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Workshop Program

8th ICMM Workshop on Military Medical Ethics

Ethics of Military Medical Innovation, Experimentation, and Enhancement

03 – 05 May 2018 – Forum Lilienberg

Ermatingen, Switzerland

Patronage

Major General (ret.) Roger van Hoof, MD (ICMM Secretary General)
Major General Andreas Stettbacher, MD (Surgeon General, Swiss Armed Forces)
Prof. Dr. phil. Peter Schaber (Professor of Applied Ethics, University of Zurich)

Scientific Coordination

Dr. phil. Daniel Messelken
Center for Military Medical Ethics

Lt Col David Winkler, MD, PhD
ICMM Center of Reference
for Education on IHL and Ethics

Workshop Organization

Swiss Armed Forces,
Medical Services Directorate

ICMM Centre of Reference for Education on International Humanitarian Law and Ethics

Center for Military Medical Ethics

Scientific Coordination

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Idea of the workshop series

The idea of the *ICMM Conference Series on Military Medical Ethics and IHL* is to bring people from different backgrounds together, to share their experience and expertise on specific problems or ethical issues with the aim of discussing how to (re)act in future comparable situations. Speakers and participants have their expertise and experience in the fields of military, international humanitarian law, and philosophy, both from academia and practice. The conference itself gives large room for plenary and informal discussions. The plenary lectures shall be published.

Chatham House Rule

The whole workshop shall be held under the "Chatham House Rule" to encourage open discussions among the participants and the sharing of information.
This rule reads as follows:

> *When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.*

The Chatham House Rule originated at Chatham House and it is now used throughout the world as an aid to free discussion. Meetings do not have to take place at Chatham House, or be organized by Chatham House, to be held under the Rule. Meetings, events and discussions held at Chatham House are normally conducted 'on the record' with the Rule occasionally invoked at the speaker's request.

Thursday 03 May 2018

07:30 - 08:30 ***Breakfast***

Plenary Session I — Introduction & Field reports and experiences

09:00 – 12:00 **Chair: D. Messelken / D. Winkler**

09:00 – 09:15

Welcome and Introduction to the Workshop — D. Winkler/ D. Messelken

09:15 – 10:00

Innovation vs. Experimentation: Where is the line in times of conflict? — Jack Taylor

Coffee Break

10:30 – 11:15

From the lab bench to the battlefield – novel vaccine technologies and informed consent — Paul Eagan

11:15 – 12:00

Ethical and operational issues related to military human enhancement — Ioana Puscas

12:15 ***Lunch*** *please be on time*

Plenary Session II — Prevention by innovation and enhancement

14:00 – 17:30 **Chair: J. Crouse / P. Schaber**

14:00 – 14:30

Experimental Usage of AI-Controlled Brain Implants: Any Moral Obligation Ahead? — Frederic Gilbert

14:30 – 15:00

Informed consent, military medical enhancement and autonomous AI systems: requirements, implications, concerns — Tomislav Miletic

15:00 – 15:30

Plenary Discussion of both presentations

Coffee Break

16:00 – 16:30

Memory-modification in the Treatment of PTSD in service members: Ethical and Legal Concerns Revisited — Rain Livoja

16:30 – 17:00

Left of Bang interventions — Neil Eisenstein

17:00 – 17:30

Plenary Discussion of both presentations

18:00 ***Dinner*** *please be on time*

Afterwards get-together and drinks at the "Remise"

Friday 04 May 2018

07:30 - 08:30 ***Breakfast***

Plenary Session III — Philosophical aspects of enhancement and medical experimentation in the military context

09:00 – 12:00 **Chair: P. Ermuth / I. Kholikov**

09:00 – 09:45

Supersoldiers and Superagers: An Ethical Comparison — Paul Gilbert

09:55 –10:40

Patient Rights, Military Necessity, and Medical Enhancement — Michael Gross

Coffee Break

11:10 – 11:55

The impact of the duty to obey orders in relation to medical care in the military — Nikki Coleman

12:15 ***Lunch*** *please be on time*

Plenary Session IV — Historical and ethical aspects of research and experimentation in military and humanitarian contexts

14:00 – 17:45 **Chair: B. Koch / A. Wildi**

14:00 – 14:30

Humanitarian subject experimentation: Beneficiary bodies, technology optimism and the making of wearables in aid — Kristin Bergtora Sandvik

14:30 – 15:00

Ethics and experimentality in the liminal space of humanitarian innovation — Matthew Hunt

15:00 – 15:30

Plenary Discussion of both presentations

Coffee Break

16:00 – 16:45

Human Subjects Research involving the US Military: Legal and Ethical Considerations for the 21st-Century — Gloria Ramsey

