

Canadian  
Forces  
College

Collège  
des  
Forces  
Canadiennes



## Mandated Pharmacological Enhancement of the Canadian Soldier: Ethical and Legal Considerations

Major Erica Boland

JCSP 48

Service Paper

Disclaimer

Opinions expressed remain those of the author and do not represent Department of National Defence or Canadian Forces policy. This paper may not be used without written permission.

© Her Majesty the Queen in Right of Canada, as represented by the Minister of National Defence, 2022

PCEMI 48

Étude militaire

Avertissement

Les opinions exprimées n'engagent que leurs auteurs et ne reflètent aucunement des politiques du Ministère de la Défense nationale ou des Forces canadiennes. Ce papier ne peut être reproduit sans autorisation écrite.

© Sa Majesté la Reine du Chef du Canada, représentée par le ministre de la Défense nationale, 2022

CANADIAN FORCES COLLEGE – COLLÈGE DES FORCES CANADIENNES

JCSP 48 – PCEMI 48  
2021 – 2022

Service Paper – Étude Militaire

**Mandated Pharmacological Enhancement of the Canadian Soldier:  
Ethical and Legal Considerations**

**Major Erica Boland**

*“This paper was written by a student attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions, which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the Government of Canada and the Canadian Department of National Defence. This paper may not be released, quoted or copied, except with the express permission of the Canadian Department of National Defence.”*

*“La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale.”*

# **Mandated Pharmacological Enhancement of the Canadian Soldier: Ethical and Legal Considerations**

## **AIM**

1. This paper will provide suggested guidance to the Canadian Army Land Warfare Centre about ethical and legal considerations regarding mandated pharmacological enhancement (PE) of the Canadian soldier. The recommendations that follow are intended to inform decision making to ensure any resulting direction is aligned with Canadian and Canadian Armed Forces (CAF) values, regulations, and laws as well as the safeguarding of the CAF's most valued land power resource, its soldiers.

## **INTRODUCTION**

2. Although PE can mean any non-therapeutic use of drugs with a performance-enhancing goal, this definition lacks clarity in the context of evolving definitions of health and disease. For example, when the diagnostic criteria changed to require fewer symptoms for diagnosis of attention deficit hyperactivity disorder (ADHD), one study found as much as a 65% increase of potential ADHD diagnoses.<sup>1</sup> Additionally, measures of health are often arbitrary. To illustrate this arbitrariness, Case Western Reserve University Professor Maxwell Mehlman points to the designation of 20/20 vision as normal, when only about 35% of adults meet this standard.<sup>2</sup> With ambiguity surrounding what is considered a normal state of health, it then follows that defining PE is equally challenging. Further analysis of this definition is worth exploration but the length of this paper does not allow for it. Consequently, to meet the intent of this paper, the certainty of what qualifies as "enhancement" will be assumed and the term pharmacological enhancements (PEs) will encompass the spectrum of drugs (including those yet to be developed) used for performance enhancing purposes.

3. Drug typology is another matter for consideration ahead of any informed discussion of their use. Under the authority of the Food and Drugs Act, Health Canada regulates all food and drug products sold in Canada. Up until 2004, natural health products (NHPs) were classified as either food or drugs but their increasing use necessitated their own regulations, called the Natural Health Products Regulations.<sup>3</sup> CAF use of NHPs to enhance performance will be a beneficial study to conduct but this paper will only consider products defined as drugs under the Food and Drugs Act. All drugs in Canada undergo a review process that prove safety and efficacy before assignment of a

---

<sup>1</sup> T. Rigler et al, "New DSM-5 Criteria for ADHD -- does it Matter?" *Comprehensive Psychiatry* 68, (July, 2016): 58, <https://www.proquest.com/scholarly-journals/new-dsm-5-criteria-adhd-does-matter/docview/1794174310/se-2>.

<sup>2</sup> Maxwell Mehlman, "Bioethics of Military Performance Enhancement," *Journal of the Royal Army Medical Corps* 165, no. 4 (April, 2019): 226, <https://www.proquest.com/scholarly-journals/bioethics-military-performance-enhancement/docview/2268044161/se-2>.

<sup>3</sup> Health Canada, "Drug Products Legislation and Guidelines," last modified 6 April 2018, <https://www.canada.ca/en/health-canada/services/drugs-health-products/drug-products/legislation-guidelines.html>.

Drug Identification Number (DIN). In contrast to NHPs, drugs have an understood level of safety that simplify ethical aspects in their use. Their use for the purpose of performance enhancement, however, may be considered off-label use and will warrant some additional considerations by medical advisors.<sup>4</sup>

4. The discussion that follows will briefly cover historical use of enhancing drugs during war and the implications and potential value for future warfare. Then, the *triad of responsibility* will present the three, often competing, perspectives that are relevant to this topic - namely the member, the healthcare provider and the Chain of Command (CoC).<sup>5</sup> Lastly, the paper will describe the three principles of *proportionality*, *paternalism*, and *fairness* that should guide command decisions of PE mandates. Moreover, relevant laws, regulations and espoused values will permeate the discussion.

