



School of Medicine

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# Impact of the ARRIVE Trial on Induction of Labor

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## BACKGROUND

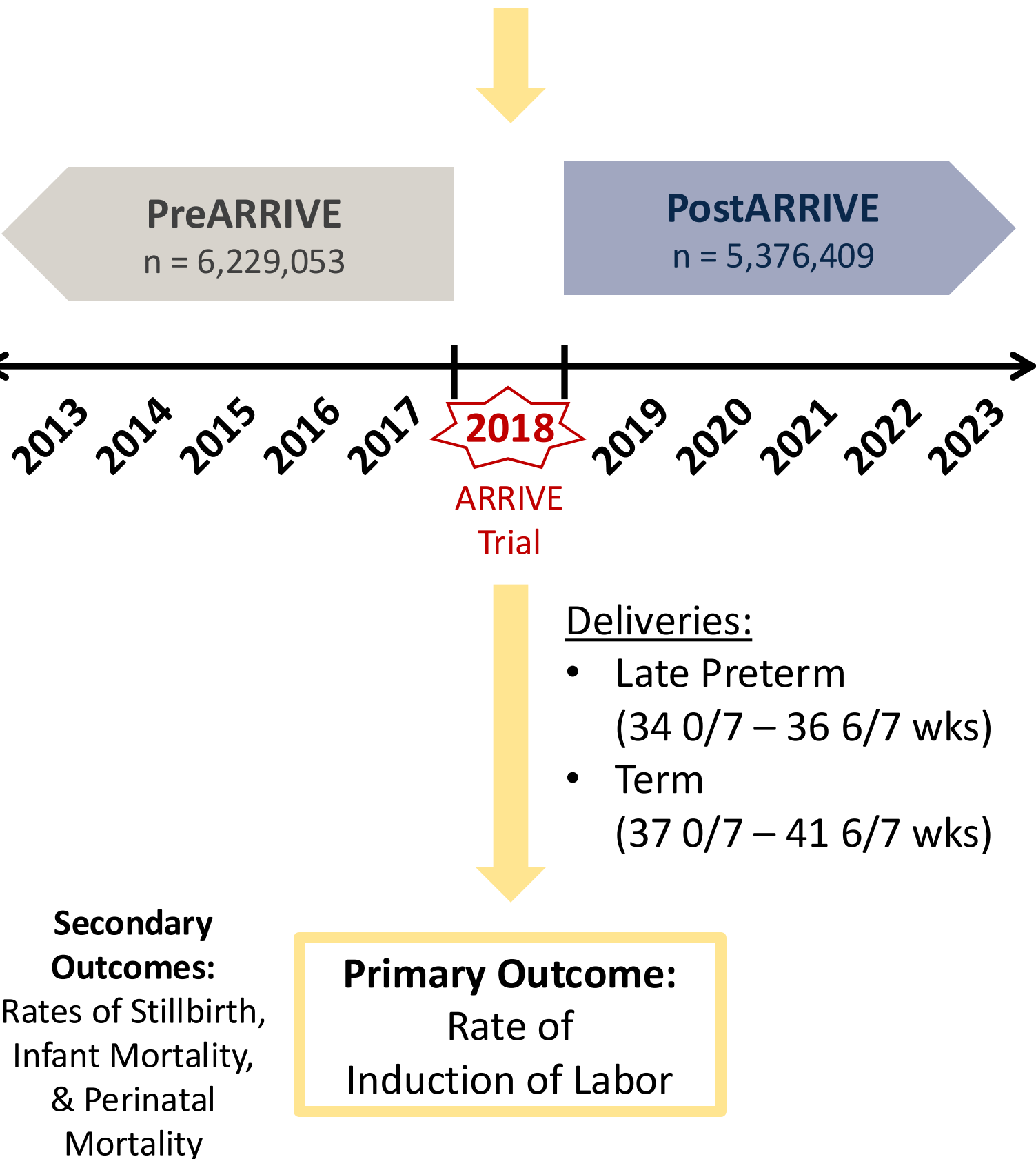
- In 2018, a multi-center, randomized clinical trial known as the **ARRIVE trial** compared expectant management and **elective induction of labor at 39 weeks of gestation** on perinatal and maternal outcomes of low-risk nulliparous individuals.<sup>1</sup>
- No significant difference in perinatal death or severe neonatal complications was found in either group.<sup>1</sup>
- Based on this data, the Society of Maternal-Fetal Medicine (SMFM) announced it was **reasonable to offer elective induction of labor to individuals who met the ARRIVE trial's eligibility criteria**.<sup>2</sup>
- Recent data suggest the ARRIVE trial was pivotal in shaping the clinical practice of IOL, specifically the appropriate timing at which to perform this intervention.<sup>3,4</sup>

### Objective:

To assess the impact of the ARRIVE trial on induction of labor in both late preterm and term deliveries at 34 to 41 weeks of gestation across the U.S.

