

REPORT DOCUMENTATION PAGE

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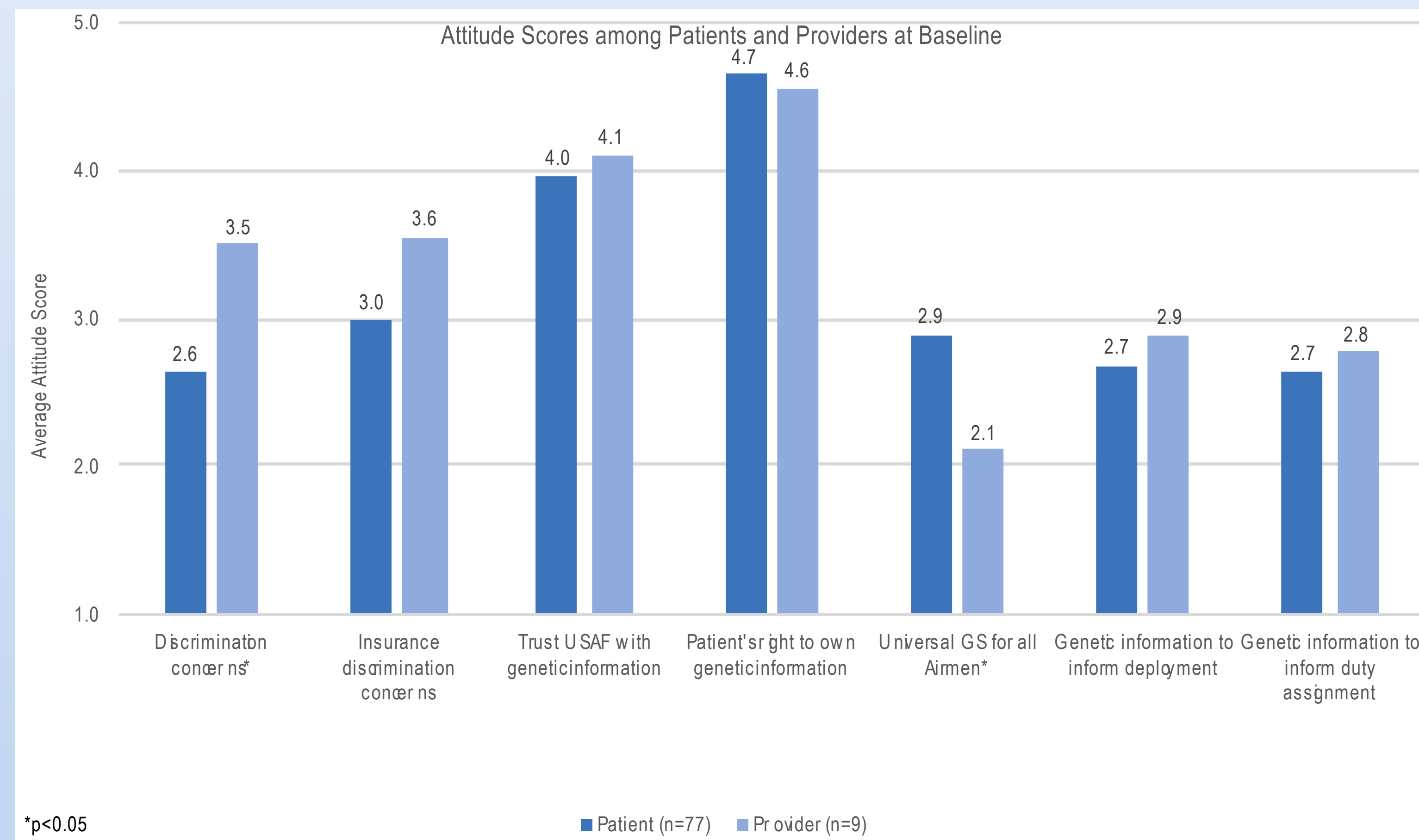
Background

- 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 ($2.99 [\pm 1.16]$) than for HCPs ($3.56 [\pm 1.13]$).
- 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 ($3.50 [\pm 0.93]$) than for patients ($2.64 [\pm 0.96]$).
- 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 ($4.11 [\pm 0.78]$) than for patients ($3.97 [\pm 0.69]$).
- The mean attitude score for the question, "I [my patients] have a right to know my [their] genetic information," was not significantly higher ($p=0.581$) for patients ($4.65 [\pm 0.48]$) than for HCPs ($4.56 [\pm 0.53]$).
- The mean attitude score for the question, "I think that the Air Force should require all Airmen to undergo genomic sequencing," was significantly higher ($p=0.009$) for patients ($2.90 [\pm 0.88]$) than for HCPs ($2.11 [\pm 0.78]$).
- The mean attitude score for the question, "I think the Air Force should use genetic information to make decision about deployment," was not significantly higher ($p=0.534$) for HCPs ($2.89 [\pm 0.78]$) than for patients ($2.69 [\pm 0.75]$).
- 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 ($2.78 [\pm 0.67]$) than for patients ($2.65 [\pm 0.74]$).