## DISCUSSION

5. Both prescribed and illicit use of PEs by soldiers during war has a lengthy, documented history. In ancient history, when psychoactive substances were widely used, even fashionable, Kamienski points to two reasons for their prescribed use in combat:

- a. Improved performance: Stimulants increased endurance, alertness, physical power and morale; and
- b. Treatment and prevention: Sedatives countered the trauma experienced in combat and calmed nerves.<sup>6</sup>

6. From the 1930s to the 1950s, states began regulating drugs but amphetamine use continued extensively during the world wars. Doses were prescribed in the tens of millions each year, only abating slightly when the after effects, such as hangovers, nervousness, increased rates of suicide and addiction, became apparent.<sup>7</sup>

7. More recently, drug use during conflict has been noted amongst rebel groups in Uganda, Liberia, Sierra Leone and by terrorists in Afghanistan and Iraq, amongst others.<sup>8</sup> The effects are combatants that are fearless, brutal, and undisciplined, resulting in chaotic conditions.<sup>9</sup>

---

<sup>4</sup> Canadian Agency for Drugs and Technology in Health, "Off-Label Use of Drugs: Questions and Answers about the off-Label Use of Drugs for Health Care Providers," July 2017, [https://www.cadth.ca/sites/default/files/pdf/off\\_label\\_use\\_of\\_drugs\\_pro\\_e.pdf](https://www.cadth.ca/sites/default/files/pdf/off_label_use_of_drugs_pro_e.pdf).

<sup>5</sup> National Defence, "Canadian Forces Health Services Case Management," last modified 11 May 2021, <https://www.canada.ca/en/department-national-defence/services/benefits-military/transition/scan/medical-scan/cfhs-case-management.html>.

<sup>6</sup> Lukasz Kamienski, "Les drogues et la guerre," *Mouvements* 86, no. 2 (May, 2016): 101-103, <https://www-cairn-info.cfc.idm.oclc.org/revue-mouvements-2016-2-page-100.htm>

<sup>7</sup> *Ibid.*, 104-105.

<sup>8</sup> *Ibid.*, 107-108.

<sup>9</sup> *Ibid.*, 108.

8. In addition to the chaos soldiers face while countering chemically induced psychopathic foes, technological advances, like the CAF's Integrated Soldier System,<sup>10</sup> and their nexus in a pan domain operating environment risk an overwhelming cognitive load for soldiers. PEs that could safely improve cognitive capacity, increase endurance and alertness while dampening the traumatic effects of combat could play a role in increasing effectiveness in this complex environment, under the right circumstances.

9. Canadian Forces Health Services (CFHS) will be the gatekeeper for such PEs so it is important to acknowledge the perspective of the CAF healthcare provider (CAF HCP). Unlike the dual patient-provider relationship that exists in the civilian healthcare system, the CAF system is built on a triad of responsibility where HCPs have two clients: the member and the chain of command (CoC). When considering PEs, HCPs will be concerned with their licensing obligations of informed consent<sup>11</sup> and patient privacy.<sup>12</sup> The principle that "every human being of adult years and of sound mind has the right to determine what shall be done with his or her own body"<sup>13</sup> has to be understood in the context of a voluntary service such as the CAF. An HCP must ensure members are consenting to the use of PEs, free from coercion. Guaranteeing patient privacy is a critical condition in this respect. This requirement was at issue during the CAF's COVID-19 vaccination campaign and it is the reason members were responsible for self-attestations of their vaccination status vice that information being shared by CFHS, as it would have violated patient privacy. In other words, the ability for a member to make an informed refusal of PEs in a private forum between themselves and their HCP, prevents a coerced decision.

10. Since the CoC is also a client, however, they need adequate information to make decisions about risk acceptance. An acceptable method for communicating is through the medical section of the Departure Assistance Group (DAG) readiness verification process.<sup>14</sup> If PEs are deemed necessary for a particular deployment then the HCP can

---

<sup>10</sup> National Defence, "Integrated Soldier System Project," last modified 15 November 2021, <https://www.canada.ca/en/department-national-defence/services/procurement/integrated-soldier-system-project.html>.

<sup>11</sup> Daniel E. Hall, Allan V. Prochazka, and Aaron S. Fink, "Informed Consent for Clinical Treatment," *Canadian Medical Association Journal* 184, no. 5 (March, 2012): 533, <https://www.proquest.com/scholarly-journals/informed-consent-clinical-treatment/docview/953558034/se-2>.