Free time for informal meetings etc

18:00 ***Dinner*** *please be on time*

Afterwards get-together and drinks at the "Remise"

Saturday 05 May 2018

07:30 - 08:30 Breakfast

Plenary Session V — Pure science-fiction or future reality? Outlooks

09:00 – 12:00 — **Chair: D. Messelken / D. Winkler**

09:00 – 09:45

„A difficult weapon to confiscate"– Ethical Implications of Military Human Enhancement Reflected through Science-Fiction — Frederik Vongehr

09:45 –10:30

Genetic manipulation and the future of American War Fighters — Sheena Eagan

Coffee Break

11:00 – 11:45

Human Enhancement, Transhuman Warfare and the Question of Being Human: a philosophical challenge — Dirk Fischer

11:45

Closing Remarks — Andreas Stettbacher

12:00 ***Lunch***

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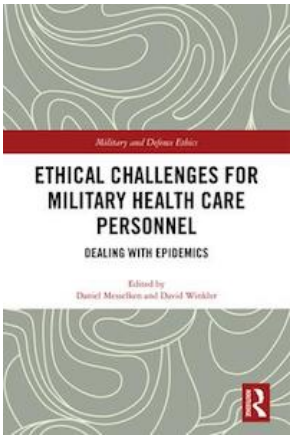
Publications from previous workshops



Messelken, Daniel; Winkler, David (2017), editors. **Ethical Challenges for Military Health Care Personnel: Dealing with Epidemics** (Proceedings of the 5th ICMM Workshop on Military Medical Ethics). *2017*

Messelken, Daniel; Winkler, David (2015), editors. **Proceedings of the 4th ICMM Workshop on Military Medical Ethics**. Bern, 2015. ISBN 978-3-905782-98-1

Messelken, Daniel; Baer, Hans U (2014), editors. **Proceedings of the 3rd ICMM Workshop on Military Medical Ethics**. Bern, 2014. ISBN 978-3-905782-97-4

Messelken, Daniel; Baer, Hans U (2013), editors. **Proceedings of the 2nd ICMM Workshop on Military Medical Ethics**. Bern, 2013. ISBN 978-3-905782-94-3

Available via → http://publications.melac.ch /

Abstracts and Bio Notes (in alphabetical order)

Kristin Bergtora Sandvik – *Humanitarian subject experimentation: Beneficiary bodies, technology optimism and the making of wearables in aid*

Abstract

This paper provides an initial exploration of an emergent type of humanitarian goods, namely 'humanitarian wearables' for tracking the health, safety and nutrition of aid recipients. The paper provides a brief account of the history of wristbands and similar, and offers an inventory of prototyped products. It then unpacks the contemporary making of humanitarian wearables at the interface of global health, population control and security agendas. Taking Sandvik, Lindskov Jacobsen and McDonald (2017) framework of humanitarian experimentation as the point of departure, the paper explores a set of ethical questions relating to the digitization of beneficiary bodies in aid.

Biographical Note

Kristin Bergtora Sandvik (Doctor of Juridical Sciences, S.J.D Harvard Law School 2008) is a Research Professor in Humanitarian Studies at PRIO, and a professor at the Faculty of Law, University of Oslo. Sandvik is the founder and previous director of the Norwegian Centre for Humanitarian Studies, and a member of the board of the Humanitarian Innovation Fund (HIF) and the International Humanitarian Studies Association (IHSA). Sandvik is a leading international scholar in the field of humanitarian innovation and technology. Her recent publications focus on drones, cyber security, experimental innovation and accountability in the humanitarian field.

https://www.prio.org/People/Person/?x=6417 | http://www.jus.uio.no/ikrs/english/people/aca/krisbsa/index.html

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Nikki Coleman – *The impact of the duty to obey orders in relation to medical care in the military*

Abstract

Obedience as a defining feature of the military extends from the battlefield and operational space to the garrison and beyond. In many countries military personnel must not only obey the orders of their commanding officer on the battlefield, but also the orders of their military doctor providing routine medical care back "home". The requirement for individual soldiers to obey the orders of their military doctor and not seek medical care outside the military health system ensures an efficient organisation that is able to ensure operational effectiveness, however it goes against the basic bio-ethical principle of autonomy in health care. Compounding the effect of the impact on the lack of autonomy in regards to their health care decisions is the fact that military personnel are often used in medical research. The requirement to obey orders therefore has the potential to make soldiers vulnerable to abuse in regards to experimentation, as seen in the current US legal case involving the "Edgewood Vets".