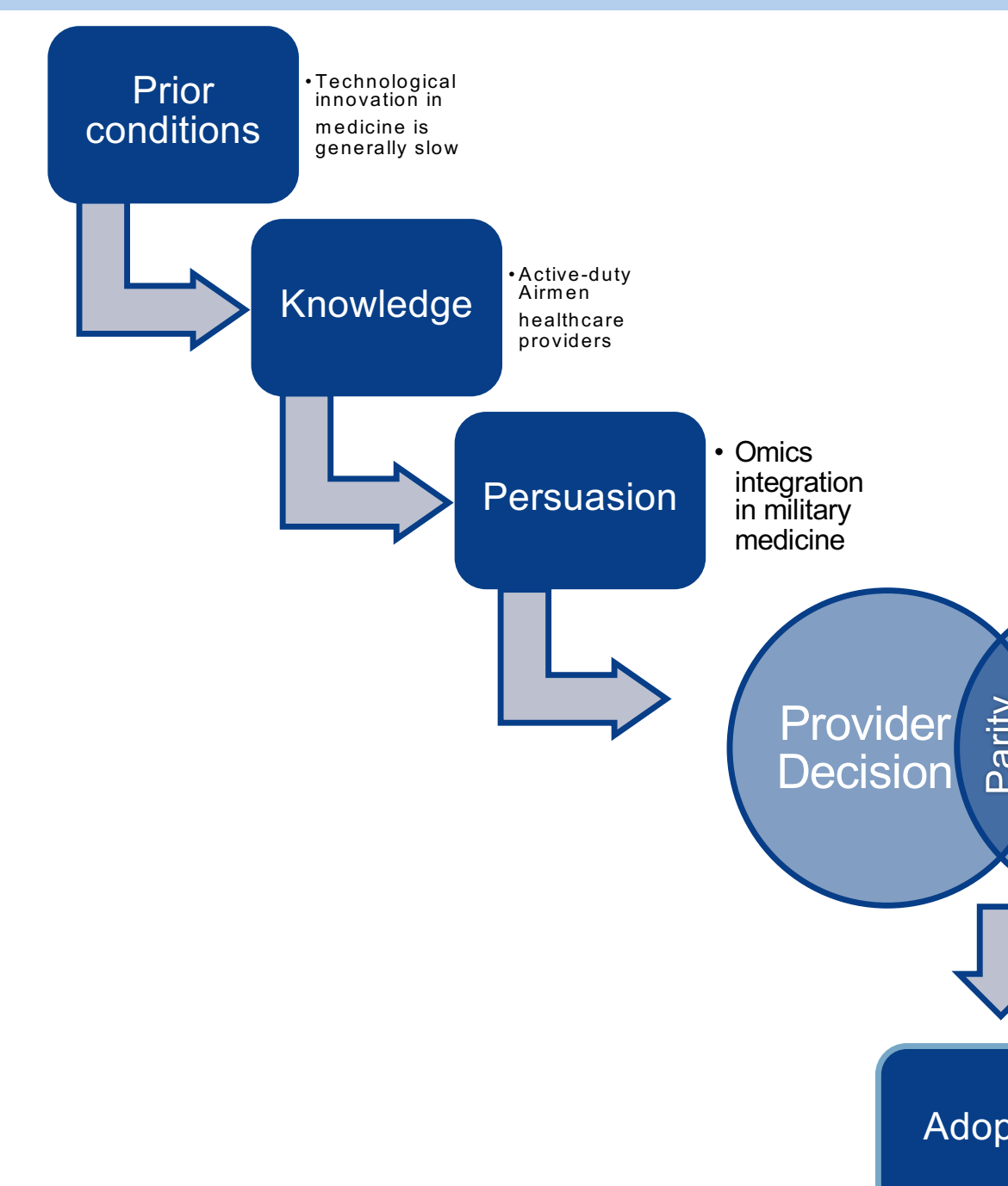
Res

Health Care Provider Characteristics	
Characteristic – N (%) unless otherwise noted	N=9
Age (n=8)	
Mean in years (SD)	39.4 (± 8.8)
Gender	
Male	6 (67%)
Female	3 (33%)
Race/Ethnicity	
Hispanic or Latino	0 (0%)
Non-Hispanic White	5 (56%)
Non-Hispanic Other*	4 (44%)
Years in Practice	
< 1	1 (11%)
1-10	7 (78%)
21-30	1 (11%)
Medical Specialty	
Family Medicine	3 (33%)
Internal Medicine	5 (56%)
Pediatrics/Preventative Medicine	1 (11%)
Genetics Training	
No	8 (89%)
Yes	1 (11%)

* Non-Hispanic Other includes African American, Asian, and Multi-Racial

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- Baseline attitude scores did not differ significantly for questions about insurance, trust for USAF handling of genetic information, and USAF use of genetic information and deployment selection.
- HCP responses differed significantly from patients. HCPs more strongly worried about future genetic information not being protected and more strongly supported the requirement of GS.



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