<sup>12</sup> This paper will not delve into a discussion about medical laws and governance but it is important to appreciate that provincial and territorial regulatory authorities control professional licensing and the province of Quebec is the only province using civil law in contrast to the rest of Canada, which uses common law. Consulting a legal advisor will be prudent to navigate the nuances of these layers of regulations and laws.

<sup>13</sup> The Canadian Medical Protective Association, "Consent: A guide for Canadian physicians," last updated April 2021, <https://www.cmpa-acpm.ca/en/advice-publications/handbooks/consent-a-guide-for-canadian-physicians>.

<sup>14</sup> National Defence, "DAOD 5009-1, Personnel Readiness Verification Screening," last modified 24 April 2017, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/defence-administrative-orders-directives/5000-series/5009/5009-1-personnel-readiness-verification-screening.html>.

indicate the member's status according to colour coding defined in paragraph 3.7 of the Defence Administrative Orders and Directives.<sup>15</sup>

11. The CoC's decision to include PE mandates through the DAG process should be based on the ethical principles proposed by Professor Mehlman, which are *proportionality*, *paternalism*, and *fairness*.<sup>16</sup> The application of these principles are necessary given the unique power dynamic that exists between a member and their CoC that is different than a civilian's relationship with their employer. CAF values consist of Duty, Loyalty, Integrity and Courage. Duty is a CAF value that demands its members live by the edict "Mission, own troops, self."<sup>17</sup> On the other hand, loyalty, demands that CAF leaders "ensure their subordinates are treated fairly, and prepare and train them spiritually, mentally and physically for whatever tasks they are assigned."<sup>18</sup> These values permit the CoC to privilege the success of the mission or the welfare of a unit ahead of the member but still place onus on the CoC to do so only when there is a military requirement. This unique power dynamic conflicts with the civilian principle of beneficence, which gives primacy to an individual's well-being, and necessitates specific military ethical principles in the mandated use of PEs.<sup>19</sup>

12. The first such principle of *proportionality* requires a legitimate military objective that has a level of risk that justifies the military advantage sought.<sup>20</sup> For PE mandates, this translates to a responsibility of the CoC to understand, to the highest degree possible, what the risks are. While the review process required under the Food and Drugs Act establishes the safety of PEs, the benefits from non-therapeutic use, are perhaps, less well understood. This uncertainty and the known risk of side effects will necessitate a risk analysis informed by a medical advisor.

13. The second principle of *paternalism* recognizes the limitations placed on the autonomy of CAF members, despite their voluntary enrolment.<sup>21</sup> Including the mandates in the DAG process ensures a member's confidentiality and, tangentially, their dignity. A well-reasoned military requirement for such a mandate is, however, important ahead of any decision that will effectively force a member to consent or risk losing their livelihood upon release from the CAF.

14. The third and final principle of *fairness* encumbers the CoC to ensure a mandate is not imposed in a discriminatory manner.<sup>22</sup> The need for a bona fide military objective, is again, an obligation under this principle as opposed to PE mandates that seek to

---

<sup>15</sup> National Defence, "DAOD 5009-1, Personnel Readiness Verification Screening,"...

<sup>16</sup> Maxwell Mehlman, "Bioethics of Military Performance Enhancement"...

<sup>17</sup> National Defence, "Section 4: Canadian Military Values," last modified 7 October 2019, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/duty-with-honour-2009/chapter-2-statement-of-canadian-military-ethos/section-4-canadian-military-values.html>.

<sup>18</sup> *Ibid.*

<sup>19</sup> Maxwell Mehlman, "Bioethics of Military Performance Enhancement"...

<sup>20</sup> *Ibid.*, 227.

<sup>21</sup> *Ibid.*, 228.

<sup>22</sup> *Ibid.*, 228.

experiment on or punish members, for example. Furthermore, if an individual bears higher risks than their peers for a particular PE due to the state of their health, they should be informed, accordingly and accept the additional risk.

15. It is worth noting that the application of these three principles to decisions on PE mandates would make their justification unlikely during peacetime. Although there may be some exceptions. For example, steroids, in comparison to amphetamines, are not fast acting so any benefits during a mission may require use for a period in advance of a deployment. In that event, some additional thought would need to be given to circumstances that may give rise to ethical dilemmas. For instance, members competing in athletic competitions may have an unfair advantage and a plan will need to be in place to address such situations.

## CONCLUSION

16. The three principles of *proportionality*, *paternalism* and *fairness* offer an ethical framework that can be applied to decisions to impose PE mandates. This framework borrows from Canadian values but takes into consideration the unique values of the CAF and the need, at times to put the mission ahead of individual welfare.

17. With an increasingly complex contemporary operating environment, the historical demands placed on combatants are amplifying. Harnessing the benefits of existing PEs and having a framework in place to leverage future innovations will position the Canadian soldier favourably to respond to the challenges of modern conflict.

