

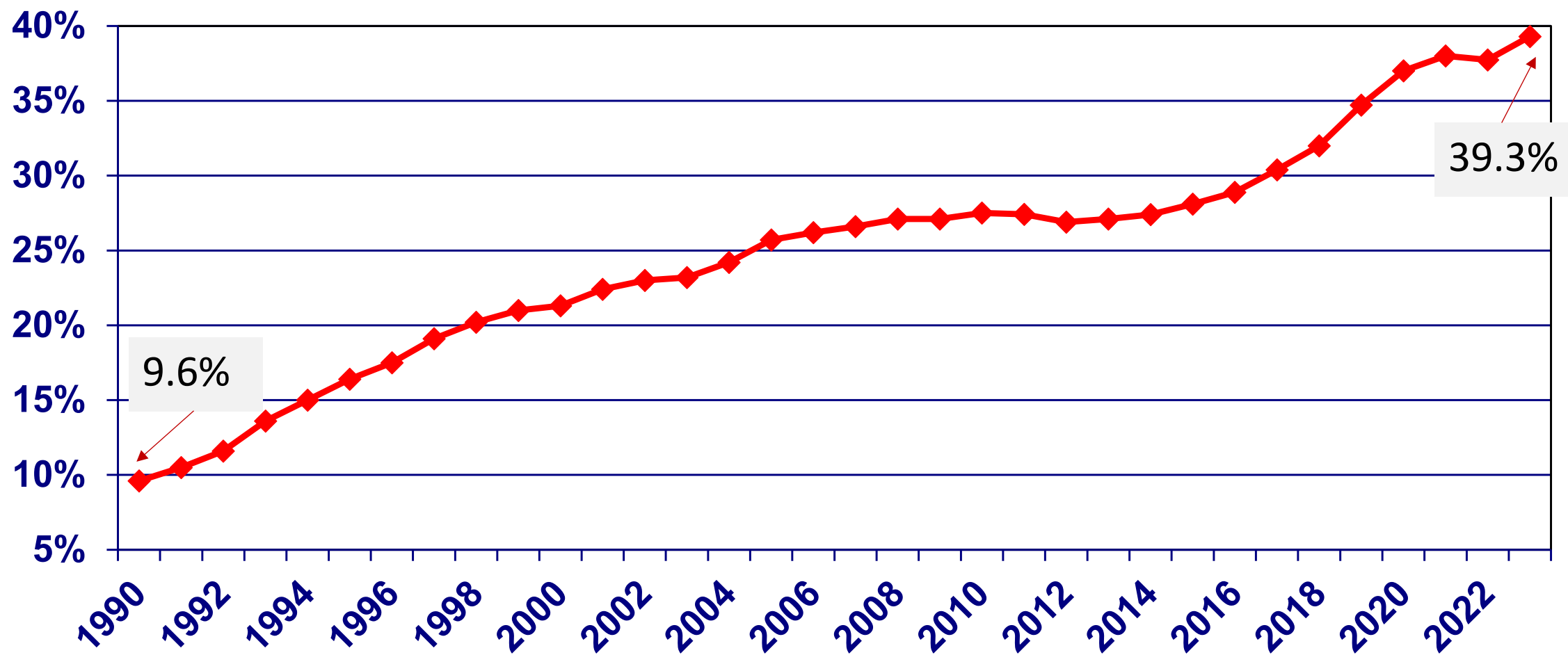
Patterns and Trends in Induction U.S., 1990-2023

Gene Declercq
February, 2025

www.birthbythenumbers.org

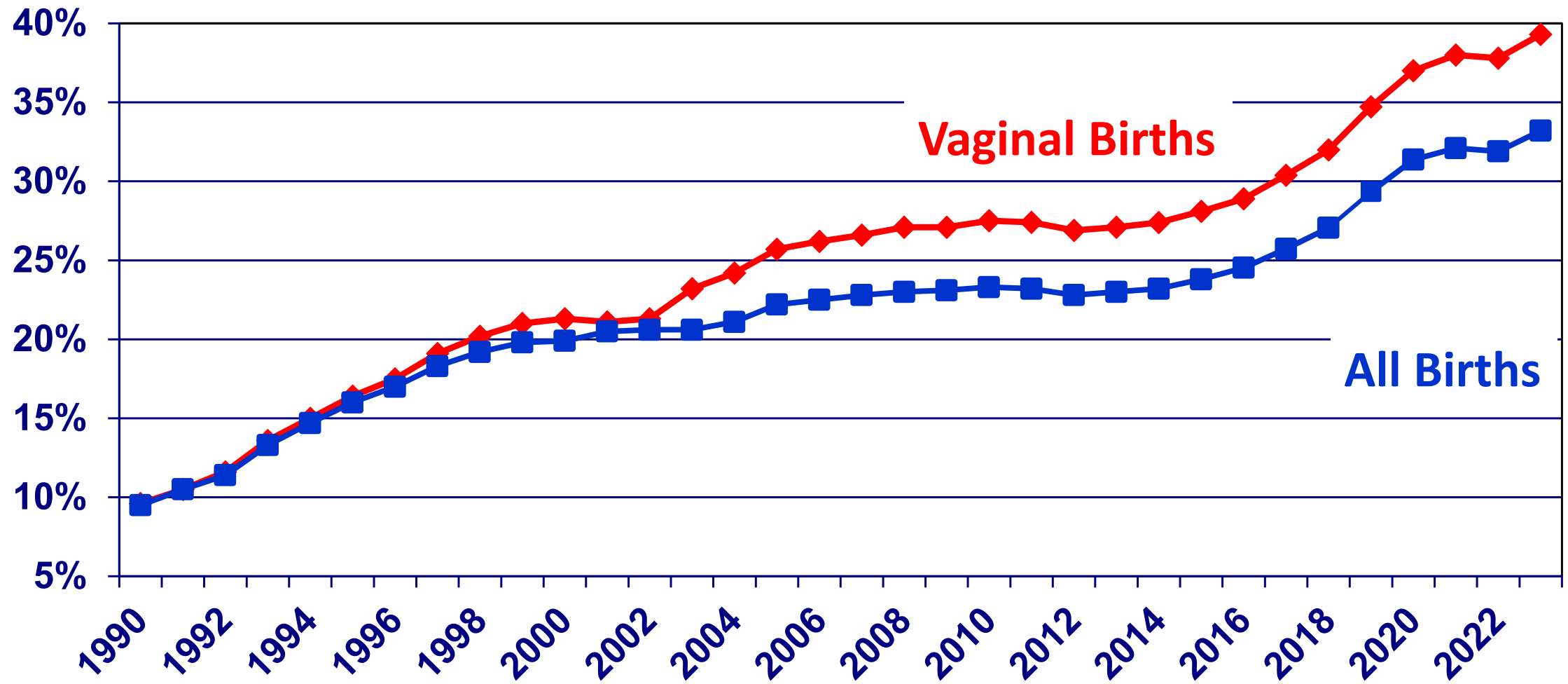


Inductions in Vaginal Births, U.S., 1990-2023



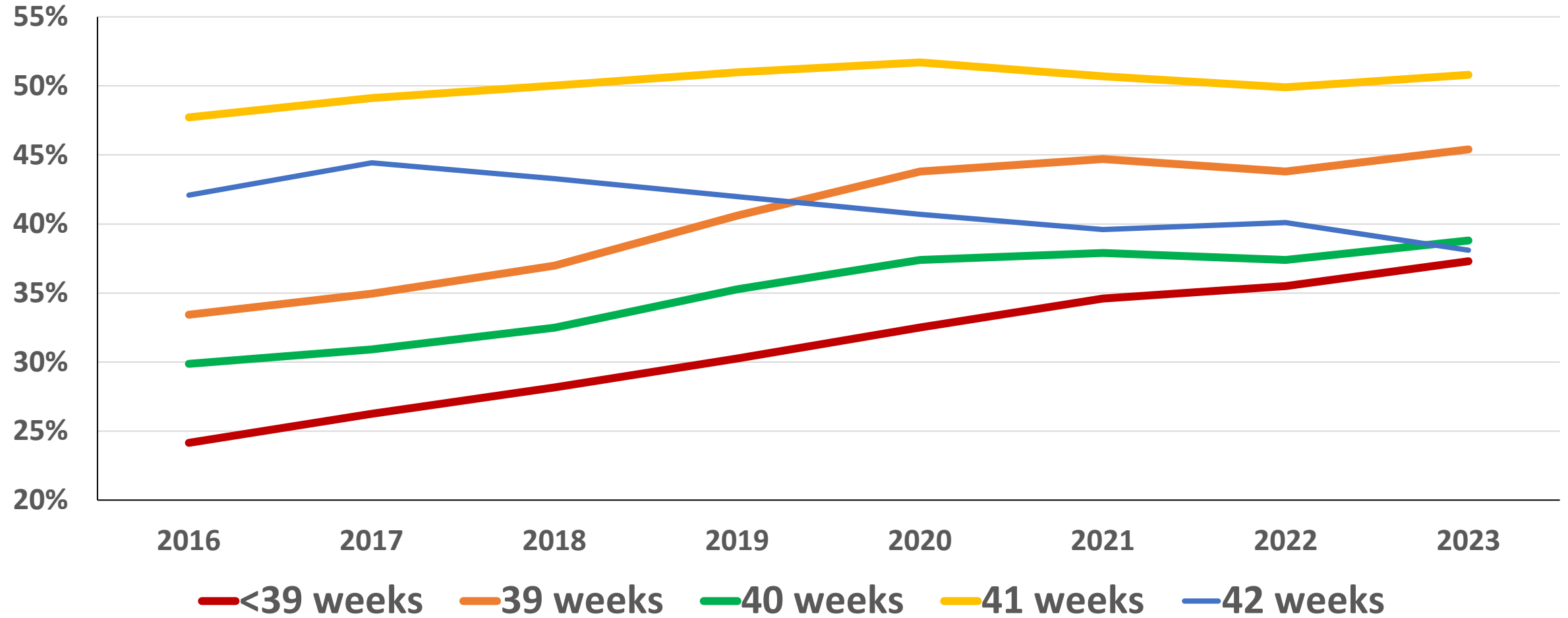
Source: CDC, NCHS. Annual natality datasets and CDC Wonder. (2016-2023)

