

# Describing candidate assessments and hiring outcomes at DOI

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# Implementing EO 13932 at DOI

## Evaluating Candidate Hiring Assessments at the Department of the Interior

### What was the challenge?

- Federal hiring has historically relied on applicant self assessments
- [Executive Order 13932](#): increased use of skills- and competency-based assessments in the federal hiring process; requires alternative assessment hurdles for applicants.
- The Department of Interior (DOI) began implementing EO 13932 in 2021 by using one of two types of candidate assessment methods:
  1. subject-matter experts (SMEs) to manually evaluate candidate resumes;
  2. USA Hire scored assessments of general competencies.

# How were candidates assessed before and after implementation?

- **Pre-EO implementation:**
  - Technical self-assessment questionnaires evaluated by HR specialists.
  - Applicants *self-report technical competencies*, then HR specialists verify based on information provided in application.
- **Post-EO implementation:**
  - Bureaus and Offices within DOI chose two ways to implement the E.O.:
    - Technical self-assessment questionnaires + *scored assessments of general competencies* (USA Hire)
    - Technical self-assessment questionnaires + *Subject Matter Experts (SME) resume review panels* to evaluate and score candidates.

# Description of candidate assessment tools at DOI

## Candidate assessment and selection process



# What questions did we answer with the descriptive study?

## Three primary research questions:

- How are candidate assessments being implemented at DOI?
- How long does the hiring process take and how often are positions filled for each candidate assessment method?
- Does the representation of female, people of color, and veteran candidates change at key stages of the recruitment process within each assessment method?

## How did the evaluation work?

- Summaries of administrative recruitment data to explore means and proportions of key recruitment outcomes.
  - Utilization of the three assessment types
  - Average *certification time*, *post-certification time-to-selection*, and *recruitment success*
  - Representation of candidates in key stages of the recruitment process
- Exploratory analyses of differences in outcomes across the three assessment methods:
  - An analysis of variance (ANOVA) for recruitment outcomes for DOI

# Administrative recruitment data

**We look at a subset of vacancies and applications from July 2020 to July 2022:**

- **Vacancy records**
  - Permanent, non-supervisory, delegated examining (public non-status) positions (N=1,154 hiring actions)
  - Posted between July 2020 and July 2022
  - 10 critical job series
  - 5 DOI bureaus (NPS, FWS, BOR, BLM, USGS)
- **Application records (de-identified)**
  - All completed applications to the sample of vacancies (N=115,727)
  - Self-reported demographic information (about 70% of applicants report)

# Primary recruitment outcomes we examined

## Recruitment milestones

- *Certification time*: Time from close of announcement to cert list issued
- *Post-certification time*: Time from cert list issued to a candidate being selected (conditional on selection)
- *Recruitment success*: Whether a candidate was selected for an offer from the cert list

## Candidate representation

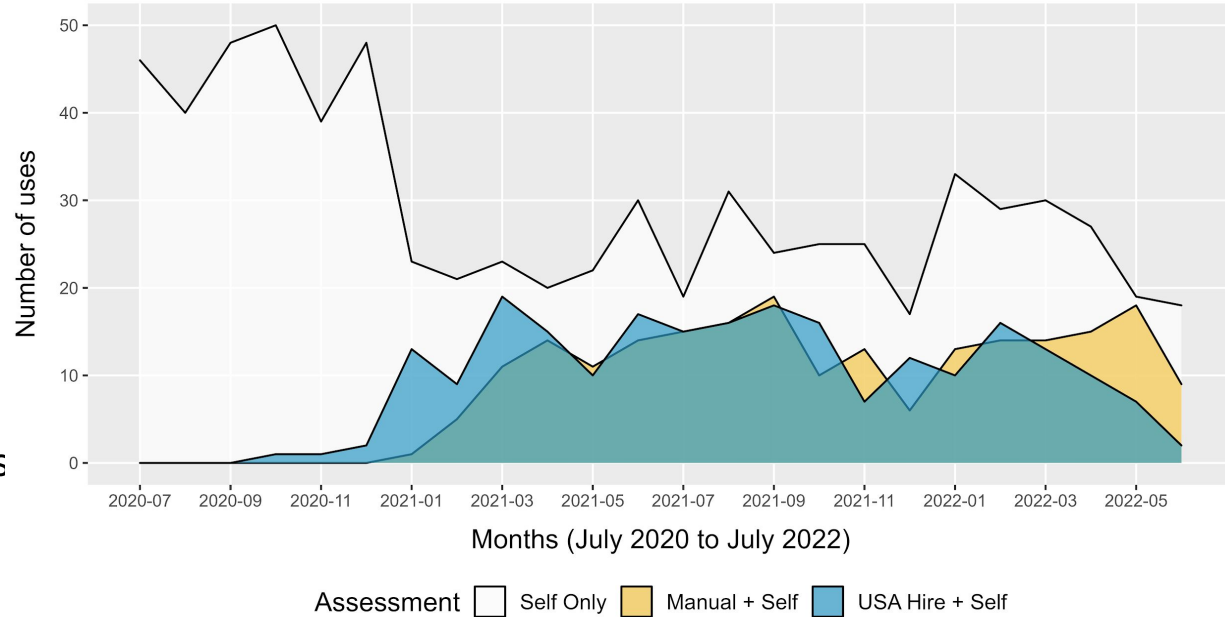
- *Candidate Characteristics*: Proportion of candidates who are women, Non-White or Hispanic, Veteran's preference