## RECOMMENDATION

18. While this paper defines an ethical framework and recommends its immediate use in relevant decisions, there are still many questions to be answered and much to be learned from past experiences. The following areas of research are recommended:

- a. Natural Health Products (NHPs): CFHS will not necessarily be the gatekeeper for NHPs since they are accessible to members without a prescription. HCPs will be a stakeholder to the extent that NHP use impacts a member's health. Research on this topic should consider the level of safety and efficacy that can be inferred based on how they are regulated. It should seek to define therapeutic use in comparison to performance enhancing use. Finally, it should answer when NHP use should be mandated, recommended and prohibited;
- b. Other Cognitive Enhancements: There are other, non-pharmacological, cognitive enhancers in development (or pre-existing) that have varying degrees of accessibility and invasiveness. For example, surgeries, brain stimulation devices and ultrasonic intervention. It is logical that the more

accessible and less invasive enhancements are, the easier it is to decide on their use in the CAF context. This should be studied further, however;

- c. Case Studies: There are a number of interesting case studies that involve therapeutic drug use or vaccine mandates that may have an ethical nexus with PE use. Two, in particular, that introduce interesting areas for study are the anti-malarial, Mefloquine and the more recent Canadian federal employee vaccine mandates for COVID-19. In the case of Mefloquine, this is a drug that is regulated according to Canadian laws, however, a class action lawsuit was brought against the government by veterans claiming they were not properly informed of the side effects.<sup>23</sup> The suggested ethical framework in this paper could be tested on these case studies for further development; and
- d. Lexicon: Finally, conducting further analysis on lexicon is recommended to more clearly define the boundaries between health and disease and amongst performance enhancement, treatment of and prevention of disease.

---

<sup>23</sup> Howie, Sacks and Henry LLP, “Mefloquine Mass Tort Action Canada,” accessed 15 December 2021, <https://mefloquinelawsuit.com/>.



## BIBLIOGRAPHY

- Canadian Agency for Drugs and Technology in Health. 'Off-Label Use of Drugs: Questions and Answers about the off-Label Use of Drugs for Health Care Providers', July 2017.  
[https://www.cadth.ca/sites/default/files/pdf/off\\_label\\_use\\_of\\_drugs\\_pro\\_e.pdf](https://www.cadth.ca/sites/default/files/pdf/off_label_use_of_drugs_pro_e.pdf).
- Hall, Daniel E, Allan V Prochazka, and Aaron S Fink. 'Informed Consent for Clinical Treatment'. *Canadian Medical Association Journal* 184, no. 5 (20 March 2012): 533–40.
- Health Canada. 'Drug Products Legislation and Guidelines'. Guidance - legislative. Accessed 9 December 2021. <https://www.canada.ca/en/health-canada/services/drugs-health-products/drug-products/legislation-guidelines.html>.
- Howie, Sacks and Henry LLP. 'Mefloquine Mass Tort Action Canada'. Mefloquine Lawsuit. Accessed 15 December 2021. <https://mefloquinelawsuit.com/>.
- Kamienski, Lukasz, Pauline Landel, and Samira Ouardi. 'Les drogues et la guerre'. *Mouvements* 86, no. 2 (31 May 2016): 100–111.
- Mehlman, Maxwell. "Bioethics of military performance enhancement". *Journal of the Royal Army Medical Corps*; London Vol. 165, Iss. 4, (Apr 2019): 226. Accessed 9 December 2021. <https://www.proquest.com/docview/2268044161>.
- National Defence. 'Canadian Forces Health Services Case Management', 11 May 2021. <https://www.canada.ca/en/department-national-defence/services/benefits-military/transition/scan/medical-scan/cfhs-case-management.html>.
- . 'DAOD 5009-1, Personnel Readiness Verification Screening'. Policies, 24 April 2017. <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/defence-administrative-orders-directives/5000-series/5009/5009-1-personnel-readiness-verification-screening.html>.
- . 'Integrated Soldier System Project'. Education and awareness, 13 March 2013. <https://www.canada.ca/en/department-national-defence/services/procurement/integrated-soldier-system-project.html>.
- . 'Section 4: Canadian Military Values'. Navigation page, 7 October 2019. <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/duty-with-honour-2009/chapter-2-statement-of-canadian-military-ethos/section-4-canadian-military-values.html>.
- Rigler, Tohar, Iris Manor, Adie Kalansky, Zamir Shorer, and Iris Noyman. 'New DSM-5 Criteria for ADHD -- Does It Matter?' *Comprehensive Psychiatry* 68 (July 2016): 56–59.

The Canadian Medical Protective Association. 'Consent: A Guide for Canadian Physicians'. CMPA, April 2021. <https://www.cmpa-acpm.ca/en/advice-publications/handbooks/consent-a-guide-for-canadian-physicians>.