Inductions, U.S., 1990-2023



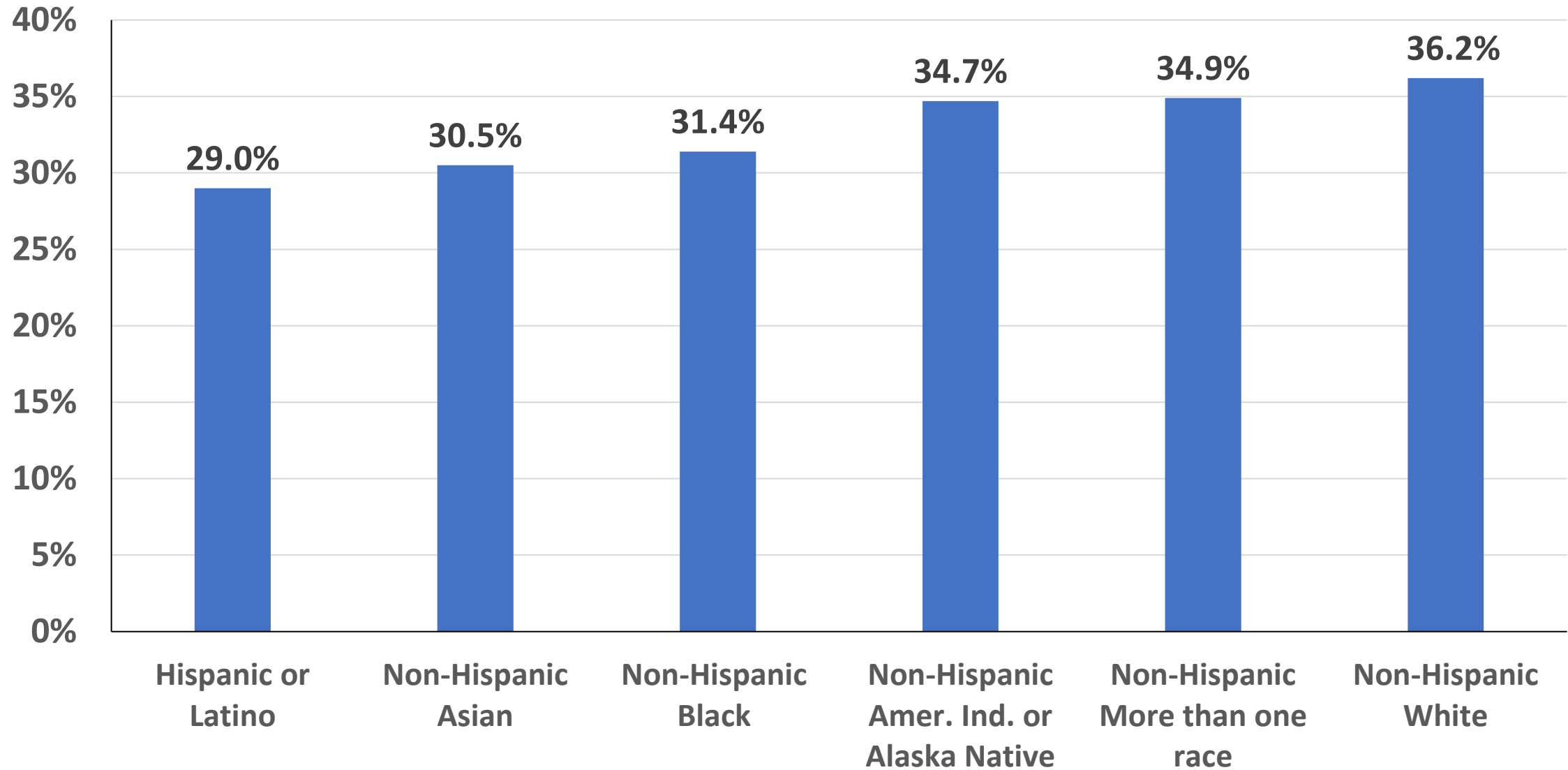
Source: CDC, NCHS. Downloadable annual natality datasets (1990-2015) and CDC Wonder. (2016-2023)

Induction Rates, Singleton, Vaginal or Unplanned Cesarean Births, by Gestational Age, 2016-2023

