**Report Title:** Parity of Patient and Provider Perceptions of Omics-Integrated Military Medicine

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Parity of Patient and Provider Perceptions of Omics-Integrated Military Medicine

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Background

- Genomic sequencing (GS) technologies are becoming available to optimize the safety and efficacy of pharmaceutical treatments, and to resolve the diagnostic odyssey in complex genetic disease presentations.
- Healthcare providers (HCPs) in the civilian sector report differing levels of confidence with genomic integration into routine healthcare.
- Access, privacy, and potential discrimination have been cited as factors influencing the decision to undergo GS in the lay population.
- Genomic integration into military medicine includes considerations that are distinct from a civilian cohort and therefore data are not directly comparable.
- The MilSeq Project: Enabling Personalized Medicine through Exome Sequencing in the U.S. Air Force (USAF) is a pilot proof-of-concept study designed to explore the knowledge, attitudes, and perceptions of both patient- and provider-participants regarding the implementation of genomic medicine in the Air Force.
- This brief communication describes and compares the knowledge, attitudes, and perceptions of active-duty Airmen patients and HCPs about the value and impact of GS in the Military Health System.

Methods

- Prospective cohort design with mixed methods
- Nonrandomized convenience sample of Airmen patients and HCPs recruited by flyer, newsletter, social media posting, group announcement and personal advertisement in proximity to primary care clinics.
- Both groups were asked to complete a baseline survey in electronic format, designed to assess knowledge, attitudes and perceptions of GS. Patients and HCPs responded on a Likert-type scale anchored on one end with 1="Strongly disagree" and on the other end with 5="Strongly agree."
- Patient baseline survey concluded with an invitation to participate in a second phase that involved clinical whole exome sequencing (WES).
- HCPs recruited for Phase II result disclosure took a baseline survey and attended a genetic counselor-led primary care genomics training session as a prerequisite to provide results to patient-participants.
- We compared Phase I baseline survey responses of patients and providers where similar questions were asked of each group.
- Because the data did not meet assumptions for Independent Samples T-Test, a Mann-Whitney U Test was run to determine if there were differences in attitude scores between patients and HCPs.

Results

- The mean attitude score for the question, "I worry that I [my patients] will not be able to get insurance in the future if my [their] genetic information is not protected," was not significantly higher (p=0.186) for patients (2.99 [±1.16]) than for HCPs (3.56 [±1.13]).
- The mean attitude score for the question, "I worry that I [my patients] will be discriminated against if my [their] genetic information is not protected," was significantly higher (p=0.019) for HCPs (3.50 [±0.93]) than for patients (2.64 [±0.96]).
- The mean attitude score for the question, "I [my patients] can trust the Air Force with my [their] genetic information," was not significantly higher (p=0.578) for HCPs (4.11 [±0.78]) than for patients (3.97 [±0.69]).
- The mean attitude score for the question, "I [my patients] have a right to know my [their] genetic information," was not significantly higher (p=0.811) for patients (4.65 [±0.48]) than for HCPs (4.56 [±0.53]).
- The mean attitude score for the question, "I think that the Air Force should use genetic information to make decisions about deployment," was significantly higher (p=0.009) for patients (2.90 [±0.88]) than for HCPs (2.11 [±0.78]).
- The mean attitude score for the question, "I think the Air Force should use genetic information to make decisions about duty assignments," was not significantly higher (p=0.534) for HCPs (2.89 [±0.78]) than for patients (2.69 [±0.75]).
- The mean attitude score for the question, "I think the Air Force should use genetic information to make decisions about duty assignments," was not significantly higher (p=0.845) for HCPs (2.78 [±0.67]) than for patients (2.65 [±0.74]).

Discussion

- Baseline attitude scores did not differ significantly in terms of: fear of future insurability, trust for USAF handling of genetic information, the patient’s right to genetic information, and USAF use of genetic information for duty assignment and deployment selection.
- HCP responses differed significantly from patient responses for 2 questions: HCPs more strongly worried about future discrimination should genetic information not be protected and more strongly disagreed with an absolute requirement of GS.

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