This paper will discuss the ethical issues relating to the duty to obey orders and the impact that this has on military personnel in relation to their health care, particularly when they are involved in medical experimentation. There will also be a discussion of some potential ways to mediate the risks that this situation creates so as to ensure the operational effectiveness of the military whilst also protecting soldiers.

Biographical Note

FLTLT (CHAP) Revd. Dr. Nikki Coleman is an applied ethicist who works in military bioethics and space ethics. She is a visiting research fellow at the Royal Australian Air Force Air Power Development Centre, a research associate at the Case Western Reserve University Inamori Center for Ethics and Excellence, a member of the summer teaching faculty at Yale Interdisciplinary Center for Bioethics, an adjunct lecturer at UNSW Canberra in the Space department, and a chaplain in the Royal Australian Air Force. She is also a member of the Australian Departments of Defence and Veteran's Affairs Human Research Ethics Committee.

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Paul Eagan – *From the lab bench to the battlefield- novel vaccine technologies and the issue of informed consent*

Abstract

Vaccines are a commonly used medical countermeasure against many infectious diseases and represent one of the key tools used by militaries to maintain a healthy fighting force. Vaccines also represent an important intervention during humanitarian missions where outbreaks of infectious disease can be the primary cause of the humanitarian crisis or a by-product of social upheaval and natural disaster. Though many infectious diseases are recurrent problems and vaccines exist to address the threat, the recent outbreaks of H1N1, Ebola and Zika have brought to the forefront the inherent inadequacies of traditional vaccine development. The lag time from disease identification to vaccine production can be problematic. Inadequate vaccine supplies can result in prolonged human suffering. New technologies such as nucleic acid-based therapies, use of monoclonal antibodies and novel vaccines provide some hope for a more rapid and robust response capability. The potential acceleration of the vaccine development pipeline carries both opportunities and potential pitfalls. The use of immune enhancement technologies, experimental immunization protocols or unproven vaccines in military personnel or vulnerable populations during times of crisis brings to the forefront ethical issues concerning the adequacy of informed consent, human experimentation and free choice by the participants. An overview of conventional and novel vaccine production technologies will be provided followed by an analysis of the ethical issues around informed consent and human experimentation in vulnerable military and civilian populations. Strategies for health care providers to address these ethical concerns will be discussed.

Biographical Note

LCol (ret) Paul Eagan is a former medical officer and public health physician in the Royal Canadian Medical Service. He has served in a number of roles during his military medical career including head of the communicable disease control section as well as the director of force health protection for the Canadian Armed Forces. He has extensive training and experience in the areas of public health, occupational medicine and infectious disease. He is currently a senior medical analyst in the Directorate of Medical Policy, Canadian Forces Health Services. He is an assistant professor in the Faculty of Medicine, Dalhousie University.

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Sheena Eagan – *Genetic manipulation and the future of American War Fighters*

Abstract

In 2017, the United States Defense Advanced Research Projects Agency (DARPA) budgeted 100-million-dollars to fund gene-editing technology. While much of the research in this field has focused on therapeutic innovation and disease prevention, the military is interested in how this technology can make better soldiers. Recent reports speculate that this technology could enable soldiers to run at super-human speeds, carry enormous weight, live off their fat stores, and go without sleep. While this enhancement would inevitably lead to increased survivability in war, there are significant and warranted ethical concerns. These include the following questions: How can we ensure responsible research conduct in gene manipulation? Can soldiers consent to permanent biological enhancement or manipulation? Can they consent for their future children? How can we insure that this enhancement is not coerced or forced? Is this search for a super-soldier a problematic example of modern eugenics?

This paper will provide a brief examination of this new technology, focusing on DARPA's priorities and interests in the field. Relevant ethical issues will be explored. As with any intervention involving the bodies and lives of service-members, we must be concerned with the possibility of coercion and the exploitation of a vulnerable population. However, this new technology poses larger moral questions concerning the ethically appropriate use of medicine to enhance human biology and the morality of doing so for military purposes.

Biographical Note

Sheena M. Eagan received her Ph.D. in the medical humanities from the Institute for the Medical Humanities at the University of Texas Medical Branch and her Master of Public Health (MPH) at the Uniformed Services University. Dr. Eagan's areas of research and teaching include military medical ethics, public health ethics, history of medicine, and the medical humanities. She has presented academic papers at conferences in medical ethics, military medicine, and military history in North America, Europe, and Asia. Sheena is now an Assistant Professor with the Department of Bioethics and Interdisciplinary Studies at East Carolina University.