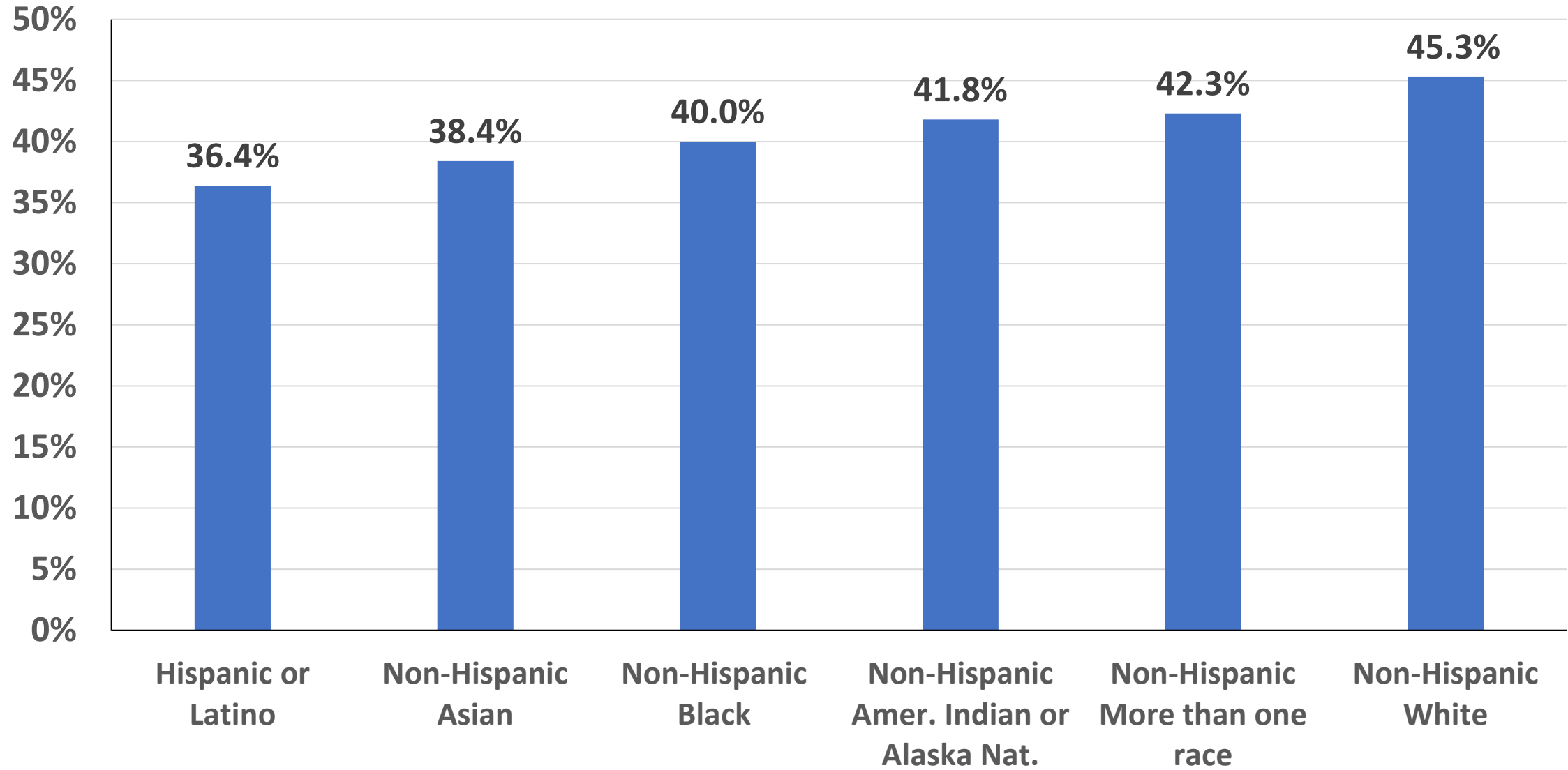


Source: CDC Wonder

Inductions by Race/Ethnicity, 2023



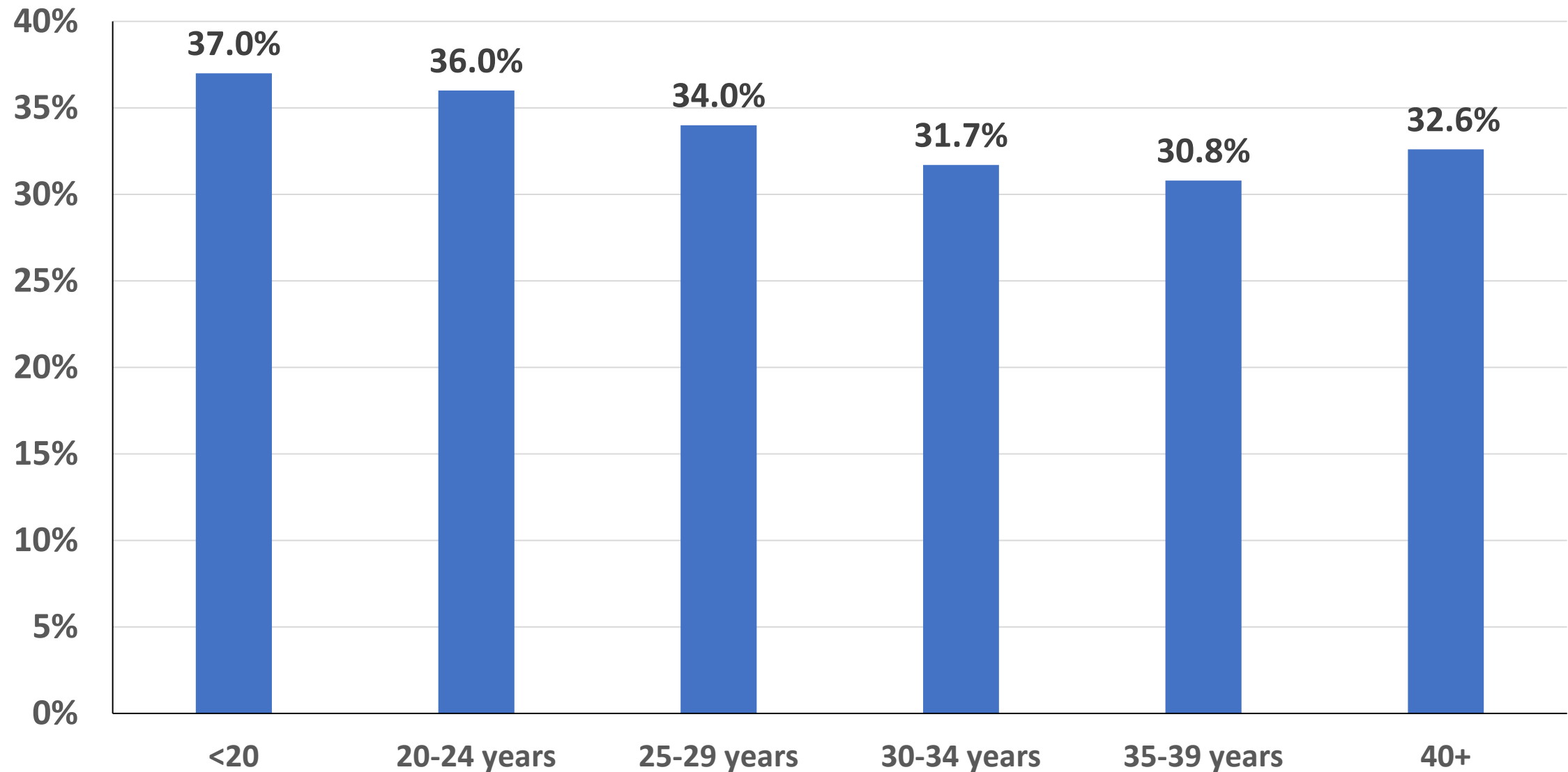
Inductions by Race/Ethnicity in Vaginal First Births, 2023



