

# FIRST TRIMESTER SCREENING IN TWIN PREGNANCIES: Recognising Diversity for Comprehensive Prenatal Care

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## BACKGROUND

**2%**  
prevalence  
of twins

- **Twin pregnancies** comprise 2%<sup>1</sup> of all pregnancies – typically first recognised through ultrasound.
- **Importance:** Twin pregnancies are biologically and genetically **diverse** and present **unique** health challenges.
- **Innovation:** We are currently developing a comprehensive first trimester screening (FTS) program for women booking for maternity care within SWSLHD. This initiative is designed to engage our diverse community, ensuring **equitable** and early access to essential prenatal care.

## AIMS

1. **Screening Efficacy:** Evaluating first trimester screening in twin pregnancies to determine chorionicity, complications due to placental sharing, identify complications<sup>2</sup> such as structural and chromosomal abnormalities and risk of preterm preeclampsia (<37 weeks).
2. **Identify Gaps:** Assess current screening methods to inform and develop innovative research tools aimed at reducing poor outcomes in twin pregnancies.

## METHODS

- Twin pregnancies were identified through an audit of all first trimester (**11-13<sup>+6</sup> week**) screens performed by the obstetric research group in a **two-year period from July 2022-July 2024**.
- Pregnancies were grouped by **chorionicity**. The prevalence of adverse outcomes (TTTS, structural, chromosomal abnormalities and preeclampsia) was reported in each group.



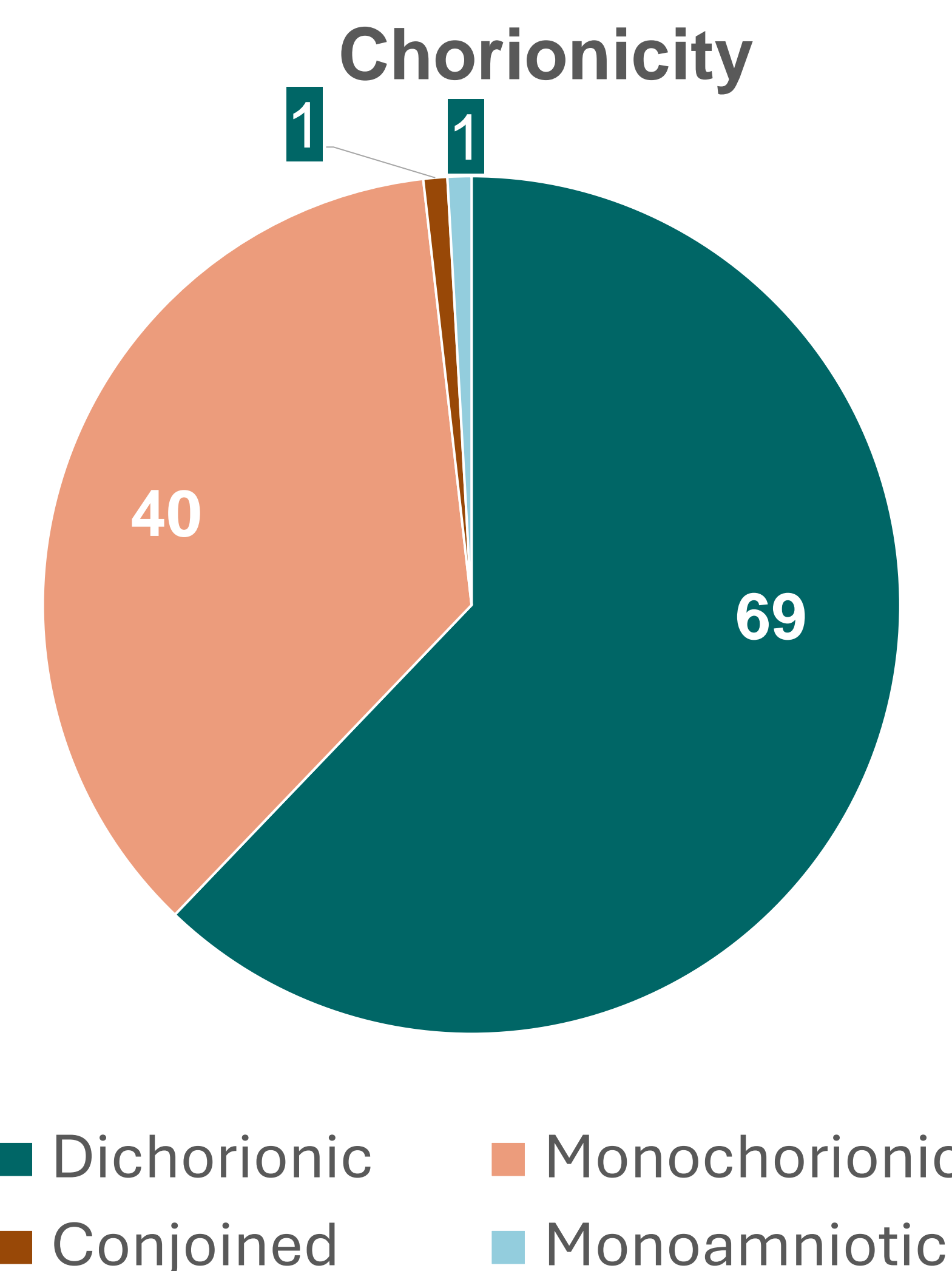
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## RESULTS

