

Trends in Embryo Disposition in the Era of PGT-A

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Background

- Disposition options for supernumerary embryos include continued storage, discard, donation to research or for use by other patients, and compassionate transfer.
- Recent national and state legal decisions have limited assisted reproductive technology (ART) practices in some states.
- Such legal environments have the potential to impact ART providers in their counseling and patients in their decision-making regarding disposition of embryos.

Objective

- To evaluate trends in embryo disposition to understand the potential future impact of recent legislature changes.

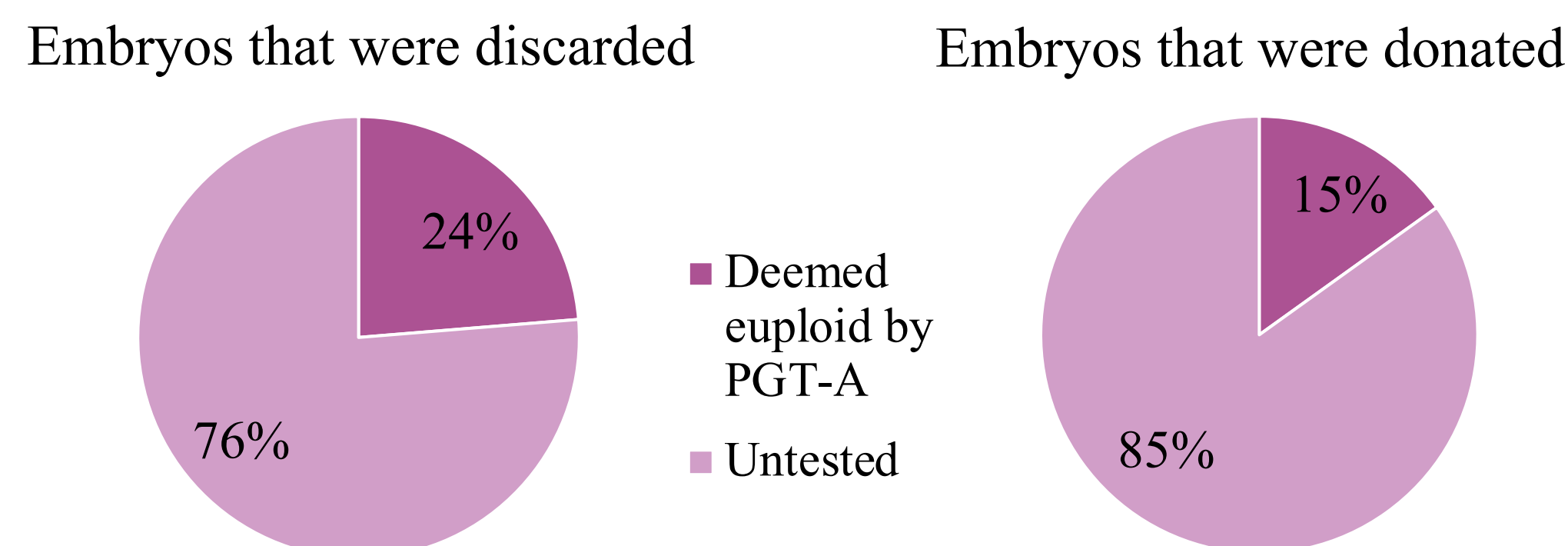
Methods

- Sample: cases of discard or donation of usable frozen embryos between January 2014 and September 2024 at a university-affiliated infertility practice
- Outcomes: proportion of cases in which embryos were discarded or donated, trends over time, and unadjusted analyses evaluating the impact of preimplantation genetic testing for aneuploidy (PGT-A) and live birth