Source: CDC Wonder



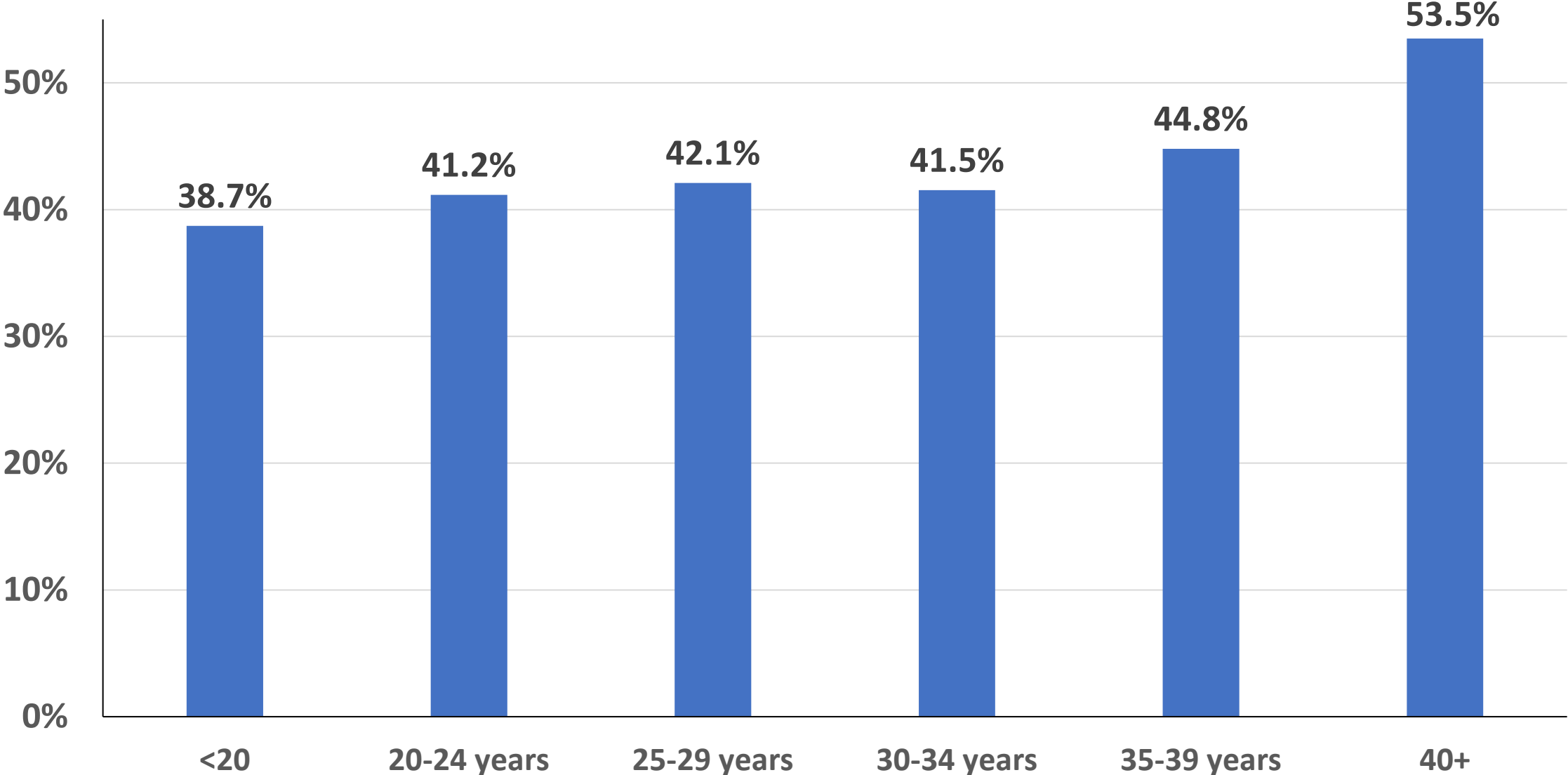
Inductions by Age, 2023



Source: CDC Wonder



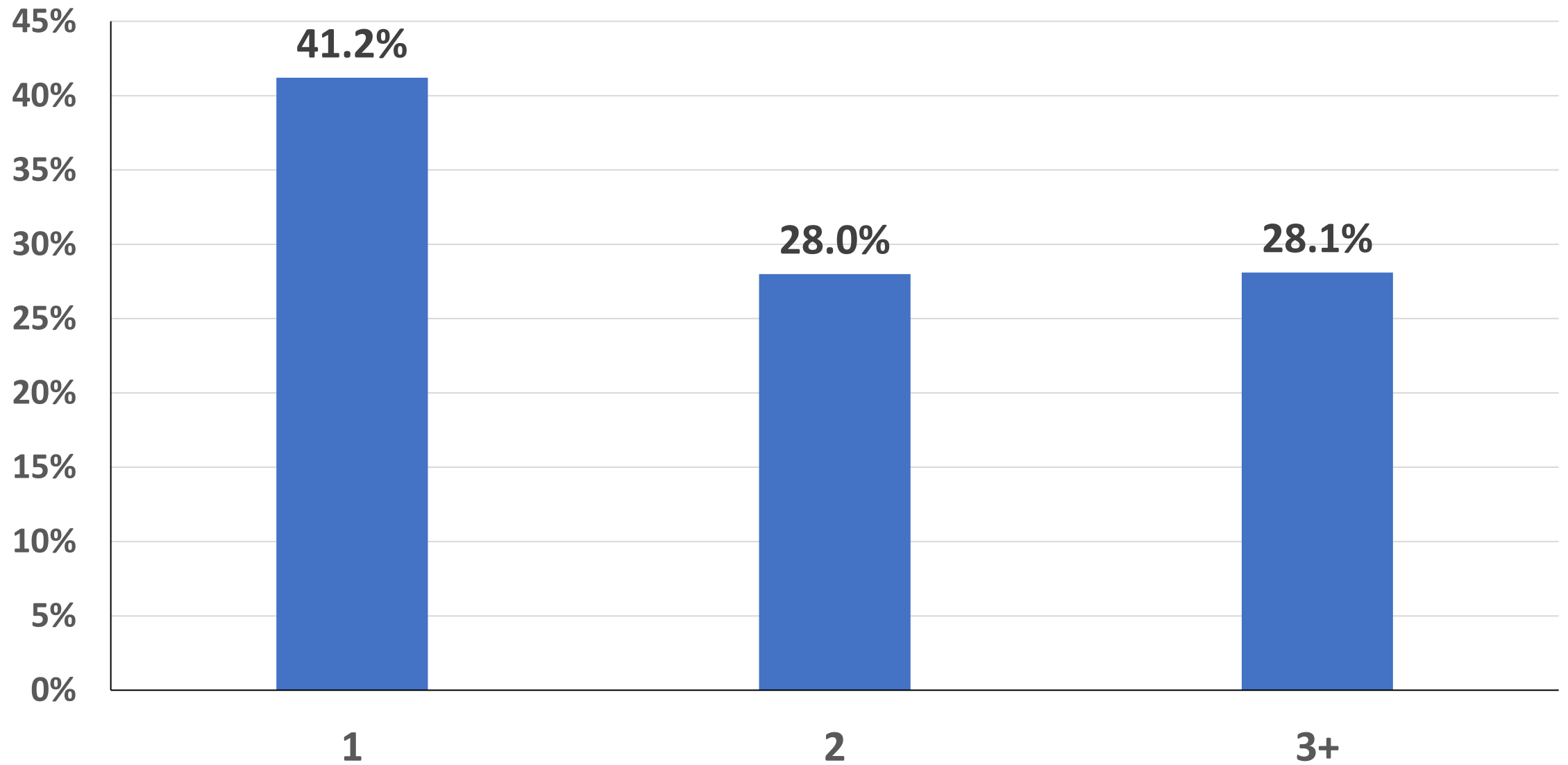
Inductions by Age, in Vaginal First Births 2023