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Neil Eisenstein [et al.] – *Left of bang interventions*

Abstract

'Left of bang' (LoB) was coined to capture the period before traumatic injury. In theory, interventions could be administered LoB to increase survival prospects. In a paper that sketched some of the potential ethical complexities of using LoB interventions (Eisenstein et al. 2017, BMJ) we distinguished these interventions from those that are: a) given LoB for the same purpose but which have enhancing side-effects, and b) interventions that are enhancing per se. We will again be focussing on LoB interventions that do not have enhancing properties. In our 2017 paper we assumed that military doctors should not provide medical interventions without consent but we outlined the circumstances that may justify the provision of LoB interventions with consent. We did not consider whether if the benefits of a LoB intervention were demonstrated, training non-healthcare military personnel to administer these interventions to the unwilling would overcome the problem that military doctors would not. We will start by exploring this question. We will then address two issues related to research on LoB interventions:

- Whether the ethical norms that govern researching public health interventions are applicable to novel LoB interventions given the military context and mutual interests in the survival of the troop in high-risk engagements.
- Whether, following on from arguments that we all have a prima facie obligation to participate in properly constituted medical research, military personnel have an additional 'other things being equal' obligation to participate in properly constituted and administered trials that may confer benefit on a troop (independent of any overarching justification for any specific mission) such as those of LoB interventions.

Biographical Note

Major Neil Eisenstein is a serving medical officer in the Royal Army Medical Corps of the British Army. He is a trainee trauma and orthopaedic surgeon. He has recently completed a PhD in chemical engineering in the University of Birmingham. He is the lead author of the original articles outlining the Left-Of-Bang concept and its associated ethical consequences.

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Dirk Fischer – *Human Enhancement, Transhuman Warfare and the Question of Being Human: A Moralphilosophical Challenge*

Abstract

For most of its parts, the history of mankind is closely linked to the history of technology. Since primeval times man tried to improve his naturally given skills by inventing more or less complex techniques. Most of these were understood as technical additives to simplify the conduct of life, both in private and in professional sphere. Apart from that, the use of techniques played an important role in armed conflict right from the beginning. Along with the industrial revolution, the relation of man towards technology became more and more a subject to philosophical thinking. During the first half of the twentieth century technical improvement particularly in the field of biology inspired both natural scientists and philosophers to formulate future visions, which first brought up the idea of technical improvement of man himself. Their visions of invasive techniques had a major impulse until the present day, and represent the origin of today's debate on human enhancement. This debate is very closely linked to the philosophical concepts of transhumanism and its understanding of posthumans. Human enhancement in this context can be defined as the invention and application of technical methods and tools to overcome any natural given limits of human beings, who thereby enter a new stage of existence. After having taken up a method or tool of human enhancement, being human means something different than before.

Human enhancement in a military context cannot be seen as separated from its general implication on man and society. A term like "transhuman warfare" may serve as a theoretical gateway to explore the meaning of being human, and the moral philosophical implication of human enhancement in a military context.

Biographical Note

Medical doctor, philosopher and theologian. Doctor of medical history, doctor of moral theology, medical ethics consultant in the medical service of the Bundeswehr, head of the Teaching and Research Unit for Military Medical Ethic at the Bundeswehr Medical Academy Munich.

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Frederic Gilbert – *Experimental Usage of AI-Controlled Brain Implants in Military personal: Any Moral Obligation?*

Abstract

The US Defence Advanced Research Projects Agency (DARPA) is currently funding experimental trials testing in human novel medical brain implants operated by Artificial Intelligence (AI). The purpose of my presentation is to explore some ethical issues related to the experimental usage of these invasive AI-controlled brain devices; in particular I will use some results we obtained from a first-in-human trial involving similar AI- brain implant to make my case. As new AI-controlled brain devices are being medically developed for patients suffering from various conditions, especially psychiatric diseases, a first ethical concern is whether patients enrolling in invasive experimental trials possess the appropriate competences to consent to be implanted. This challenge may be exacerbated due to the nature of their disease. For instance, can feelings of despair motivate a military personal afflicted by PTSD or depressive symptom to consent to implantation? A second concern is related to the potential adverse effects associated with AI- controlled brain devices. Results we obtained from a first-in-human trial using similar implantable AI-operated brain devices shown that invasive brain technologies can induce feelings of loss of control, radical distress and a rupture of patient identity. As these AI-implantable devices are novel, safety issues need to be ascertained, especially because many adverse effects might go beyond traditional known risk of harms.

Overall, this paper identifies and evaluates new ethical implications of AI-controlled brain system; it examines military moral obligations toward experimental innovative medicine.