Results

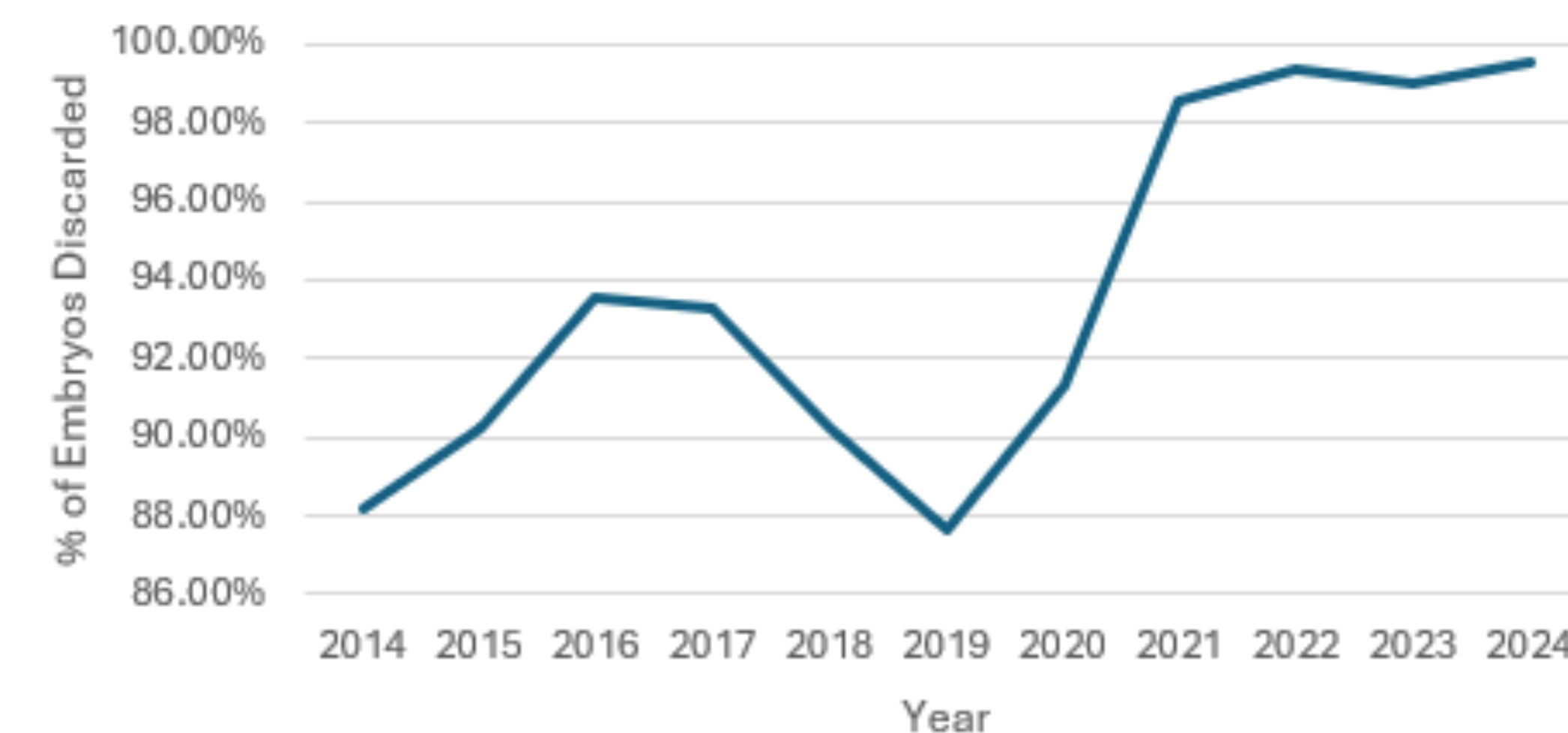
- Storage was discontinued for 11,728 usable embryos
 - 46,000 remained in storage (discontinuation rate: 25%)
 - Of these 11,728 embryos, 10,988 (94.7%) were discarded and 740 (5.3%) were donated (Figure 1)
- Among donated embryos, donation to research was elected more frequently (59.5%) when available vs. directed donation (2.4%) or donation to programs (18.4%)
- Among PGT-A euploid embryos that were not maintained in storage, 95.8% were discarded and 4.2% were donated

Figure 2. PGT-A status of embryos not maintained in storage.



- Achieving a live birth was associated with an increased likelihood of donating compared to discarding embryos (odds ratio [OR] 1.43, 95% confidence interval [CI] 1.13-1.80)
- PGT-A euploid status (vs. untested embryos) was associated with an increased likelihood of discarding compared to donating embryos (OR 1.54, 95% CI 1.20-1.98)

Figure 1. Percentage of embryos discarded of the total not maintained in storage.



Conclusions

- The majority of embryos that were not maintained in storage were discarded rather than donated, with rates of embryo donation decreasing over time.
- The majority of both discarded and donated usable embryos were not PGT-A tested.
- Not achieving a live birth and PGT-A euploid status were each individually associated with an increased likelihood of discarding compared to donating embryos.
- Without legal protection, the majority of patients in some states would lose the ability to determine the fate of their supernumerary embryos.