Source: CDC Wonder

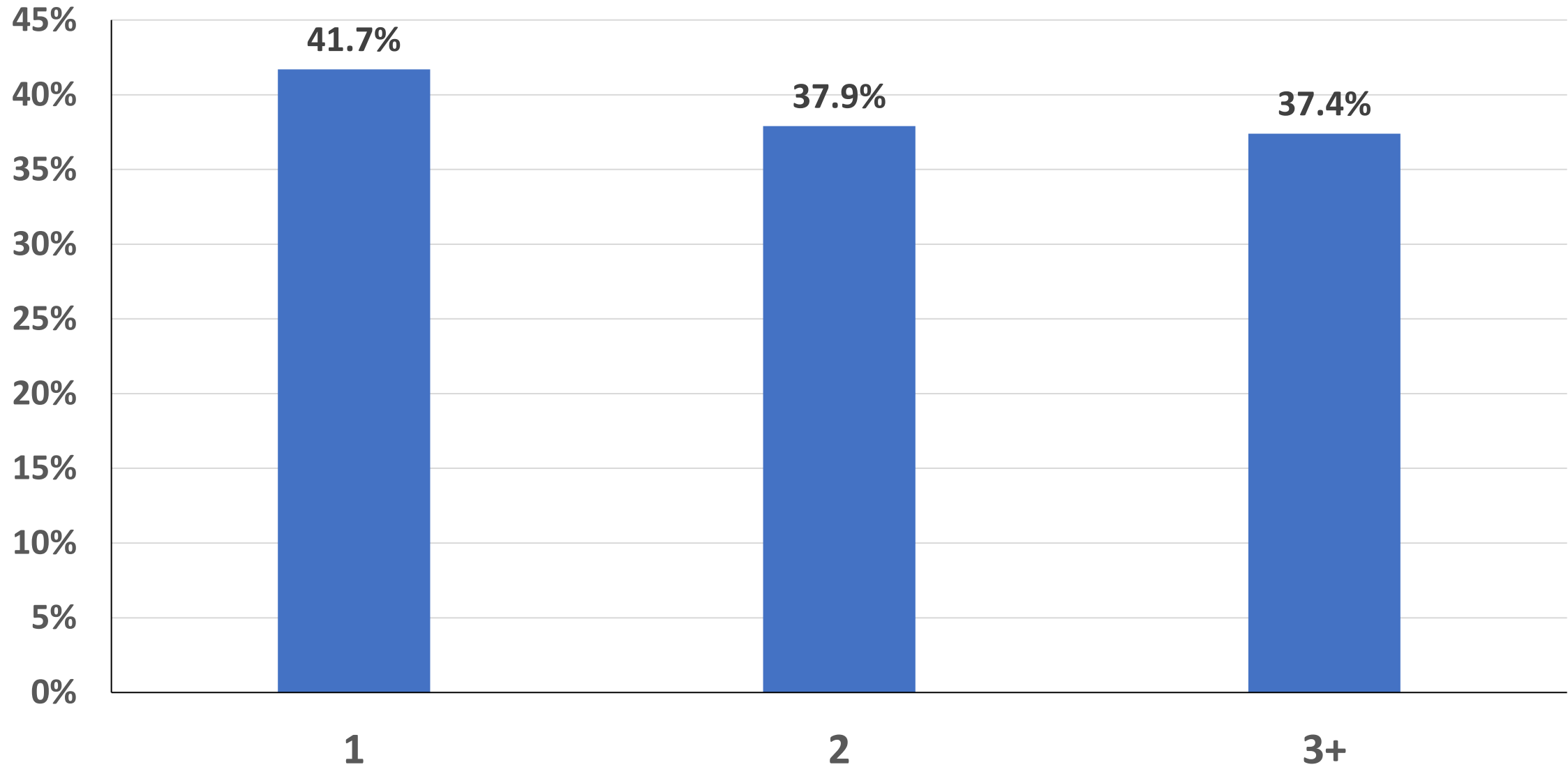


Inductions by Parity, 2023



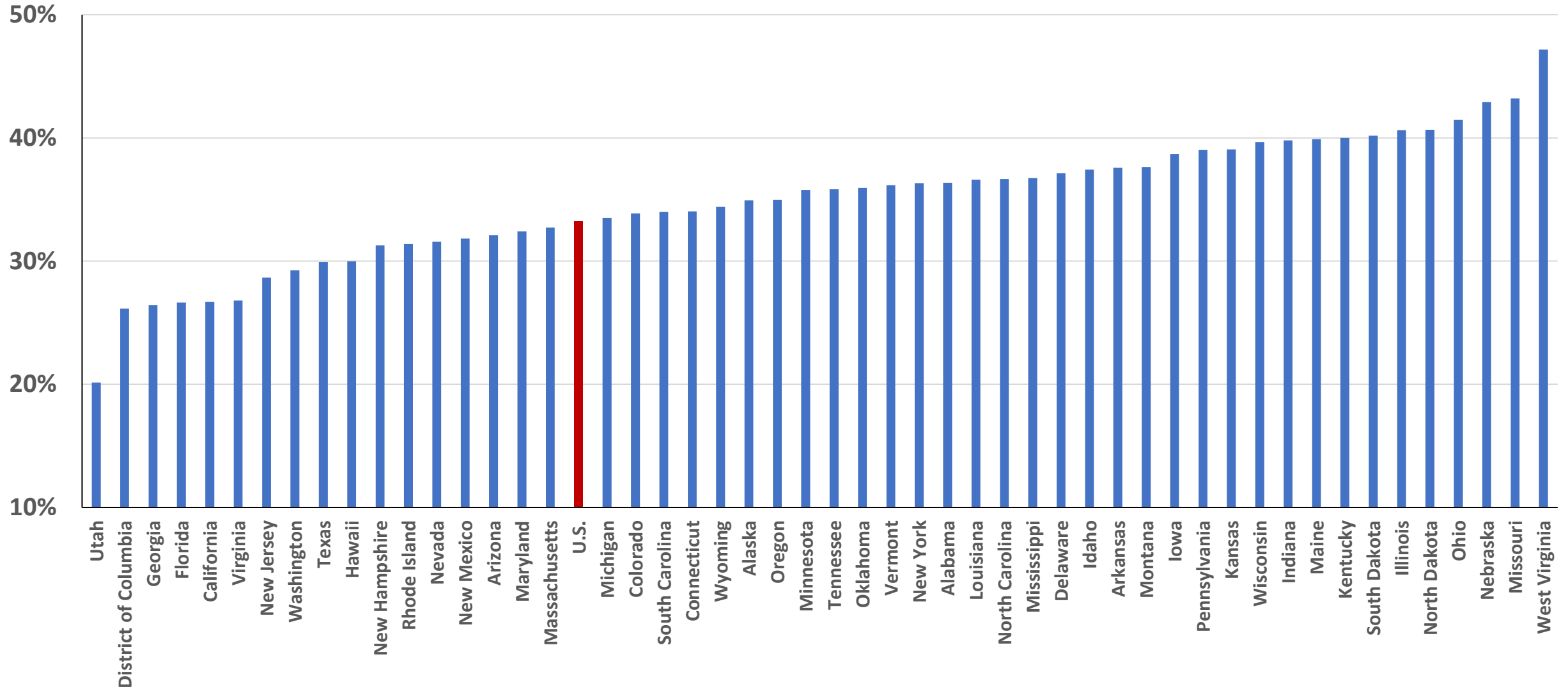
Source: CDC Wonder

Inductions by Parity, Vaginal Births, 2023

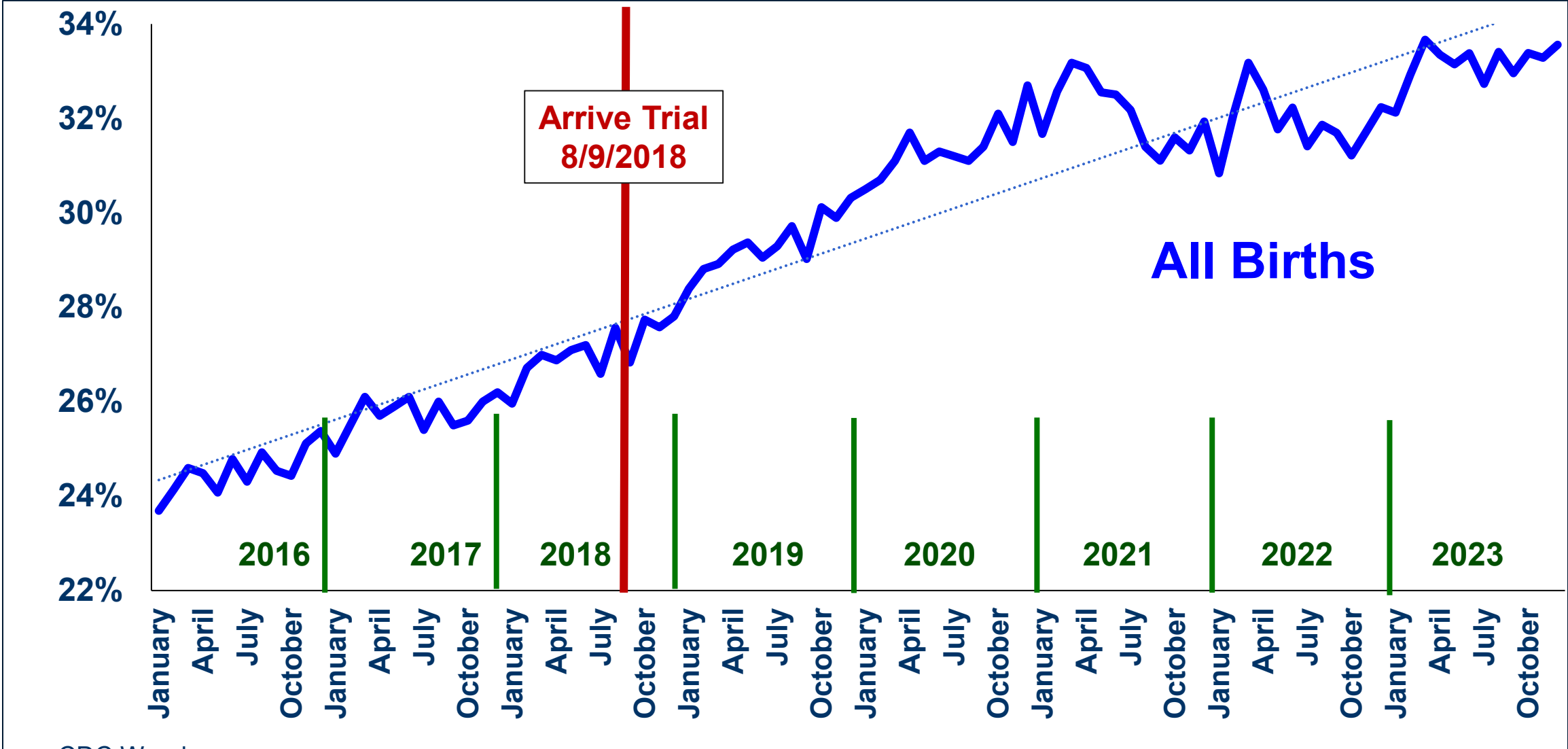




Induction Rate (Vaginal Births) U.S. States, 2023