Biographical Note

Frederic Gilbert is an Australian Research Council Discovery Early Career Research Award fellow (DE150101390). He has published over 60 articles, especially in the field of neuroethics. He conduct research within the Center of Sensorimotor Neural Engineering at the University of Washington, Seattle (NSF Award EEC-1028725). He is concomitantly appointed at the National Core for Neuroethics, Division of Neurosurgery, Department of Medicine at the University of British Columbia, Vancouver. In parallel, he is a research fellow affiliated with the Ethics, Policy & Public Engagement program of the ARC Centre of Excellence for Electromaterials Science, in Australia.

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Paul Gilbert – *Supersoldiers and Superagers: An Ethical Comparison*

Abstract

In the modern western world there are two situations in which someone will face an unaccustomed risk of trauma or death. One is if fighting in a war. The other is when near the end of life. In both cases maintaining health and fitness can mitigate risk, and medical staff have a key role here. It may, however, be claimed that the physical and mental limitations which give rise to these risks should, if possible, be overcome through biological enhancement, by contrast with mere therapy.

There are, though, ethically significant differences between the two situations. Soldiering is a social role, with death an unwelcome outcome. Old age is a natural stage in life and death is inevitable. The paper argues that this difference implies that similarly defined treatment should count as enhancement in the first case but only as therapy in the second. This has ethical consequences, particularly for what is required of medical staff. Awareness of vulnerability produces anxiety and fear which evoke distress and inhibit cool-headed action. While knowledge that vulnerability has been reduced may lessen these effects, in theory they could be eliminated directly by drugs or other interventions. It is argued that the fact that soldiering is a social role and old age a life-stage has different consequences for the administration of such potentially character changing interventions, and, as a result, of the role of medical staff. The paper's overall conclusion regarding the ethics of enhancing combatants is conservative, particularly in view of their proper role and desirable motivational state in war.

Biographical Note

Paul Gilbert is Emeritus Professor of Philosophy at the University of Hull, UK. He is the author or co-author of many publications on the philosophy of mind and body, identity politics and the ethics of war. He has attended several ICMM workhops on MME and has contributed papers on this subject to their proceedings and to edited collections.

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Michael Gross – *Patient Rights. Military Necessity and Medical Enhancement*

Abstract

Warfighters have only limited rights to refuse proven treatments that keep them fit for duty. This presentation departs from proven care to focus on investigational, experimental and enhancement therapies. Investigational drugs offer a therapeutic benefit to those who receive them but are not licensed for the purpose the military wishes. Experimental drugs offer no therapeutic benefit to test subjects but may protect other warfighters. Inoculating US troops in 1998 with a vaccine for subcutaneous anthrax highlights the former, while experimenting on Israeli conscripts in 2009 to test a new inhalation anthrax vaccine exemplifies the latter. Because investigational drugs offer a high probability of protecting fighting forces, military necessity can override patients' rights. Experimental drugs, on the other hand, are risky and not necessarily intended to protect the test subject's health. Regulations, therefore, should be stricter to protect vulnerable populations. Enhancement therapies present different problems. Some are proven and intended to aid individual warfighters while others are unproven and still investigational. In no case are enhancements strictly therapeutic: soldiers designated for enhancement are not sick. Rather, commanders seek to improve a soldier's function on the battlefield or reverse military performance degradation. Lack of any therapeutic urgency raises many questions unanswered by the guidelines governing investigational and experimental drugs. These questions turn on the need for consent and the difficulty of assessing military necessity when considering guidelines to override patient rights.

Biographical Note

Michael L. Gross, Ph.D. is Professor of Political Science at The University of Haifa, Israel. His research focuses on military ethics and military medical ethics. He is the author of Bioethics and Armed Conflict (2006), Moral Dilemmas of Modern War (2010), Military Medical Ethics for the 21st Century (2013) and the Ethics of Insurgency (2015). He is editor of the book series War, Conflict and Ethics (Routledge) and has lectured and led military medical ethics workshops for The US Army Medical Department, the Defence Medical Services (UK) and the Israel Defense Forces.

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Matthew Hunt – *Ethics and experimentality in the liminal space of humanitarian innovation*

Abstract

Emergent technologies are leading to important changes in how humanitarian medical assistance is carried out. However, success of a particular innovation initiative can only be judged in retrospect: Has it led to positive change? What implications has it had for achieving humanitarian goals and upholding humanitarian values? Across the innovation cycle, some degree of risk is inevitable, at least of lost opportunity and disruption, and sometimes of direct harm. In humanitarian settings, such risks accrue in an already strained and volatile environment. Improving the services provided by humanitarian medical organizations is a clear ethical good, something owed to populations affected by war and disaster both now and in the future. Nonetheless, attention is also required to assess and respond to the ethical implications of these processes.