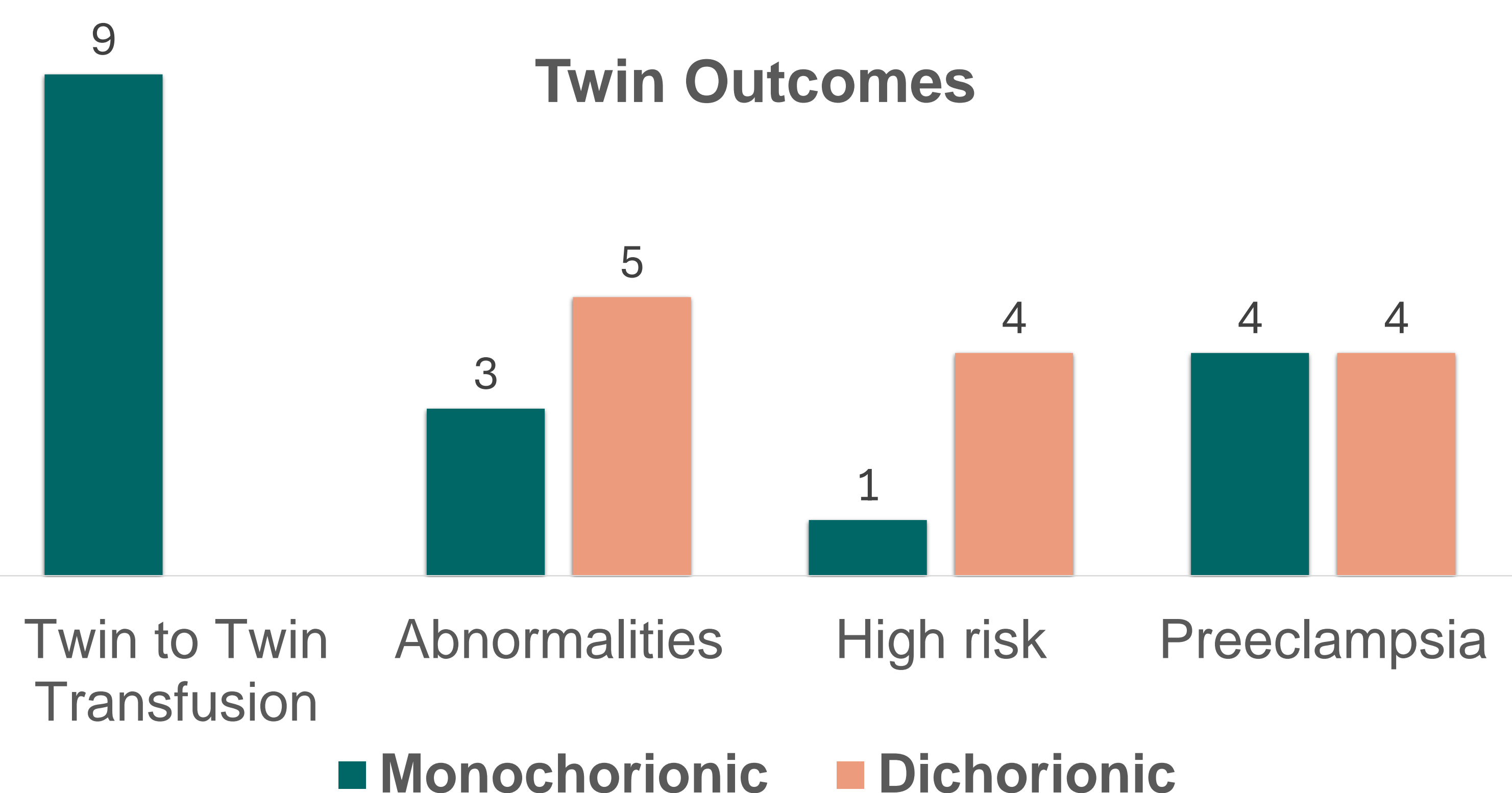
### Total of 111 twins

were screened including 42 (38%) monochorionic and 69 (62%) dichorionic cases.

- **Chorionicity** was defined and clearly reported in all cases.
- **Preeclampsia (PE)** developed in 8 pregnancies. 5 women were on Aspirin. The currently available prediction model, by The Fetal Medicine Foundation, only predicted 1 case<sup>3</sup>.



### Twin Outcomes



- **51/111 (46%)** of twin pregnancies were identified as **likely to be complicated**. This includes all (42) monochorionic pregnancies due to shared placental circulation and all (9) high risk dichorionic pregnancies.

## CONCLUSION

- **PE mechanism:** in twins is unclear and needs more research.
- **Risk Stratification:** first trimester screening is used for aneuploidy risk and could be used for early risk stratification for PE with more research.
- **Chorionicity identification:** is essential for implementing adequate monitoring strategies and interventions to prevent poor outcomes.

**46%**

likely to be  
complicated at the  
11-13<sup>+6</sup> week scan.

#### REFERENCE:

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3. Benkó Z, Wright A, Rehal A, Cimpoa B, Syngelaki A, Delgado JL, Tsokaki T, De Alvarado M, Vojtassakova D, Ntalianis KM, et al. Prediction of pre-eclampsia in twin pregnancy by maternal factors and biomarkers at 11-13 weeks' gestation: Data from EVENTS trial. Ultrasound Obstet. Gynecol. 2021, 57, 257-265.