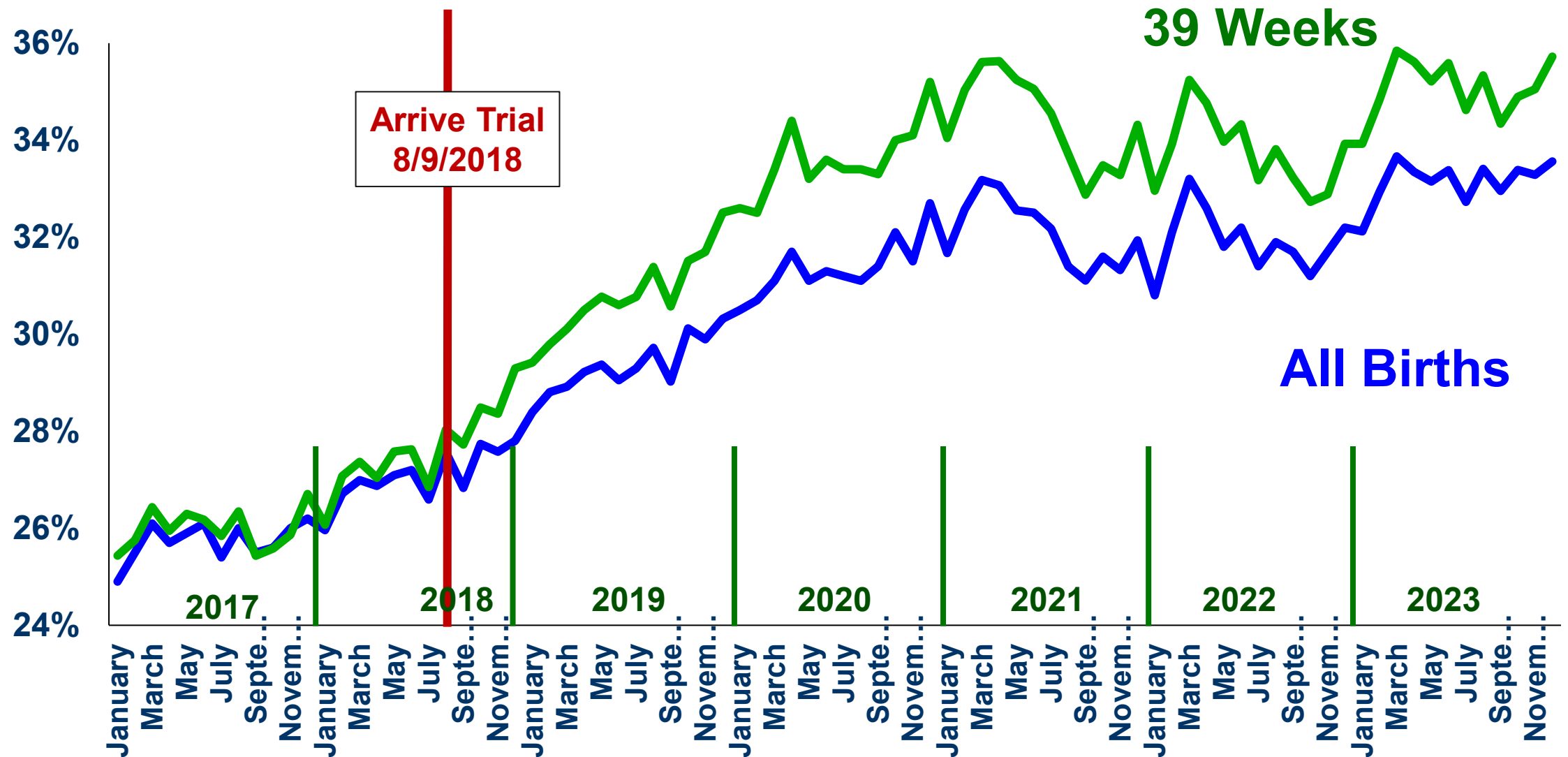


2016-23 U.S. Inductions by Month



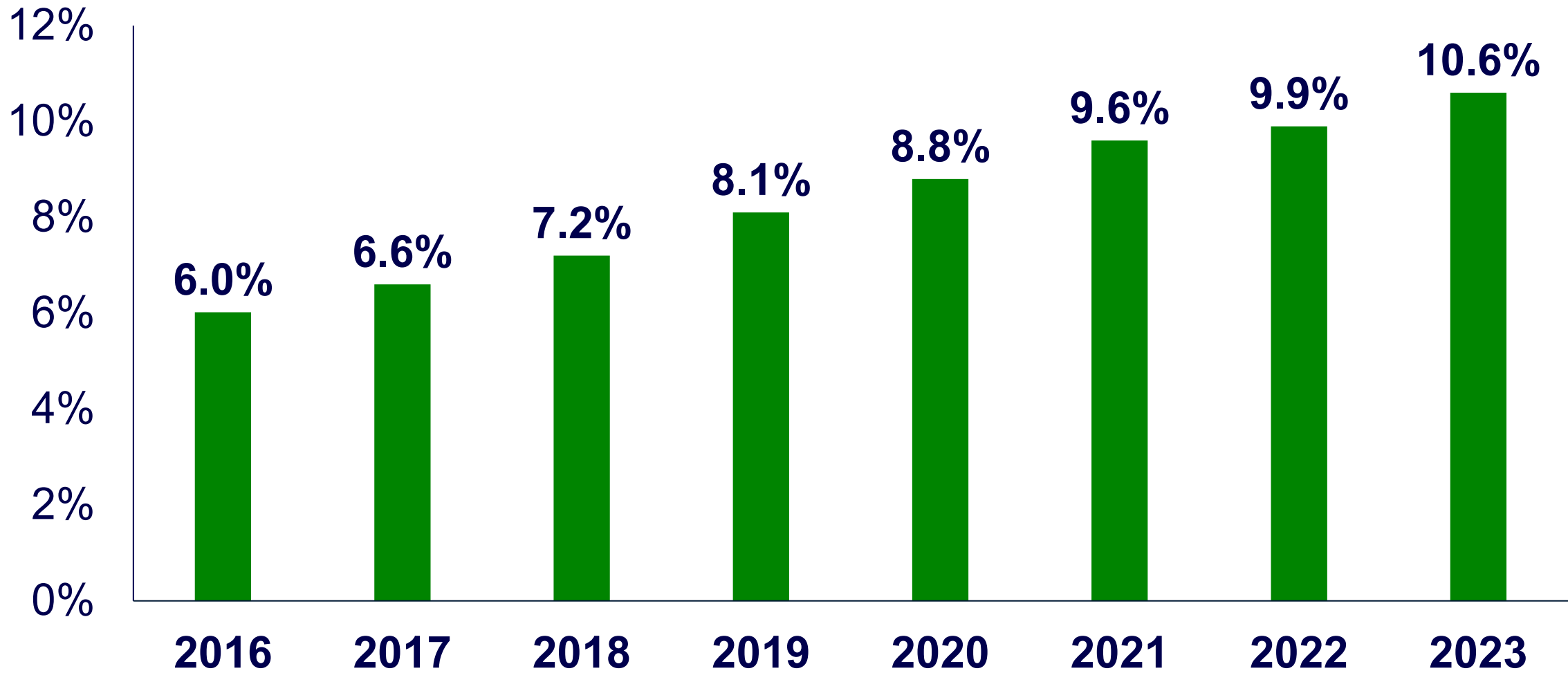
Source: CDC Wonder

2017-23 Inductions at 39 Weeks by Month





Proportion of All Births* Involving Inductions at < 39 weeks among Women with a Vaginal Birth or Cesarean with a Trial of Labor, U.S., 2016-2023