I will discuss two innovation initiatives: the work of a humanitarian innovation lab developing collaborative robotics applications, and telemedicine programs within a humanitarian medical organization. This analysis points to the importance of assessing the links between an innovation and the values and ethical commitments of humanitarians, ensuring oversight proportionate to the risks involved, evaluating and sharing insights gained, and engaging with and being accountable toward local communities. Considering humanitarian innovation as occurring in a liminal space and being a form of experimentality can help to foreground ethical responsibilities of those involved in humanitarian innovation as they seek to improve care and services for populations affected by crisis.

Biographical Note

Matthew Hunt is an Associate Professor at McGill University in Montreal, Canada. A faculty member in the School of Physical and Occupational Therapy, he is also a researcher at the Centre for Interdisciplinary Research in Rehabilitation and associate member of the McGill Biomedical Ethics Unit and Institute for Health and Social Policy. Matthew's research interests are at the intersections of ethics, global health and rehabilitation. He currently leads research projects related to the provision of palliative care in humanitarian emergencies, equity and access to rehabilitation services, and oversight of research in situations of crisis. Matthew also heads a capacity building project for rehabilitation providers in Haiti and co-leads the Humanitarian Health Ethics Research Group.

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Rain Livoja – *Memory-modification in the Treatment of PTSD in Service Members: Ethical and Legal Concerns*

Abstract

Post-traumatic stress disorder (PTSD) is a debilitating mental health disorder with high prevalence among service members who have experienced combat. Treatment of PTSD currently entails psychotherapy and symptomatic use of antidepressants, anxiolytics, antipsychotics and hypnotics. Such treatment can be prolonged and costly, and is not universally effective in alleviating symptoms. PTSD results from the overconsolidation of traumatic memories, a process at least partly mediated by endogenous stress hormones. Certain drugs, notably a beta-adrenergic antagonist called propranolol, block the effects of these hormones. Administration of propranolol at the time of the initial consolidation or the subsequent reconsolidation of the traumatic memory has been shown to dampen the emotional valence of the memory and thus forestall or alleviate PTSD symptoms. Such memory-modifying interventions have generated a heated ethical debate. While service members have been commonly referred to in this debate as candidates for memory dampening, this has largely served as a rhetorical device. The treatment of combat-induced PTSD been subject to limited ethical analysis. This paper suggests that the arguments commonly advanced against memory-modification are not persuasive when it comes to service members suffering from PTSD. The paper argues, to the contrary, that the armed forces have an ethical duty to explore all avenues to reduce suffering caused by combat-related PTSD. At the same time, the paper urges caution towards any prophylactic use of propranolol because of its specific side-effect profile and because its performance-enhancing effects create uncertainties around the professional role of the military medical practitioner.

Biographical Note

Rain Liivoja is an Associate Professor at the TC Beirne School of Law, University of Queensland, Australia. He also holds the title of Adjunct Professor of International Law at the University of Helsinki, Finland, where he is affiliated with the Erik Castrén Institute of International Law and Human Rights. Rain's current research focuses on the legal and ethical challenges associated with the military applications of science and technology generally and biosciences specifically. His broader research and teaching interest include the law of armed conflict, human rights law and the law of treaties, as well as international and comparative criminal law.

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Tomislav Miletić – *Informed consent, military medical enhancement and autonomous AI systems*

Abstract

Inspired by the development of AI technology in military and medical applications, we explore the importance and role of informed consent within a scenario where the operational capacity of a service member is enhanced through the use of an AI empowered smart-suit. This „Praetor Suit" has the ability to monitor the service member's neural and psychological state, report that state to medical officers and, if necessary, autonomously administer medical treatments such as drugs or painkillers, effectively enhancing the service member's operational capacity. We defend the use of such an autonomous system inside a Human-Ai symbiosis framework and engage ethical issues concerned with the level and scope of the systems medical autonomy, its design, and transparency, as well as the role and importance of medical officers inside the machine-medic relation. In doing so we aim to delineate the level of system trust and transparency required for the possibility of informed consent as well as the importance of an ethically guided design requiring a „medic-in- the- loop" approach which acknowledges the possibility of nudging and coercion. Finally, we ask if the use of such AI enhancement technology changes the non-combative role of a medical officer to that of a hybrid or even combative one, and what ways can we take to preserve the traditional role of the military medic inside the changing landscape of medical AI automation.

Biographical Note

Tomislav Miletić is a doctoral student in the doctoral study programme: "Philosophy and Contemporaneity", Faculty of Humanities and Social Sciences in Rijeka. Personal and academic interests predominantly lie in exploring the ethical and social impacts of Artificial Intelligence inside the paradigm of Human Enhancement. Philosophy-wise, my research gravitates at the intersection of the philosophy of mind, philosophy of technology, machine ethics and moral philosophy. Currently engaged in exploring symbiotic human-Ai systems and their moral-epistemic status. Writing a doctoral thesis on the subject of moral enhancement through ambient intelligence.