# Implementation of hiring assessments across DOI

## Utilization rates for each assessment type:

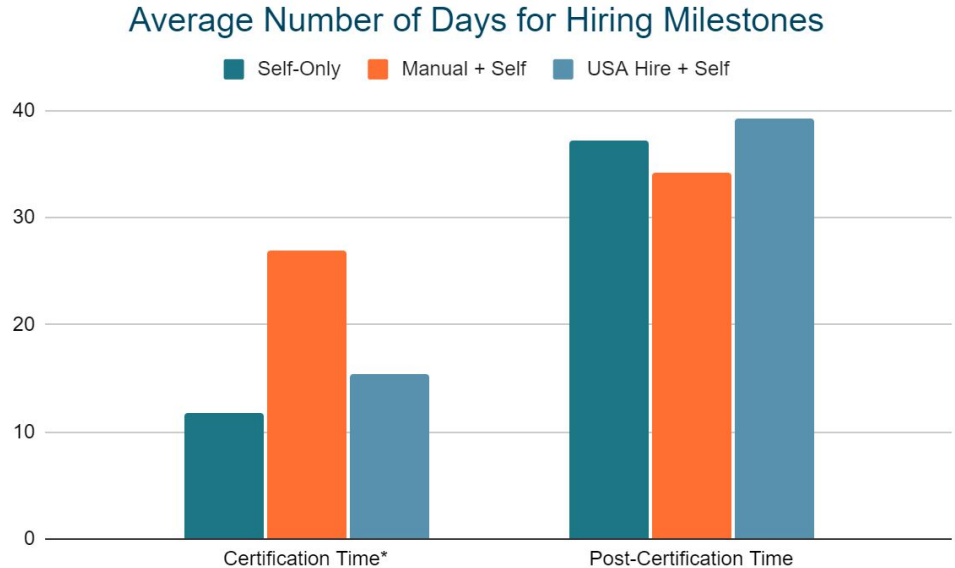
- **Prior to January 2021** DOI primarily relied on self-assessment-only assessments
- **After January 2021** self-assessments decreased in frequency as the department adopted manual and USA Hire assessments



# Timing and success of recruitment process

## Certification & post-certification time for all DOI hiring actions

- Certification time:
  - 12 days for self-report only,
  - 27 days for manual assessments,
  - 15 days for USA Hire
- Post-certification time:
  - 37 days for self-report only,
  - 34 days for manual assessments,
  - 39 days for USA Hire



# Timing and success of recruitment process

## Recruitment success rate for DOI

- Overall between 60% and 70% of DOI hiring actions result in a candidate selection
- Self-report only assessments have the highest recruitment rates with 72% of hiring actions resulting in a selection



# Exploratory analysis: Differences in outcomes by assessment method

ANOVA tests of differences in certification time, post-certification time, and recruitment success

- Statistically significant differences in certification time
- No statistically significant differences in post-certification time
- Statistically significant differences in recruitment success

