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Abstract

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"Ethical, Legal, and Policy Issues in Military Genomics"

Advances in genomic science are attracting the interest of the U.S. military for their potential to improve medical care for members of the military and to aid in military recruitment, training and specialization, and mission accomplishment. In December 2010, the JASONs, a group of scientific advisors to the military, issued a report entitled "The \$100 Genome: Implications for the DoD" that outlined an ambitious plan to employ genomic technologies to "enhance medical status and improve treatment outcomes," enhance "health, readiness, and performance of military personnel," and "know the genetic identities of an adversary." The report also called for the Department of Defense to take advantage of its "large, well-defined population in generally good health, together with their medical records" to "facilitate valuable longitudinal studies correlating genotype and phenotype." Finally, the JASONs stated that "it may be beneficial to know the genetic identities of an adversary and, conversely, to prevent an adversary from accessing the genetic identities of U.S. military personnel," suggesting the potential use of genomic-based weapons.

While researchers have explored issues raised by the use of genomic science in a wide variety of contexts, there has been virtually no examination of the ethical, legal, and social issues raised by military genomics beyond those relating to forensic use of the Department of Defense (DoD) DNA Registry. Importantly, the military context differs in highly significant ways from civilian settings. Unlike in most medical applications of genetics, for example, the welfare of the individual military patient or person being tested is not deemed paramount, but instead is subordinated to the needs of the unit, the mission, and the state. This requires a reconsideration of the principle of autonomy, the appropriate role for consent, and the scope of privacy and confidentiality as they apply to members of the military. The command structure of the military poses practical obstacles to voluntariness that may undermine even a limited role for informed consent. In terms of research, the functioning of IRBs in reviewing military research remains unexplored, and therefore the degree to which they can protect human subjects is unknown. The desire to complete missions safely and effectively may lead combat personnel, and especially special operations troops, to accept large risks from genetic enhancement technologies, which may require a rebalancing of the relationship between individual choice and paternalism. Finally, the extent, if any, to which existing international compacts on the ethical conduct of war apply to genomic-based weapons is unclear.

The presentation, based on ongoing work funded by an R03 award from the National Human Genome Research Institute at NIH, will identify potential uses of genomic science by the military, propose an ethical and legal framework with which to analyze ethical, legal, and policy issues these uses would present, and apply the framework to a series of case studies involving different military applications of genomic technologies.