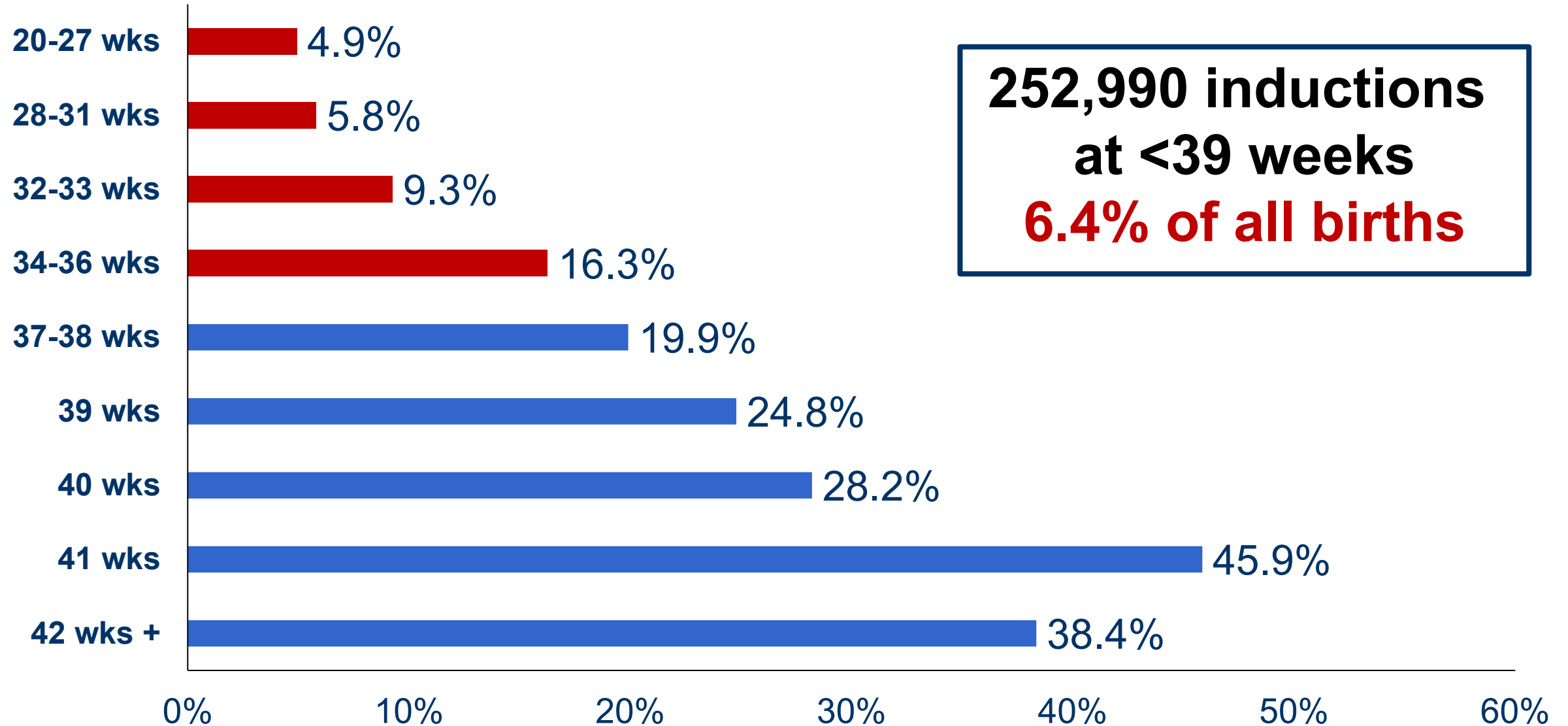
Source: CDC Wonder

*with data on induction

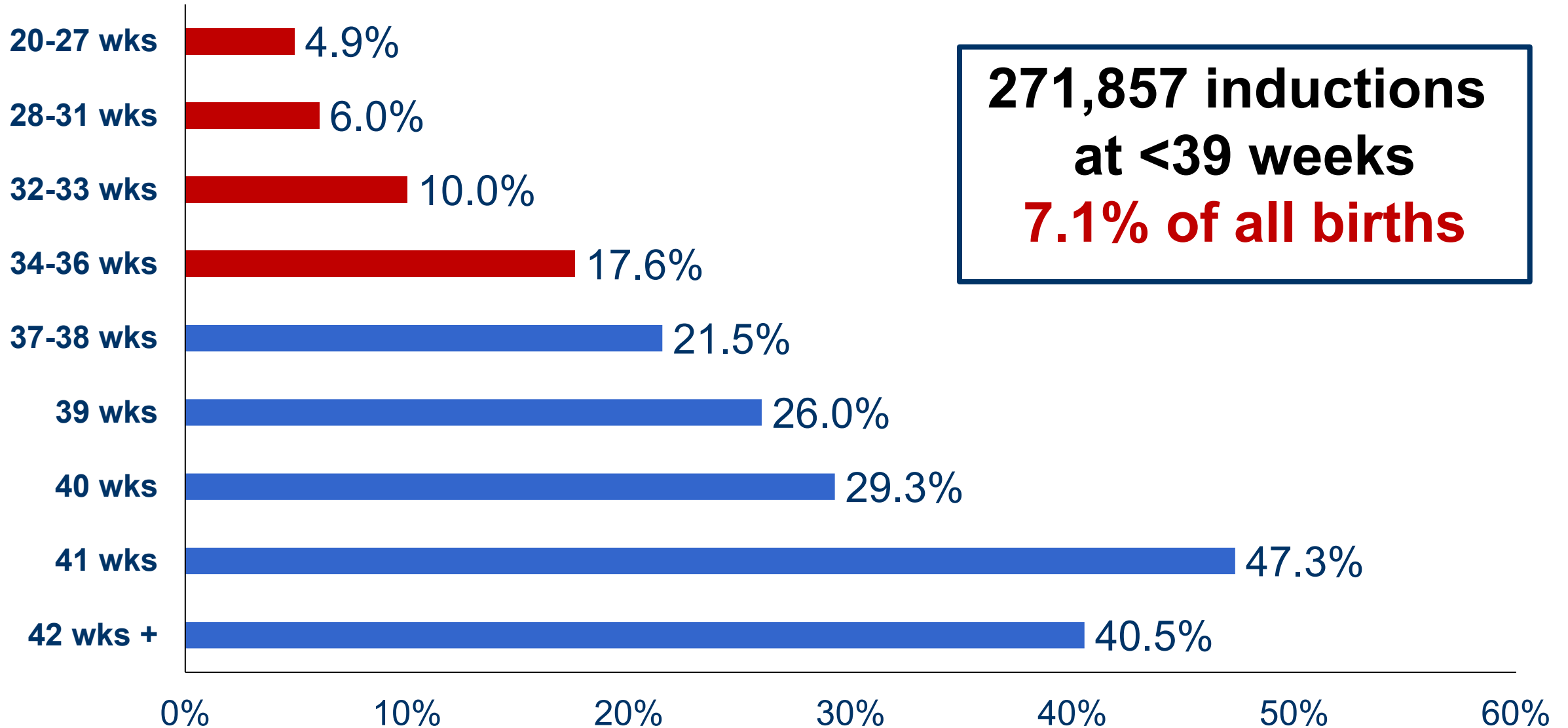


Interventions and Prematurity

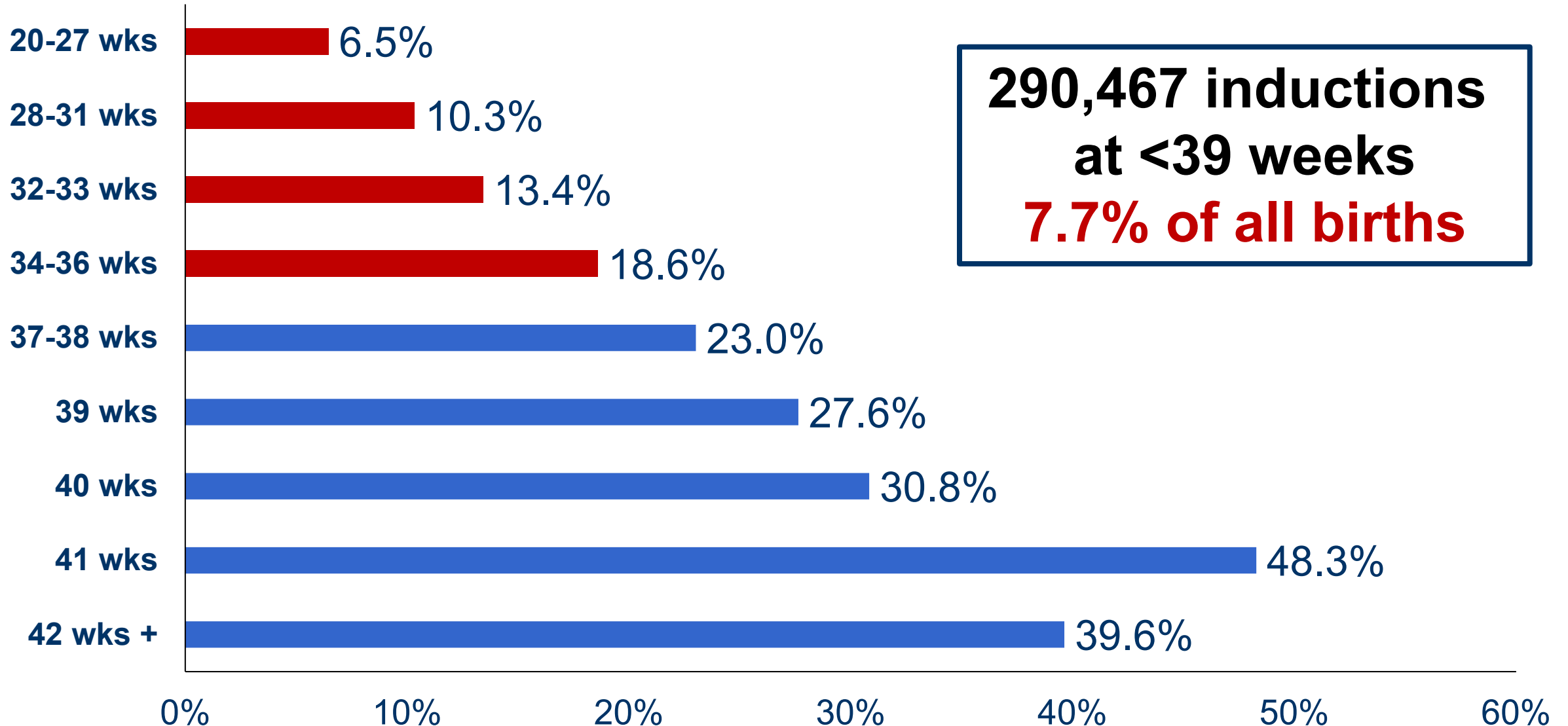
Timing of inductions, U.S. 2016



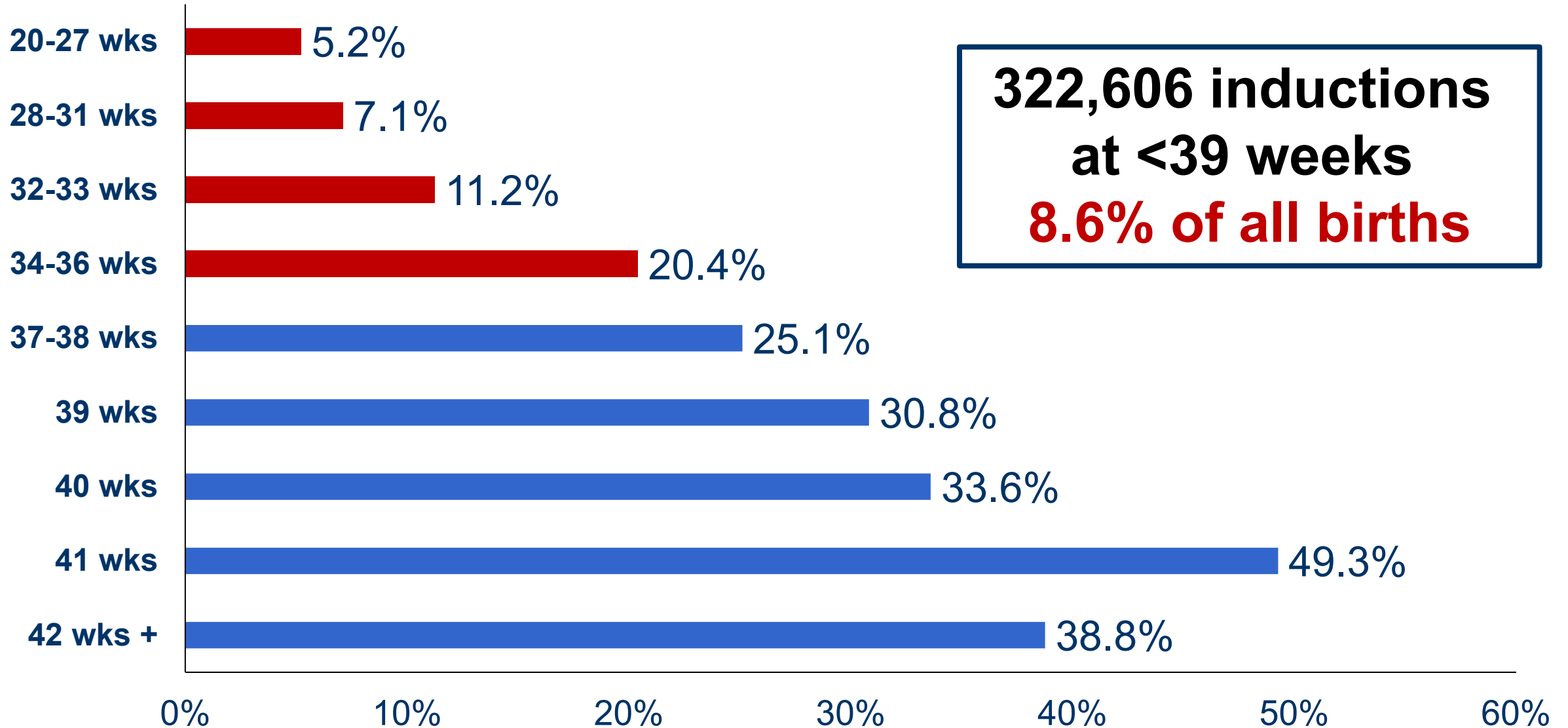