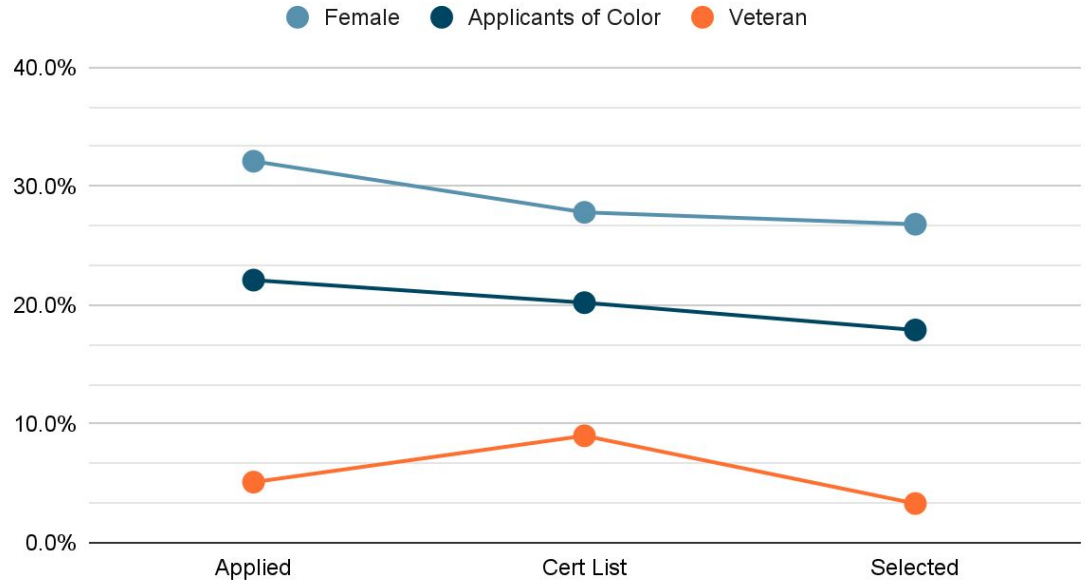
Outcome	Differences statistically significant?	Pair-wise comparisons of outcomes		
		Self vs. Manual	USA Hire vs. Manual	USA Hire vs. Self- Report
Certification time (days)	Yes	-15.2 ( $p < 0.001$ )	-11.7 ( $p < 0.001$ )	3.51 ( $p = 0.031$ )
Post-certification time (days)	No	n/a	n/a	n/a
Recruitment success (%)	Yes	0.099 ( $p = 0.015$ )	0.053 ( $p = 0.442$ )	-0.046 ( $p = 0.388$ )

# Representation of candidates in the recruitment process

## Self-Assessments:

- The proportion of women and non-White or Hispanic candidates decrease at each stage of recruitment process
- The proportion of candidates with veterans preference increases at the cert list stage but decreases at the selection stage

