

Background

Previous research has shown states with mandated insurance coverage for in-vitro fertilization (IVF) have more elective single embryo transfers, lower multiple birth rates, and higher live birth rates among reproductive aged females and heterosexual couples^{1,2}. While expansions of IVF coverage via state mandates are meant to increase access, male same-sex couples and single males continue to be excluded from receiving treatment due to heteronormative insurance policies and clinical practices³. Additionally, there are limited data available that reflects IVF practices and outcomes specific to their population. As states are urged to revise legislation to be inclusive of the LGBTQ+ community, an assessment of the impact of state insurance mandates on IVF cycles undergone by this group is needed.

Objectives

This study aimed to analyze the association of state insurance mandates with embryo transfer practices, live birth rates, and multiple birth rates among IVF cycles undergone by same-sex male couples and single males.

Methods

Study design: national multicenter, retrospective cohort study (2017-2020)

- Data source: IVF cycles (n = 4,250) reported by the Society of Assisted Reproductive Technology; state insurance law information was extracted from Resolve, the National Infertility Association website and the American Society for Reproductive Medicine

Population: Same-sex male couples and single males who underwent IVF cycles with embryo transfer and gestational carriers

Exposure: State insurance mandate categorization

- Comprehensive: existing mandate that includes coverage of IVF (n = 757)
- Limited: existing mandate but does not include coverage of IVF (n = 2,071)
- No Mandate (n = 1,422)

Outcomes: embryo transfers per cycle, live birth rate per transfer, and multiple birth rate per transfer

Covariates: sperm age, egg donor age, day of embryo transfer, type of embryo transfer, number of embryos transferred, and coupled status

Statistical Analysis:

- Linear Poisson regression model
- Estimated incidence rate ratios (IRRs) and 95% CIs
- Analysis was adjusted for clinical covariates and coupled status

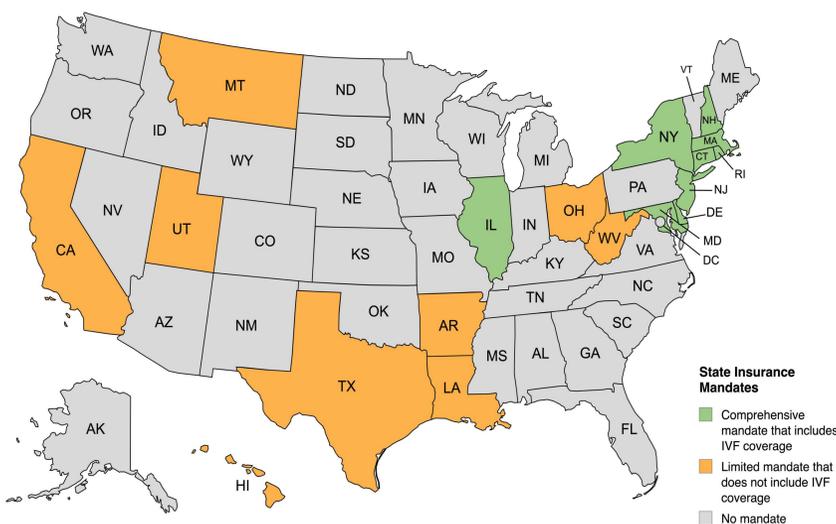


Figure 1: U.S. Map of State Insurance Mandates for Infertility Services in 2017-2020