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Ioana Puscas – *Ethical and operational issues related to military human enhancement*

Abstract

The presentation will explore some of the ethical issues and operational challenges related to military human enhancement. Technologies to enhance the cognitive and physical performance of soldiers can compensate for the inherent limitations of the human body, and they simultaneously present opportunities and a host of risks and new dilemmas for military ethics. The presentation will introduce some of the important technologies of enhancement currently developed, such as pharmacological and genetic interventions, neurostimulation, neural implants and others. It will then review the interconnected ethical and operational challenges brought about by these technologies. In particular, it will put forward several scenarios in order to highlight how enhancement may impact some of the most fundamental values in the army, such as honour, courage, merit, sacrifice. For example, could an enhanced soldier legitimately deserve a medal for courage, outstanding leadership and decision-making abilities? Could enhanced and non-enhanced soldiers fight alongside, or will enhanced soldiers, for instance, be assigned to special units? If so, how will the leadership structure be affected, i.e. will military commanders have to be enhanced too? The presentation will expose these and other attendant practical and operational issues bound to arise from the use of enhancements. It will conclude by suggesting some modalities and guidelines for regulating the use of military enhancements in order to avoid the escalation of risks.

Biographical Note

Ioana Puscas works as a Research Officer for the Geneva Centre for Security Policy (GCSP) in Geneva, Switzerland. Her work focuses on innovation and emerging technologies in both civilian and military contexts. She has Master's degrees in International Relations from the Central European University in Budapest and from the Graduate Institute of International and Development Studies in Geneva. Prior to her work at the GCSP, Ioana was a trainee in the Operations Division at the NATO HQ in Brussels.

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Gloria Ramsey – *Human Subjects Research involving the US Military: Legal and Ethical Considerations*

Abstract

The Western literature is ripe with scholarship that addresses the regulations governing human subjects research and the application of the doctrine of Informed Consent. The Common Rule, a uniform set of regulations that govern human-subjects research, revised in 2017, provide the foundational requirements for federally funded research in America. In addition to the mandate for Informed Consent by research participants, the regulations also require a review of the proposed research by an Institutional Review Board, and institutional assurances of compliance with federal regulations. Defense Advanced Research Projects Agency ("DARPA"), the Department of Defense ("DOD"), and the Veterans Administration and others have each adopted the Common Rule and the DOD has also promulgated an Instruction 3216.02 that provides additional protections for human subjects research.

This presentation will discuss published case studies from the American military justice system and legal and ethical lessons learned that have heightened our awareness of the protection of respect for human dignity and patient autonomy. Each service member should be afforded an opportunity to determine if they wish to participate in human subjects research. As Justice Benjamin Cardozo stated in 1914, "Every human being of adult years and sound mind has a right to determine what shall be done with his body…." One would argue that the military is no exception and Informed Consent should apply to military medicine and research.

Biographical Note

Gloria Ramsey, JD, RN, FAAN, is an Associate Professor in Nursing, and as a nurse and attorney, she has a secondary appointment in the School of Medicine, Department of Preventive Medicine and Biostatistics, Global Health Division, at the Uniformed Services University of the Health Sciences ("USU"), in Bethesda, Maryland. At USU, her contributions include teaching bioethics, research ethics, public health ethics, and health policy to inter-professional military, public health and civilian graduate students. In addition, Gloria has been very involved with the continuing education and training in the military health care setting through her contributions to the Walter Reed National Military Medical Center ("WRNMMC") Ethics Committee; annual Ethics Symposium; and serve as faculty member for the Medical Ethics Short Course.

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Jack Taylor – *Innovation vs. Experimentation: Where is the line in times of conflict?*

Abstract

Hippocrates is credited with saying "He who desires to practice surgery must go to war". Indeed many of our greatest advances in acute trauma care and care of the injured have been a direct result of lessons learned on the battle field. From Ambrose Pare's use of vessel ligation instead of cauterization with boiling oil to stop bleeding to Dominique Larrey's use of ambulances decrease the time to care for the injured, these advances have provided innumerable benefits to injured service members and translated to clear improvements in civilian care. As recently as the conflict in Afghanistan we have modified the use of tourniquets and blood products to achieve survival rates higher than those in any previous conflict. In the Korean War, Dr Ralph Millard, a pioneer in plastic and reconstructive surgery, famously developed and refined his technique for repair of cleft lips on local Korean children. Given that, in all of these circumstances, there was neither a better option for care nor an opportunity for standard clinical trials to compare outcome, was this experimentation? Did the recipients of care lose autonomy if they were never given the option for the "standard" treatment? I will explore these issues from the unique viewpoint a military surgeon with extensive deployment experience.

