacity to elicit and aggravate existing tensions (Ranger and Slack, 1992). In such circumstances, terrorists and violent extremist groups can exploit people's anxieties about threats to their health or their fears of loss of control. During the recent COVID-19 pandemic, Islamist groups in West Asia and Africa used a variety of tactics to create panic around actual or potential medical interventions. In some cases, Covid-19 was branded as a 'Western' infection, used to inflame local tensions, or seen as a harbinger of a great crisis that would present an opportunity for their cause (Comerford, 2020; NATO CEO-DAT, 2020). In the decades before the pandemic, similar groups were circulating rumors in an attempt to undermine vaccination campaigns or justify attacks on vaccination workers, often referring to the fake polio vaccination drive/intelligence gathering operation mounted by the CIA prior to the attack on the Osama bin Laden compound in Pakistan (Gostin, 2014).

8.2 In Western nations, violent extremist organizations attempted to undermine vaccination during the recent pandemic and propagated narratives that induced many people to participate in acts of sabotage against critical national infrastructure – not only biomedical infrastructure (e.g. Covid-19 testing sites) but also 5G telecom relay antennae. These attacks occurred predominantly in the UK and secondarily in the Netherlands, although they also occurred in many other parts of the world (Stariano and Alba, 2020). They have been generally attributed to false claims about the effects of electro-magnetic frequencies on health (Langguth et al., 2023) but, as time went on, other motives for these attacks began to surface, ranging from fears over increasing surveillance (enabled by 5G) to attempts to sabotage industrial production. Whereas most such attacks were initially committed by persons who might be described as populists or 'anti-globalists', they were also perpetrated by insurrectionary anarchists, stemming from concerns about creeping surveillance and loss of control that were heightened during the pandemic (e.g. Rumoer, 2022; Anarchist News, 2021). Such attacks continue – mostly

committed by anarchists – and now occur chiefly in France and other Continental European countries.

8.3 The growing prominence of medical themes in extremist propaganda makes it necessary to analyze both its content and the modalities through which it is delivered, which range from social media to stickers and pamphlets, such as those distributed at demonstrations. If we dismiss such narratives as crackpot conspiracy theories, we blind ourselves to the fact they are often finely crafted and part of a well-defined strategy of destabilization – a strategy that can result in radicalization and acts of terror. In countering these narratives, it is necessary systematically to record and analyze examples of disinformation, together with incidents of sabotage and violence arising from them. The first step is to determine patterns and associations in propaganda and related incidents, e.g. spatial distribution, modalities, frequency. The second is to dive deeper into the content of propaganda/disinformation in order to discover, among other things, political motivation, the psychology of certain groups and individuals, the potential emotional appeal of such content and hints concerning potential targets. The first requires a primarily quantitative approach and, the second is predominantly qualitative.

8.4 This type of analysis requires some knowledge of health and medicine and also of the cultures in which they are embedded. Having analysts who are capable of moving between these domains and are familiar with key theories and methodologies is vital. Understanding typical human behavior in circumstances such as epidemics can help us predict the political consequences of public health interventions, shortfalls in protective equipment and hospital care, and so forth. Although the pandemic is over, these problems are not behind us. Anxieties and resentment relating to the era of Covid-19 controls linger and continue to form an important part of extremist propaganda, on the Right and on the Left. By understanding the ways in which extremist groups seek to operate in the information domain, we are better placed to frustrate them, either by technical means or through counter-information which aims at weak points and silences in their narratives. In some cases, we can also gain important clues as to the physical movements and whereabouts of extremist groups and their potential targets, e.g. by finding connections between online propaganda and physical acts. Leaflets, stickers and graffiti left at locations targeted by saboteurs are particularly useful in this respect.

8.5 The sabotage of critical national infrastructure imposes a heavy financial burden on governments and industry, quite apart from its human impact. However, the sabotage that took

place during the pandemic was also intended to encourage others to insurrection and other violent acts. Indeed, the pandemic featured strongly in the writings of certain terrorist groups who have long focused on biomedicine and biotechnology, particularly those inspired by the anarcho-nihilistic Mexican organization, 'Individualists Tending Towards the Wild' (ITS) (Anarchist Library, 2014). ITS viewed the pandemic as a harbinger of impending social, environmental and political disorder (ITS, 2020) and encouraged others to add to the chaos. Individuals inspired by ITS and similar eco-extremist groups have planned or executed terrorist acts in European nations, particularly Greece and the UK (Sky News, 2024; BBC News, 2021; Ekathimerini, 2019). These incidents are unlikely to be the last and some future targets will probably lie in the biomedical arena, particularly where biotechnology is seen as promoting surveillance or human enhancement.

8.7 Lastly, the information domain presents opportunities for CT operations of a very different type. Information concerning the health of malign actors could be used to undermine their credibility. Perceptions of weakness in those in leadership roles in insurgent or terrorist groups, or in the OCGs to which they are often linked, can cause instability in such organizations by sparking a struggle for succession. In some cases, rumors concerning the health of a particular individual might be amplified to good effect, although the outcome of power struggles is inevitably unpredictable and could have unintended consequences. Revealing the physical weakness of key figures therefore needs to be considered carefully.

9. Conclusion

9.1 Although issues related to force protection and biosecurity have been regularly covered in the literature on COIN operations, this paper has sought to highlight other potential uses of medical intelligence. Using historical data from Cold War COIN operations and some more recent examples, it has indicated some of the ways in which information concerning the health and health-related behavior of hostile actors can be used to determine their vulnerabilities. Similarly, it has shown how the tracking of medical commodities can provide vital information concerning the location of terrorist groups and their supply chains. Lastly, it has illustrated the growing prominence of medical issues within the information domain and their exploitation by a range of violent extremist organizations. It has stressed the importance of properly understanding

the content of their narratives and modalities of influence in order to determine potential targets of extremist activity and more effectively counter destabilizing narratives.

9.2 As indicated at the outset, this paper is not intended as a definite statement on the use of MEDINT in COIN and CT operations but rather an attempt to revive interest in a sphere of activity that was once regarded as vital. There is certainly far more to say about the use of new biomedical technologies in such operations (we have referred to only one example in the form of biosensors) and also about subjects that could not be properly covered here, e.g. links between insurgent and terrorist groups and OCGs involved in organ trafficking. As such, this paper highlights the need for greater research in the associated field of MEDINT; both its practical and ethical dimensions.

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