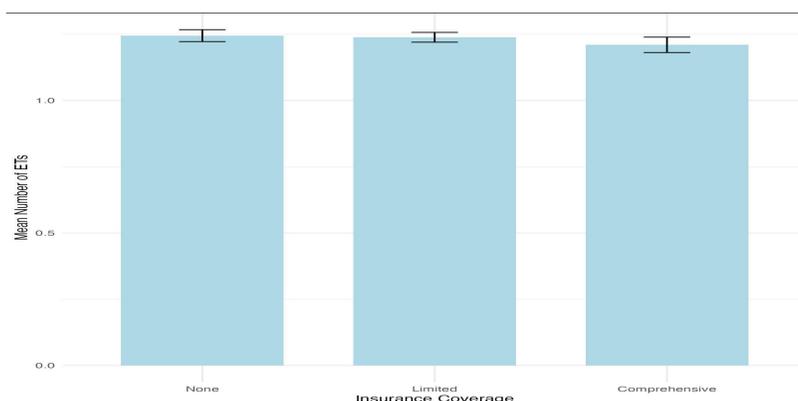


Figure 2: Mean Number of Embryo Transfers by Insurance Mandate Status

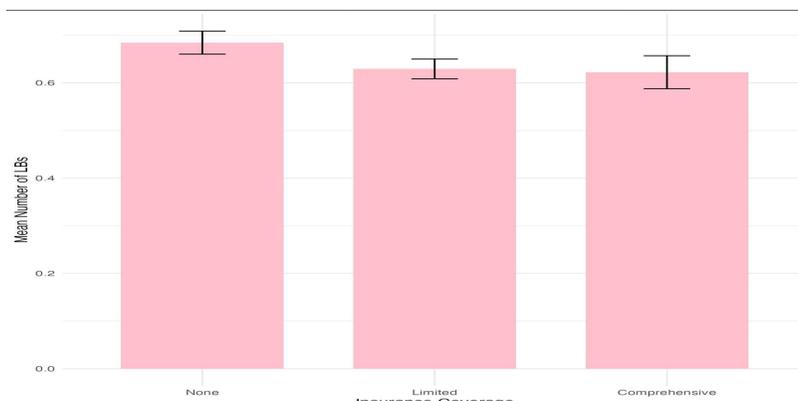


Figure 3: Mean Number of Live Births by Insurance Mandate Status

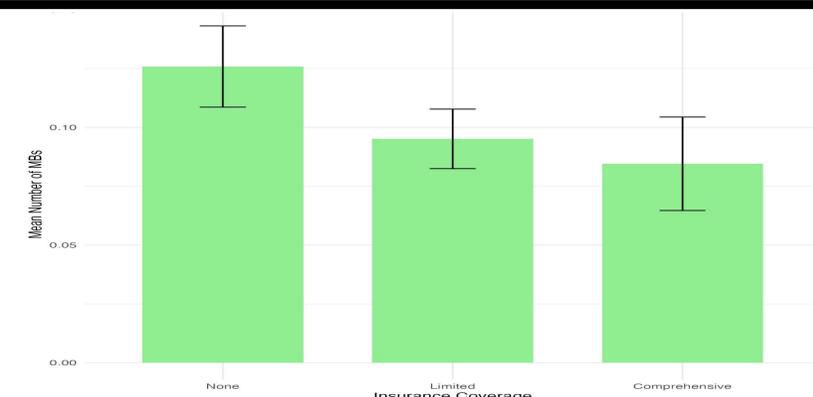


Figure 4: Mean Number of Multiple Births by Insurance Mandate Status

Results

As compared to clinical care in a state with no insurance mandate:

- Limited insurance mandate group:**
 - 0.3% decrease in embryos transferred per cycle (IRR = 0.997, 95% CI: 0.97-1.024)
 - 7.4% decrease in live birth rates per transfer (IRR=0.926, 95% CI: 0.885-0.970)
 - 34% decrease in multiple birth rates per transfer (IRR=0.660, 95% CI: 0.555-0.785)
- Comprehensive insurance mandate group:**
 - 2.7% decrease in embryos transferred (IRR=0.973, 95% CI: 0.941-1.006)
 - 7.9% decrease in live birth rates per transfer (IRR=0.921, 95% CI: 0.867-0.977)
 - 21.1% decrease in multiple birth rates per transfer (IRR=0.789, 95% CI: 0.628-0.990)

Conclusions

Clinical care in a state with an existing IVF insurance mandate is linked with a decrease in both live birth rates and multiple birth rates among cycles undergone by same sex male couples and single males, with an insignificant decrease in embryos transferred. Such insurance policies likely lead to more conservative IVF practices overall.

References

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