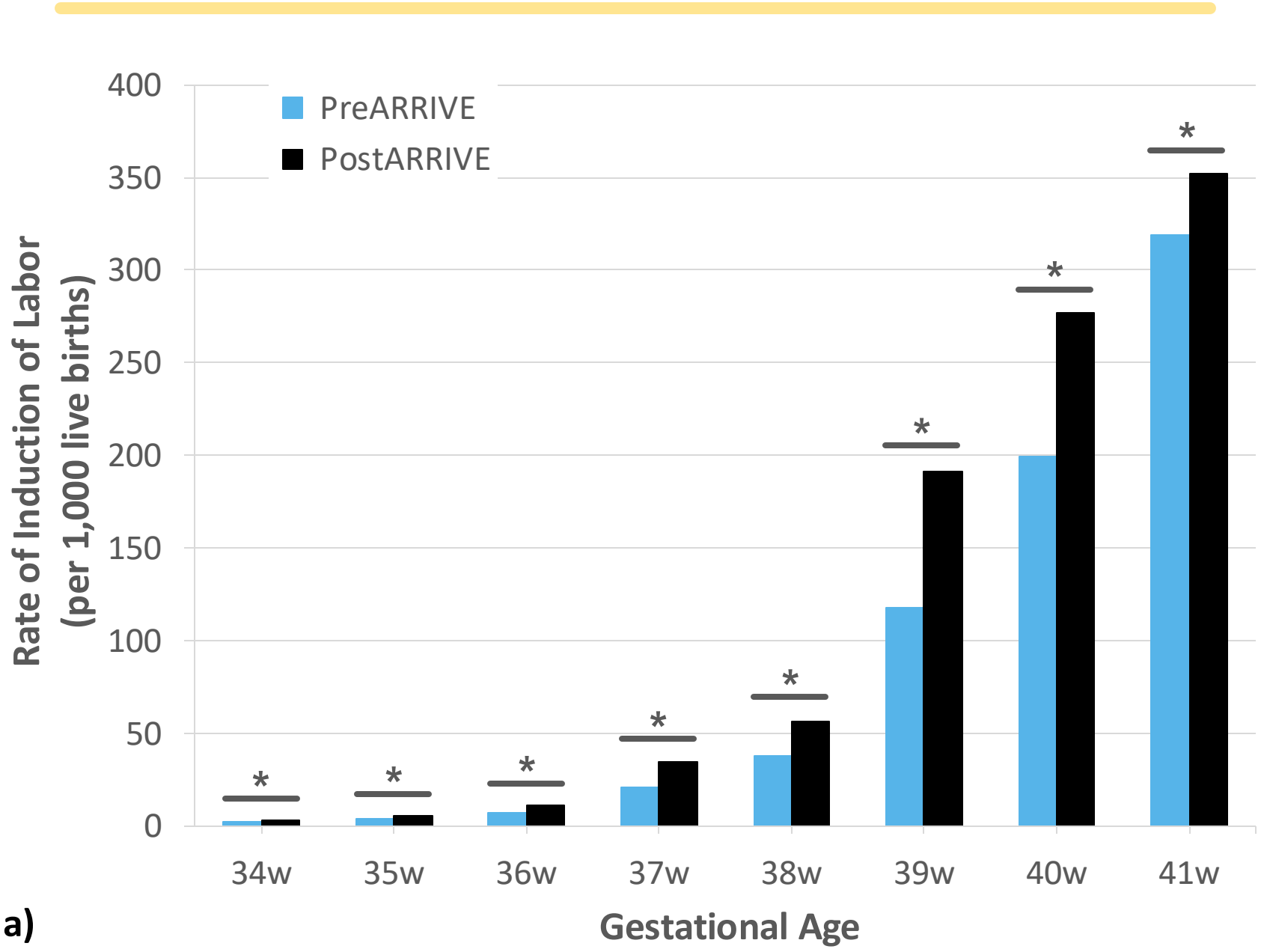
## METHODS

U.S. period-linked birth and infant death data along with fetal death data from National Vital Statistics System (NVSS)<sup>5,6,7</sup>

