INVESTIGATING THE ASSOCIATION BETWEEN CLINIC VOLUME AND PRE-IMPLANTATION GENETIC TESTING (PGT) UTILIZATION IN US-BASED ASSISTED REPRODUCTIVE TECHNOLOGY (ART) PROGRAMS

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Introduction

Background:

- PGT is a technique used to test embryos created through in-vitro fertilization (IVF) to identify those with chromosome abnormalities and/or specific genes predicted to confer a disorders
- Factors driving PGT utilization have not been well established
- There are limited data around the relationship between a clinic's IVF volume and its outcomes

Objective:

- To evaluate clinic and patient characteristics that influence utilization of PGT
- To evaluate the association between Centers for Disease Control and Prevention (CDC)-reported IVF clinic volume and utilization of PGT in completed transfers.

Materials & Methods

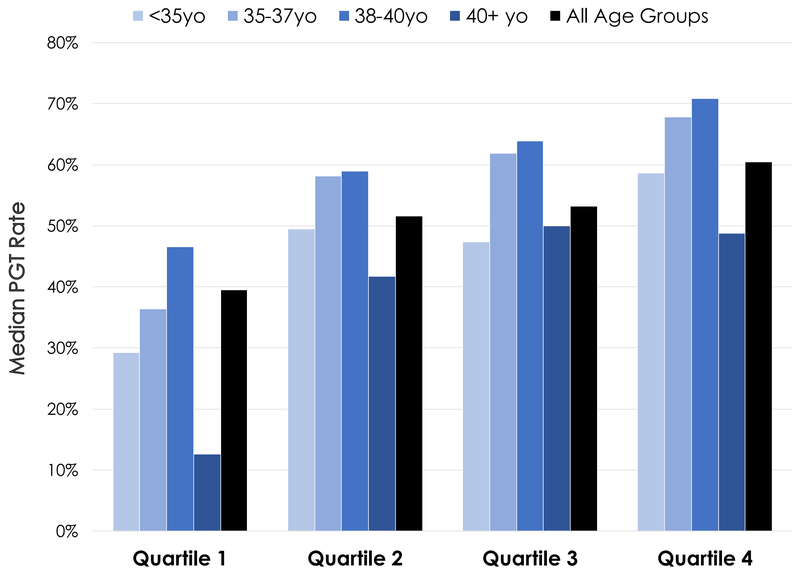
2021 CDC National ART database:

- ART outcomes by clinic, including total IVF cycles, PGT rates in completed transfers, and patient age distribution were extracted
- Clinics with missing cycle data were excluded
- Clinic volume was delineated by quartiles
- Pearson correlation and chi-square analyses were performed to identify the relationship between clinic age distribution and IVF volume
- Relationship between clinic volume and PGT utilization, while controlling for age, was calculated using a Kruskal-Wallis test

Results

	Quartile 1	Quartile 2	Quartile 3	Quartile 4	
Median volume in cycles (IQR)	151.0 (83.5-195.5)	379.0 (312.0-440.5)	701.0 (576.5-880.0)	1710.0 (1394.0-2633.0)	
Median patient age (IQR)	37.2 (36.8-37.8)	37.4 (36.9-37.4)	37.3 (36.9-37.7)	37.4 (37.1-37.8)	p=0.02

Median PGT Rate in Completed Transfers By Age and By Clinic Volume



**p<0.01 between quartiles for all age groups*

Summary and Conclusions

Results Summary:

- Although higher-volume IVF clinics treat a slightly older patient population, their completed transfers utilize significantly more PGT overall and across all age groups
- The lower rates of transfers using PGT in the 40+ year old group likely reflect cycles with no euploid embryos available and do not necessarily indicate limited adoption of PGT in older IVF populations.

Conclusions:

- Despite randomized trials suggesting lack of benefit from the addition of PGT in patients < 35 years old, larger-volume clinics appear to utilize it more commonly, especially in this age group
- This association between larger clinic volume and increased PGT utilization may reflect a standardization of PGT use at larger-volume clinics over medically-driven, age-guided protocols
- Future directions include further characterization of high vs low volume clinics (e.g., geography, academic vs community clinic)

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