Representation of Candidates in the Recruitment Process for Self-Assessments

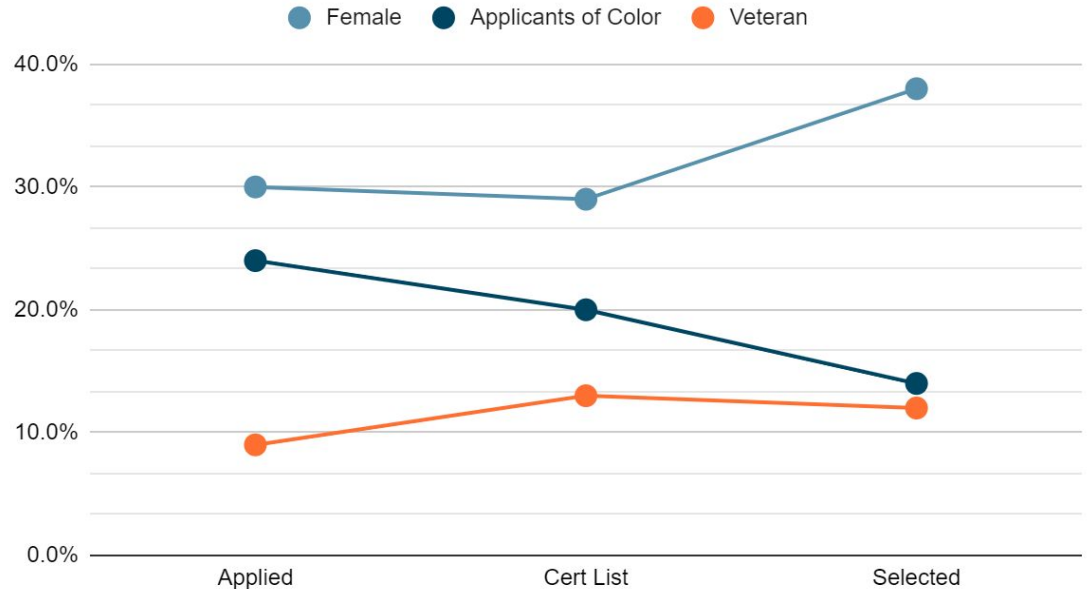


# Representation of candidates in the recruitment process

## Manual Assessments:

- The proportion of women among the selected is statistical significantly higher
- The proportion of non-White or Hispanic applicants is lower at each stage, by a total of 10 percentage points

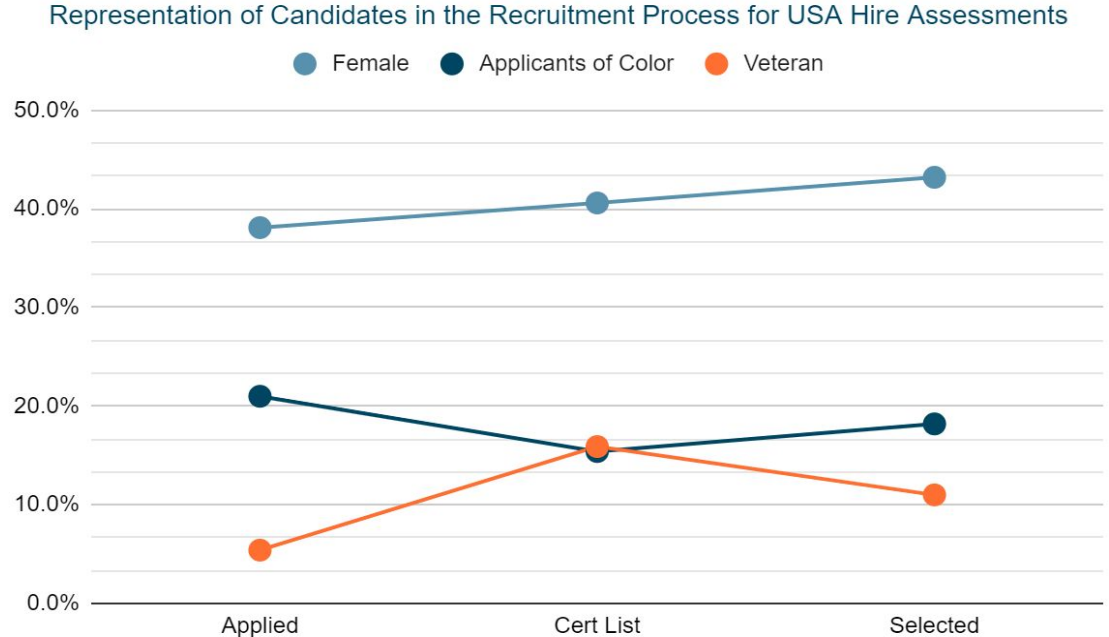
Representation of Candidates in the Recruitment Process for Manual Assessments



# Representation of candidates in the recruitment process

## USA Hire Assessments:

- The representation of women significantly increases between the application and cert list stages
- Representation of non-White or Hispanic applicants significantly decreases between the application and cert list stages
- Veteran representation increases between application and cert list, and application and selection, but decreases between the cert list and selection stages



## Project lessons learned: Key takeaways

- DOI began widespread adoption of EO-compliant assessment methods in January 2021 by implementing a multiple hurdle approach to assessing candidates.
  - After January 2021 DOI relied more on either *manual* or *USA Hire* assessments, and less frequently on *self-assessment only*.
- Recruitment time and success measures vary substantially between assessment methods and across DOI bureaus and job series.
  - Manual assessments accounts for the longest certification time across assessment methods
  - The majority of recruitment time is accounted for in the post-certification period across assessment methods.
- Looking at candidate characteristics allows us to see whether representation of women, applicants of color, and Veterans changes through the hiring process.



## Future research and evaluation *considerations*

- Address data limitations
- Expanding parameters of study
- Impact evaluation of hiring assessments
  - Causal influences
  - Validity
  - Reliability

# Questions?

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