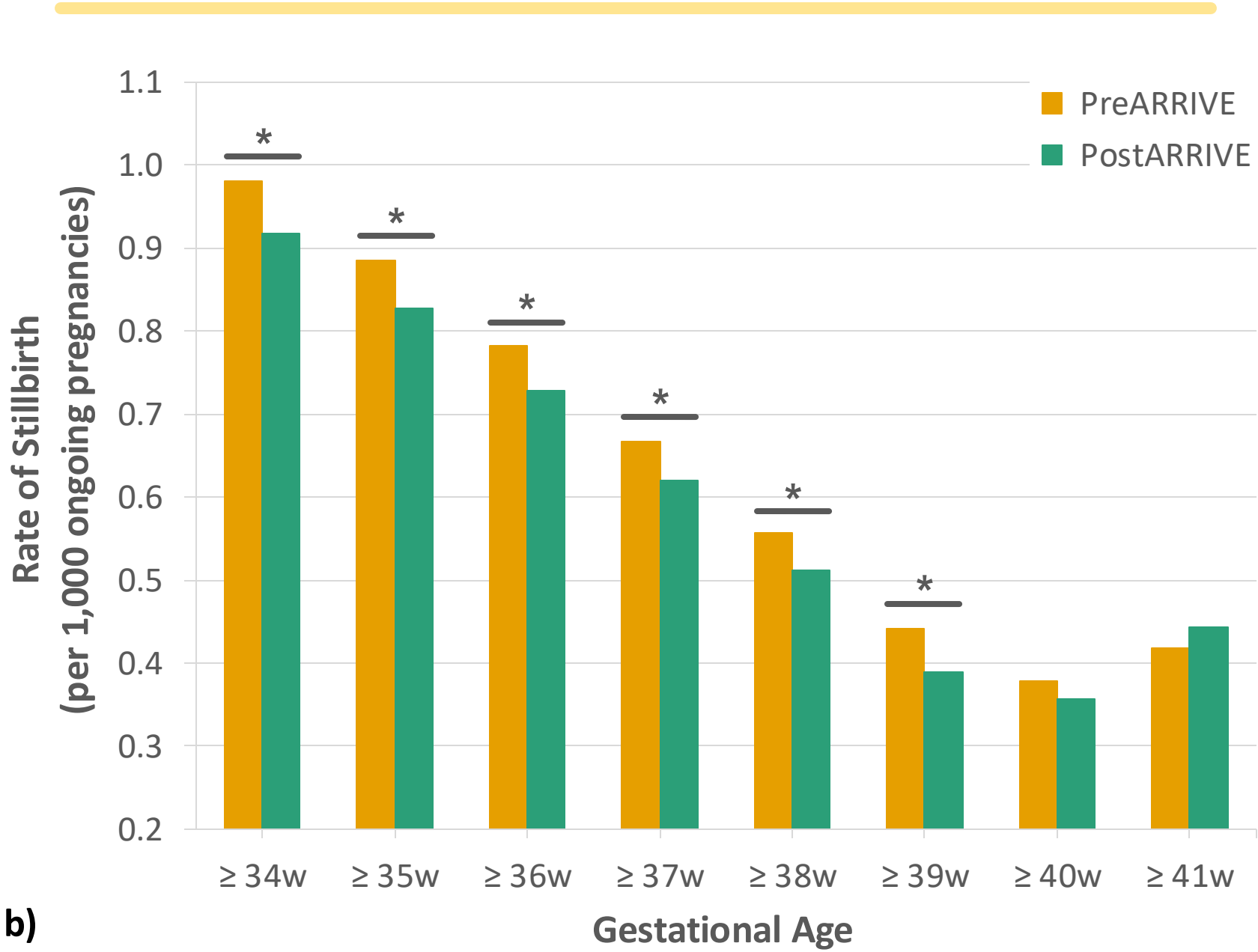


## RESULTS

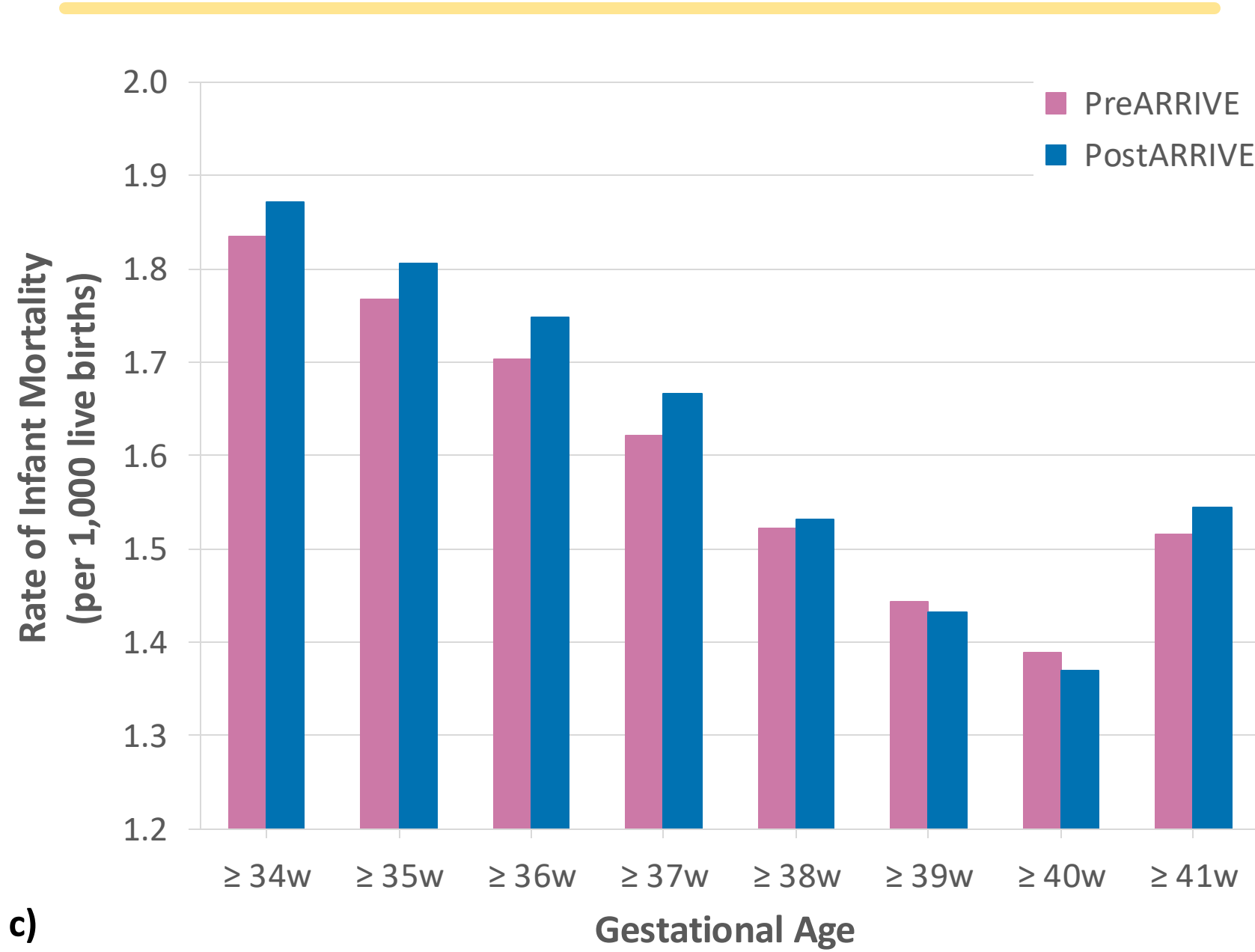
### Induction of Labor



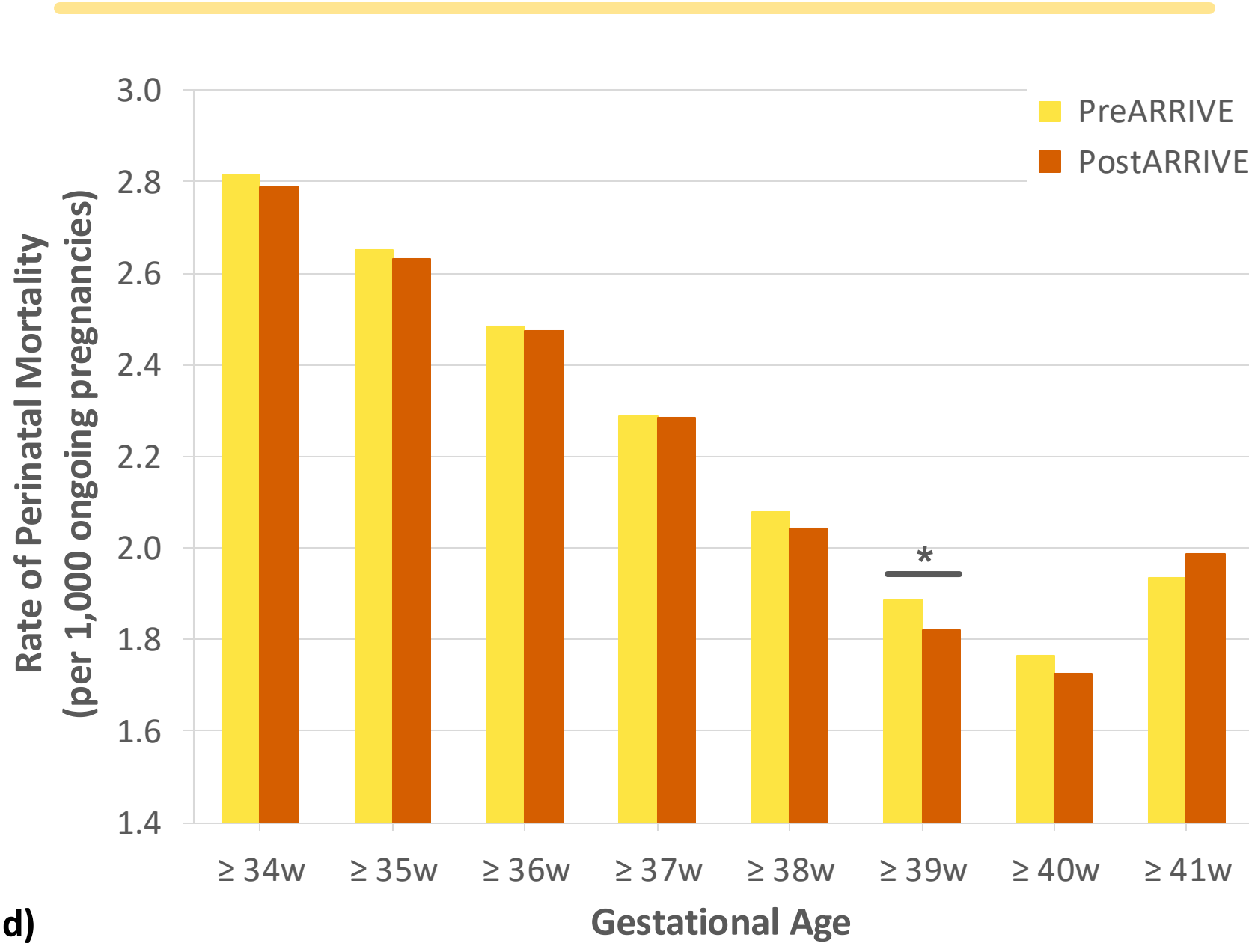
### Stillbirth



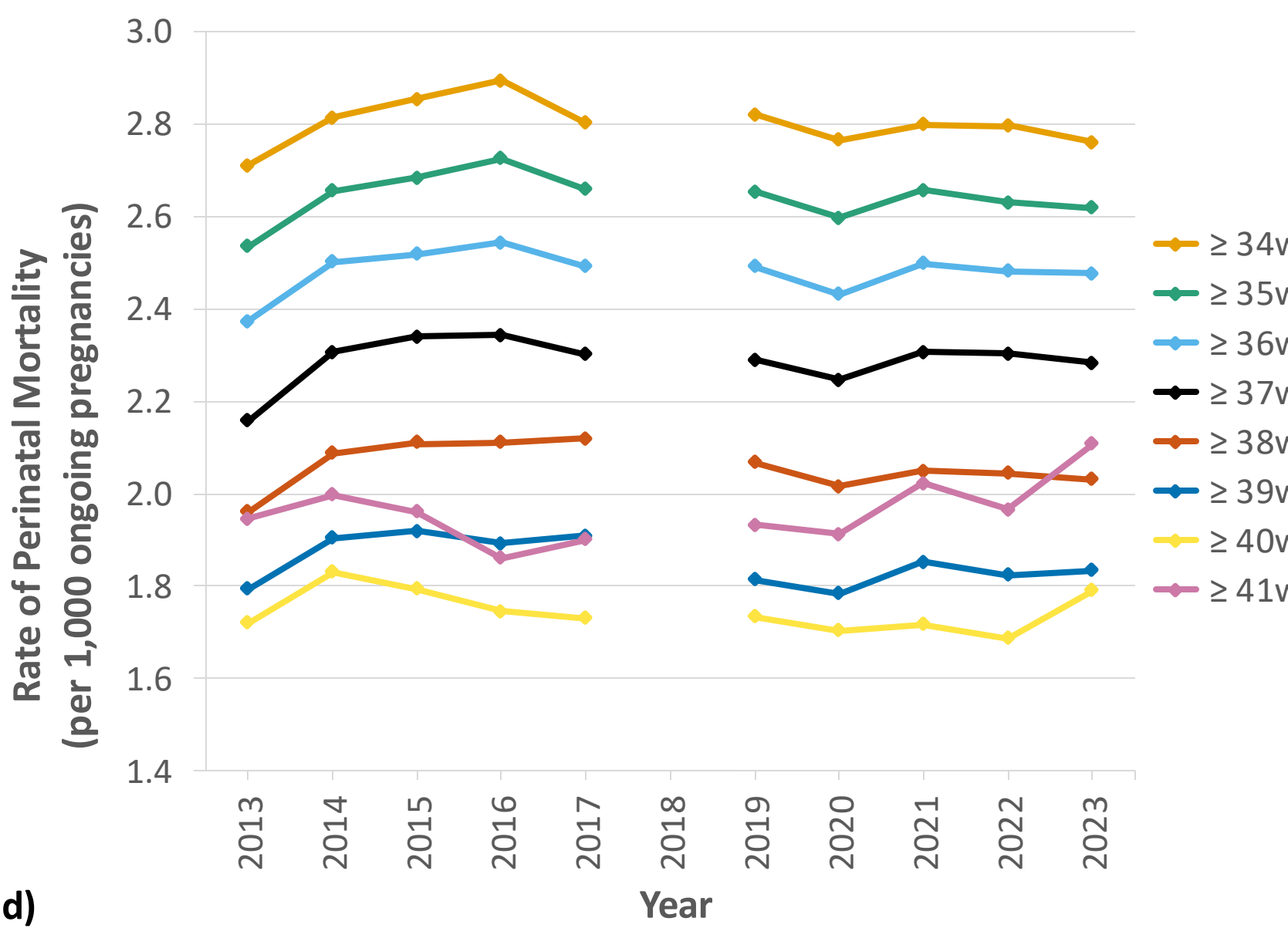
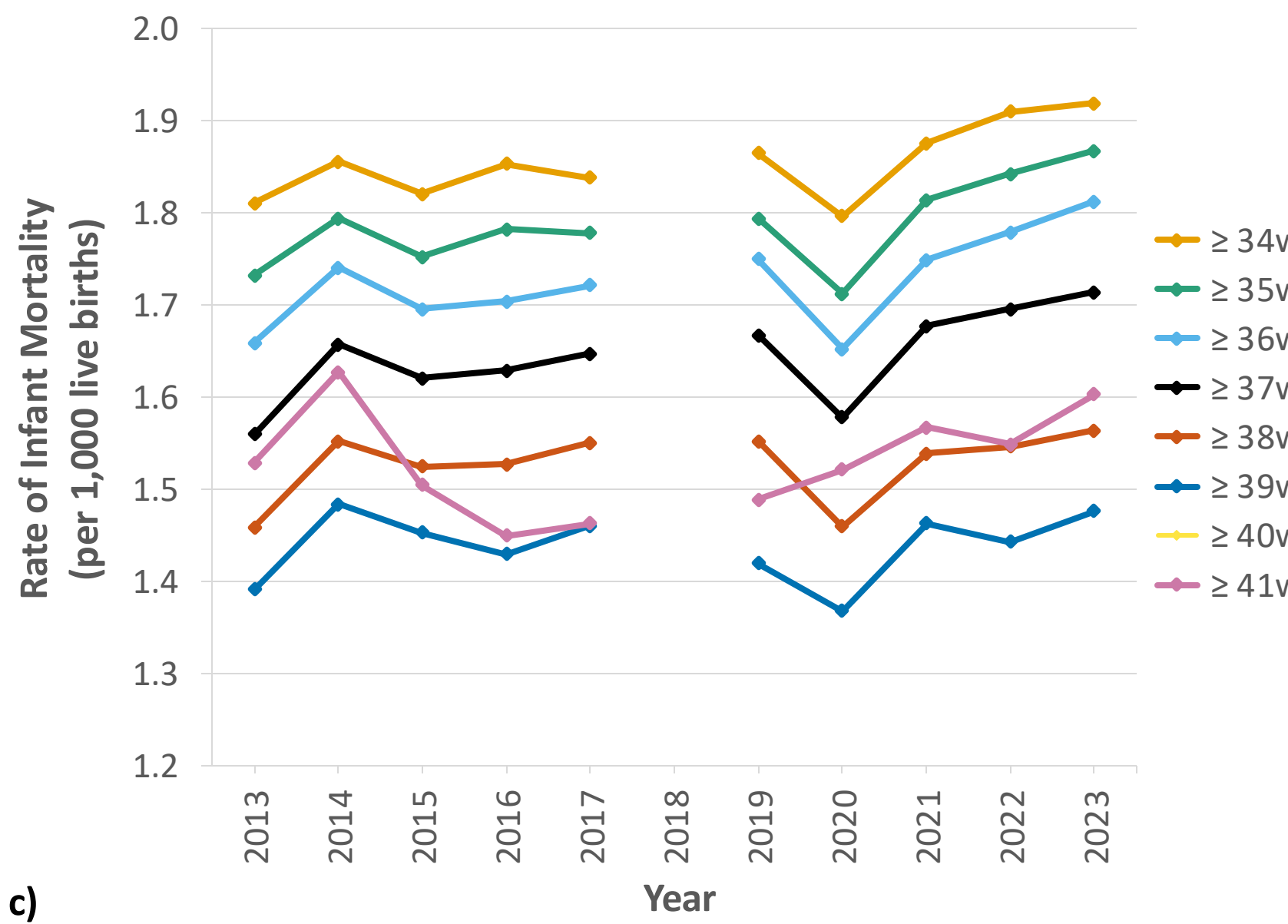
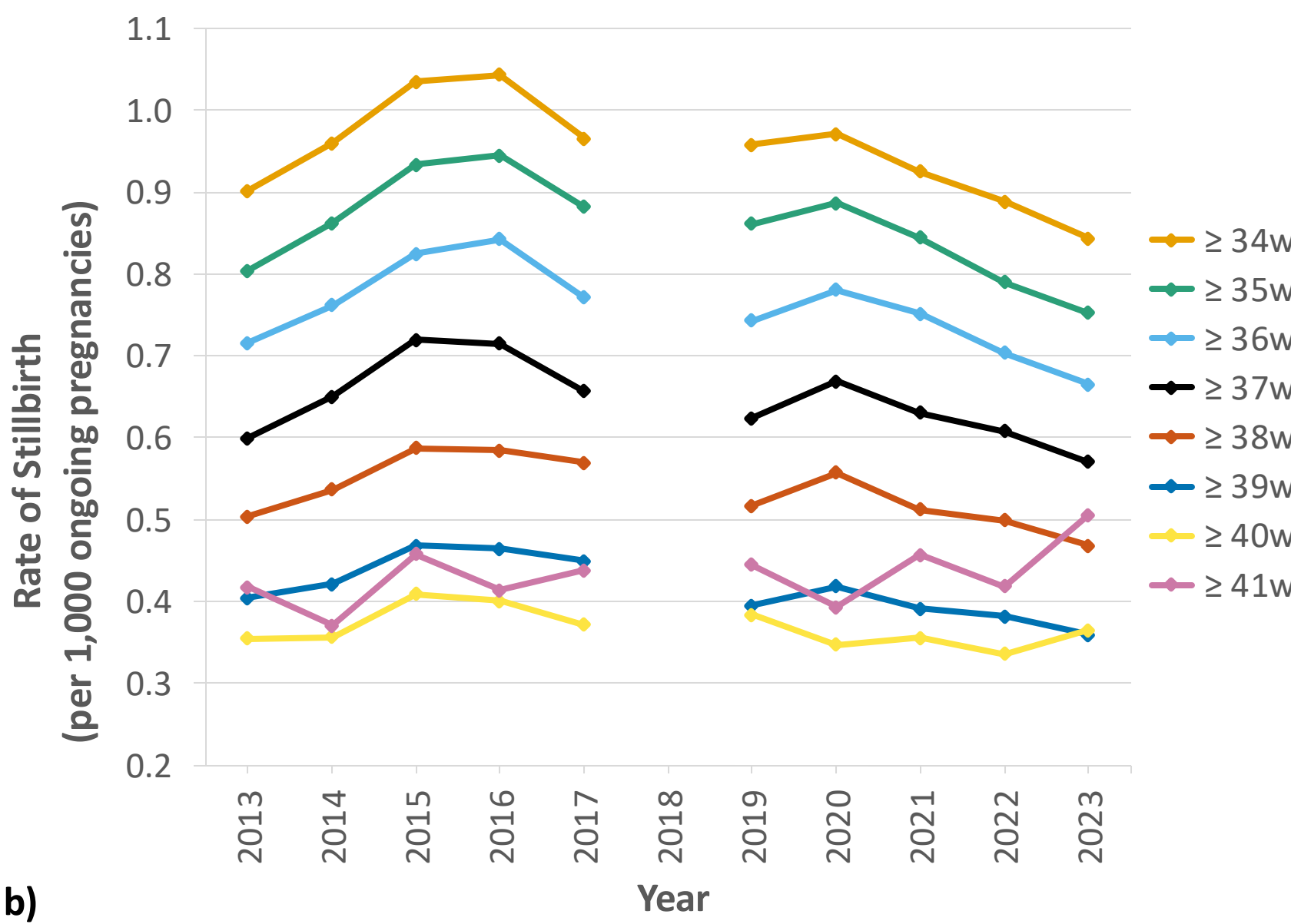