Biographical Note

Jack Taylor is a Navy Surgeon currently stationed at the NATO Military Medicine Centre of Excellence in Budapest Hungary. He received his medical degree from Mercer University School of Medicine in 1993 and is Board Certified in General and Plastic Surgery. He has deployed extensively with the Navy, most recently as the Executive Officer of the NATO Multinational Medical Unit in Kandahar, Afghanistan. In addition to clinical medicine his interests include Medical Futurism and Military Medical Ethics.

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Frederik Vongehr – *„A difficult weapon to confiscate" – Ethical Implications of Military Human Enhancement Reflected through the Science Fiction Genre*

Abstract

Human Enhancement is an increasingly discussed umbrella term on the improvement of the human condition. In the focus of military research, the main emphasis is on the improvement of the performance of the most important piece of equipment: the soldier. Modern discoveries in life sciences enable us to change the human condition. Among these technologies are new drugs, cybernetic implants and genetic engineering. Although some of these methods are ahead of our current capabilities, others have already been in extensive use during past conflicts, such as in WWII. Ethical implications of these new technologies and their impact on the human condition remain to be discussed in society.

The genre of science fiction presents possible future scenarios and shows how new technologies may alter social conventions. It provides us with notable examples of Military Human Enhancement (MHE) and therefore helps us to reflect its ethical implications and offers a particularly suitable basis for medical-ethical considerations. It does not only function as a social commentary, but is in dialogue with real life. Furthermore, ethical implications are already shown in the aesthetic genre, even before a technological realization has been completed, and when there seems to be no immediate need for social debate.

Science fiction proves to be a worthwhile medical-ethical object of investigation, anticipating possible technical developments – or even creating independent hypotheses – and outlining the resulting ethical implications. Through its wide distribution, the genre can thus contribute to a reflection in society.

Biographical Note

April 2004 – 2008	Studies of pharmacy at the Heinrich Heine University, Düsseldorf
May – Nov. 2008	Faculty of Pharmaceutical Sciences, Ghent university, Belgium
November 2009	State exam and license as pharmacist
April 2010 – July 2011	Graduate studies at the Philipps University, Marburg
June 2014	Ph.D. (Doktor der Naturwissenschaften, Dr. rer. nat.)
Since 2014	Lecturer at Philipps University, Marburg
Since 2015	Staff officer, Central Medical Service of the German Armed Forces

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Notes

Practical Information

Registration

Contact	Adele Renfer: Adele.Renfer@vtg.admin.ch General contact: workshop@melac.ch
Workshop Fee	**600 CHF** (includes accommodation in a single room on 3./4.05. and 4./5.05.2018 at Forum Lilienberg, all meals during the workshop, and the shuttle transport from and to the airport)
Early Arrival	If you arrive on the day before the workshop, the additional night 2./3.05.2018 at Forum Lilienberg can be booked for **+198 CHF** (includes the dinner on 2.05.2018 and breakfast).

→ ***Registration is mandatory for all attendants. No participation is possible without registration.***

→ **Registration form available at http://workshop.melac.ch/**

Workshop Organisation & Logistics

Swiss Armed Forces Medical Services Directorate

Contact: Ms. Adele Renfer: Adele.Renfer@vtg.admin.ch

Workshop Language

All lectures and discussions are held in English language. No translation can be provided during the workshop.

Dress Code

Military	Office uniform
Civilian	No dress code

Arrival to the venue: Forum Lilienberg

Address	Blauortstr. 10, CH 8272 Ermatingen, Switzerland
Airport	Zürich Kloten (ZRH)
Railway Station	Ermatingen SBB
Shuttle Service	Shuttle transport from the Airport to the conference venue will be organised for registered workshop participants. Pre-registration for the shuttle is mandatory. *Please register early and confirm your arrival time.*

Venue: Forum Lilienberg, Ermatingen (CH)

Map of the venue

(1)	"Stiftung Lindeguet"	Guest rooms 1-6
(2)	"Zentrum"	Plenary Hall, Coffee Breaks
(3)	"Forum"	Reception & Restaurant (Breakfast, Lunch, Dinner)
(4)	"Gästehaus"	Guest rooms 10-35, Swimming Pool

Contact

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Internet www.militarymedicalethics.ch
Email: messelken@militarymedicalethics.ch

Emergency numbers (from May 1-5, 2018 only)	
Shuttle, organisation, etc:	+41 79 781 55 25 (mobile)
Venue/ Hotel Forum Lilienberg	+41 71 663 23 23 (landline)