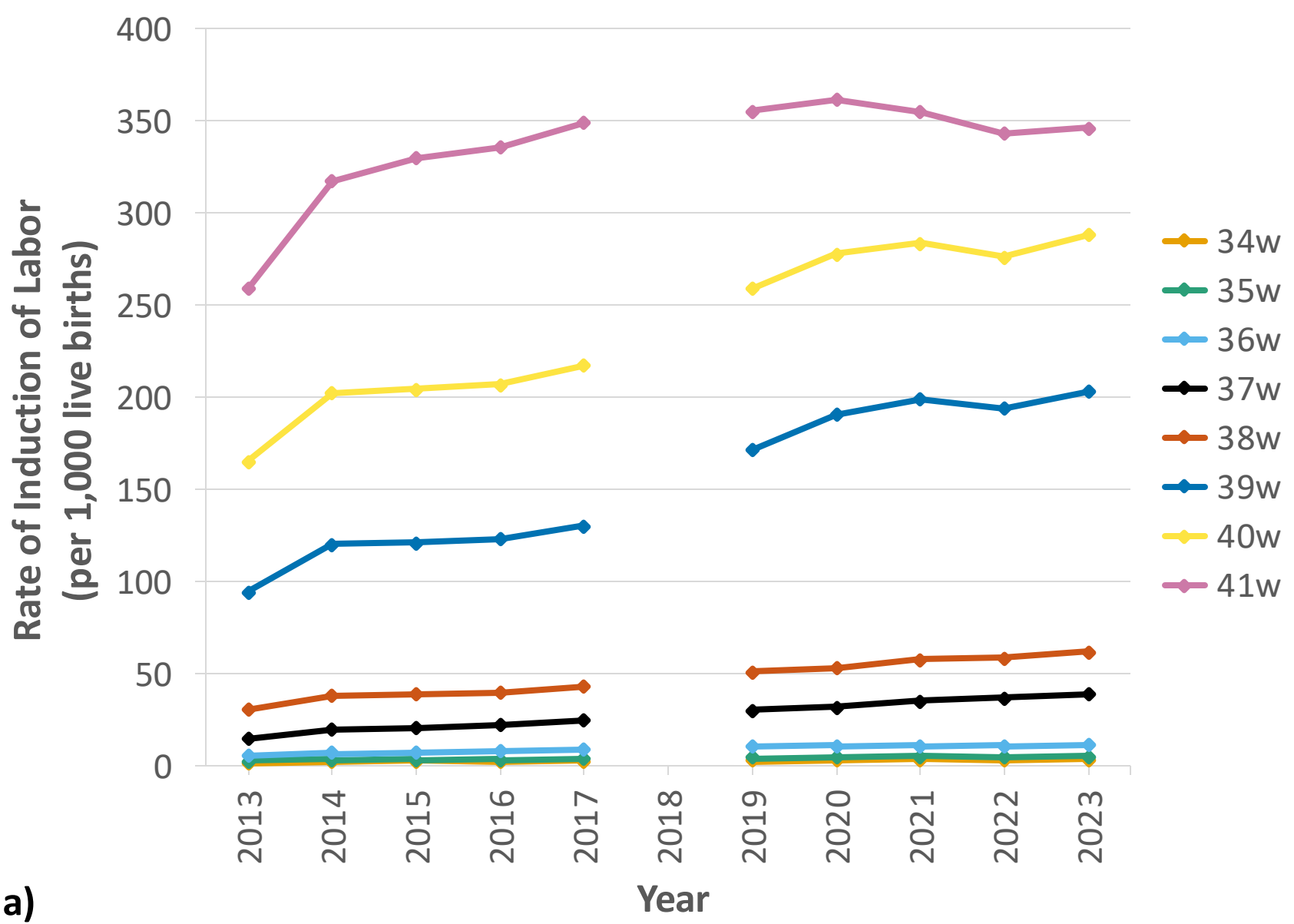
### Infant Mortality



### Perinatal Mortality



**Figure 1.** Comparison of the rates of **a)** induction of labor, **b)** stillbirth, **c)** infant mortality, and **d)** perinatal mortality between preARRIVE and postARRIVE periods, stratified by gestational age. \*p-value < 0.05.



**Figure 2.** Changes in rates of **a)** induction of labor, **b)** stillbirth, **c)** infant mortality, and **d)** perinatal mortality across the years 2013 to 2023, stratified by gestational age.

### Principal Findings

Significant decrease in stillbirth and no difference in infant or perinatal mortality

Significant decrease in stillbirth and perinatal mortality along with no difference in infant mortality

No difference in stillbirth, infant mortality, and perinatal mortality

34w  
35w  
36w  
37w  
38w  
39w  
40w  
41w

Significant increase in induction of labor

ARRIVE Trial

## DISCUSSION

- Following the ARRIVE trial, there was a **widespread increase in induction of labor across all late preterm and term deliveries**, attesting to the extensive impact of the ARRIVE trial.
- Although not intentional, this pivotal trial has **drastically altered clinical practice, inadvertently allowing the results to be generalized to patients beyond the original eligibility criteria**.

The authors have no conflicts of interest to report.

## REFERENCES

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