Timing of inductions, U.S. 2017



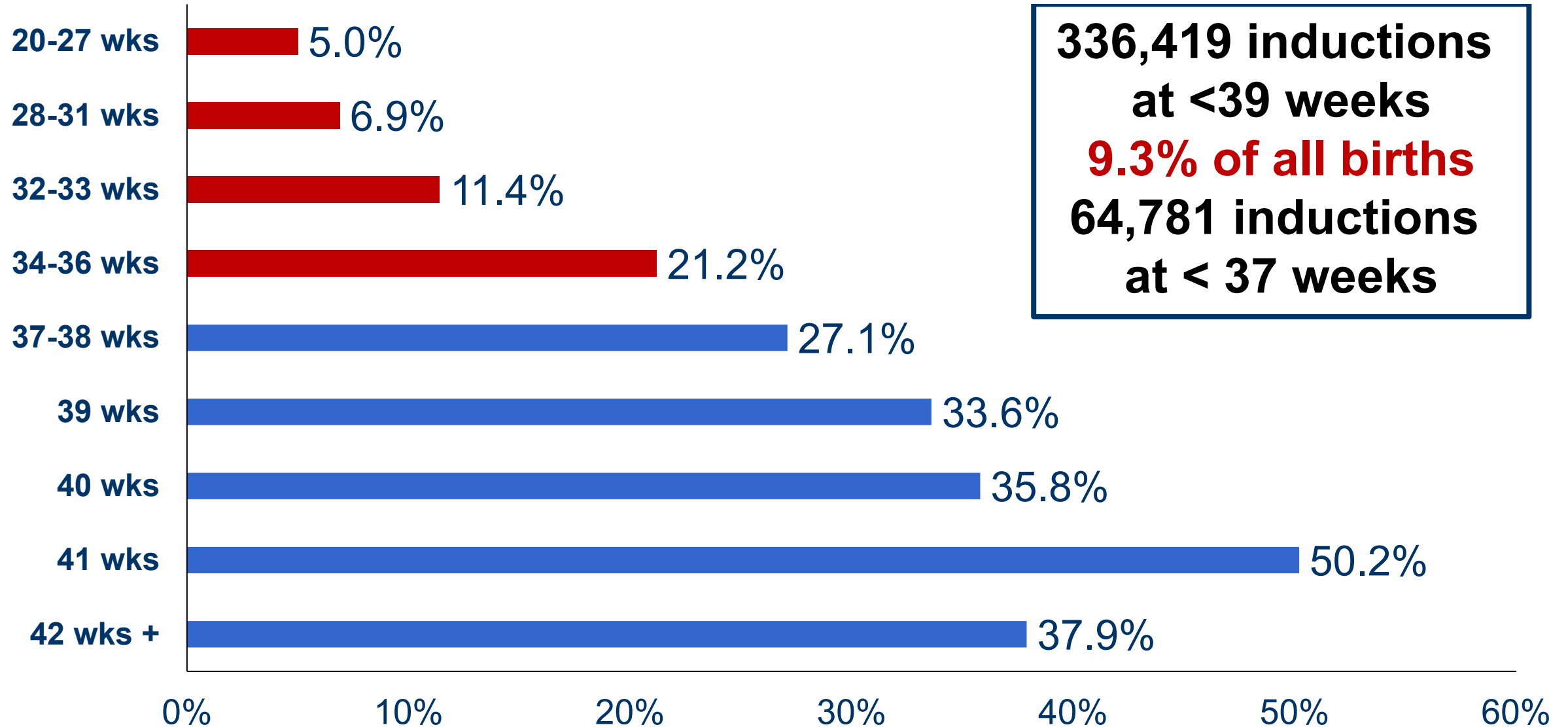
Timing of inductions, U.S. 2018



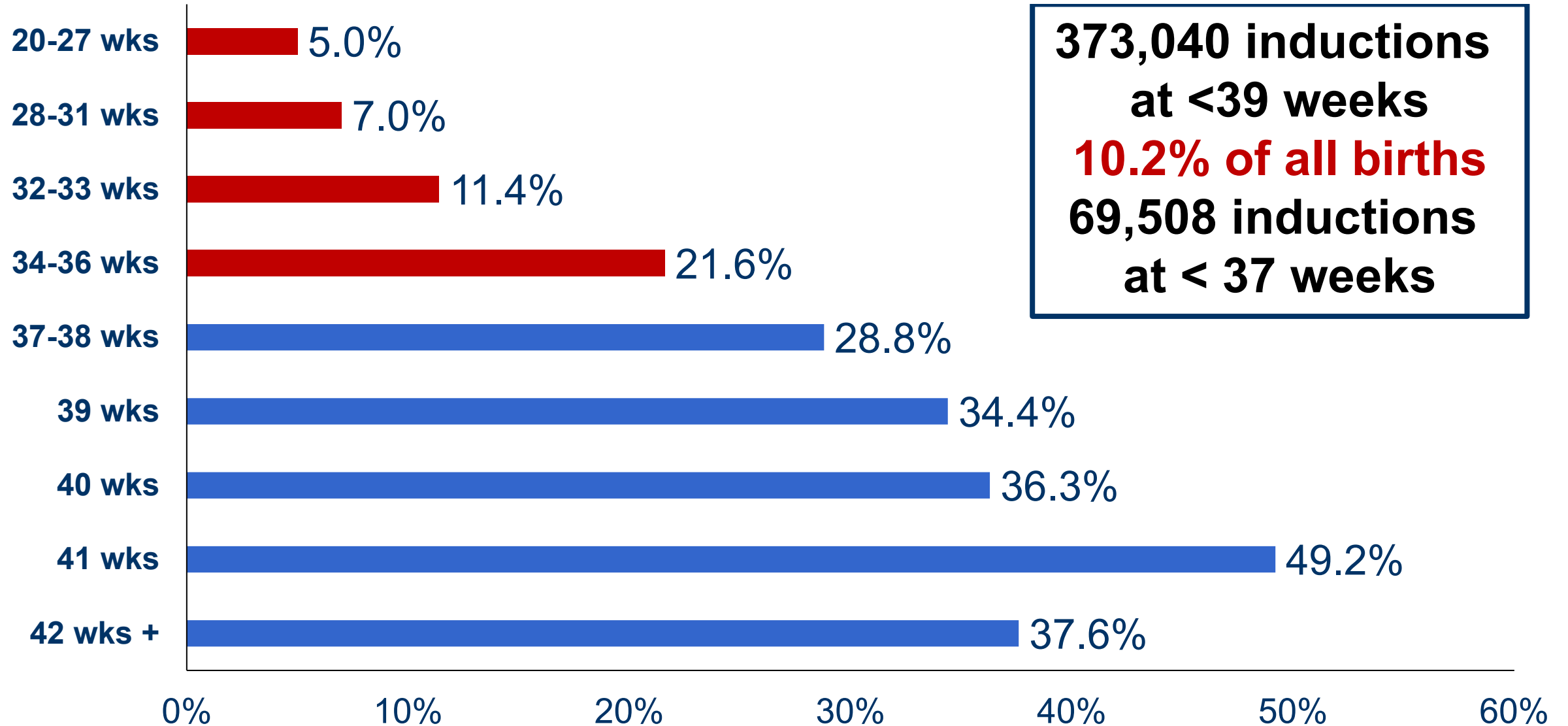
Timing of inductions, U.S. 2019



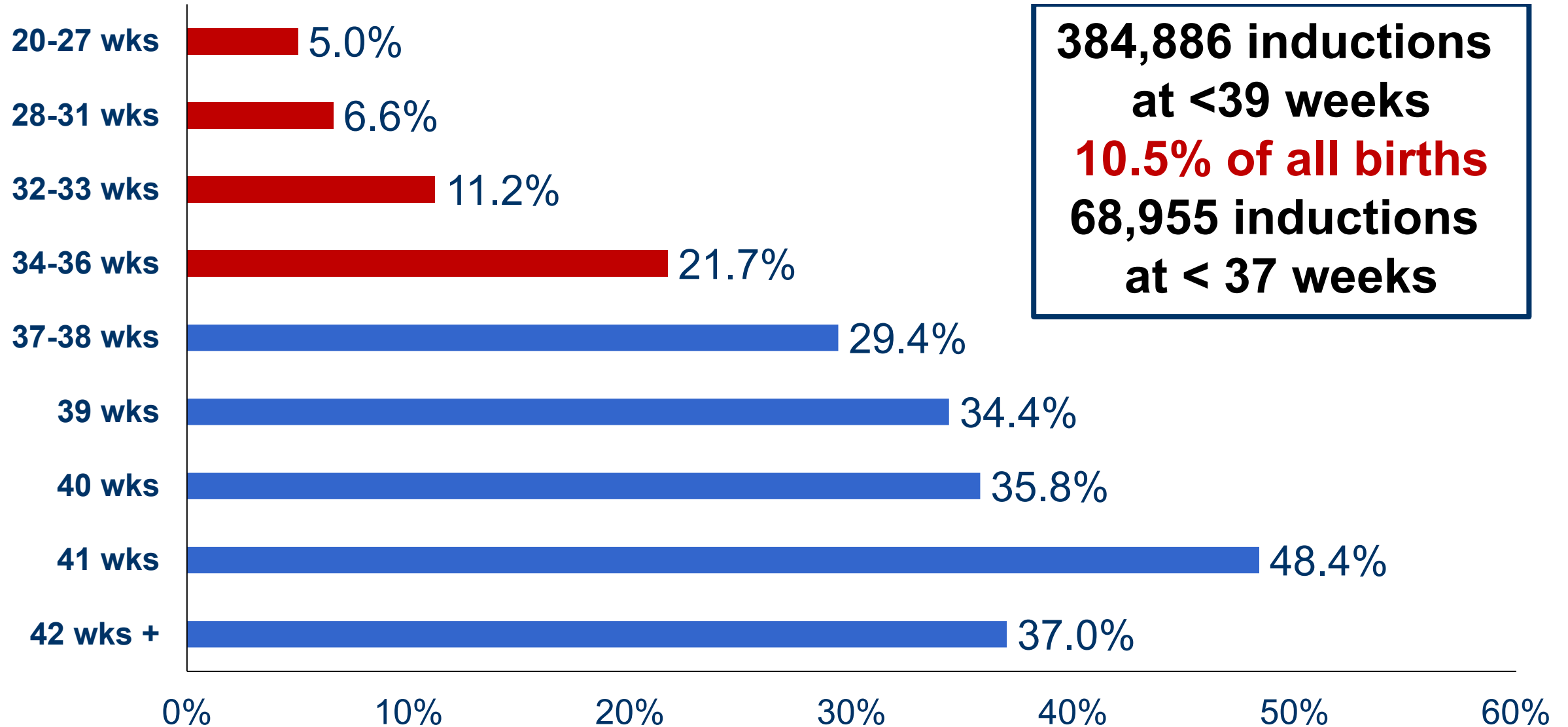
Timing of inductions, U.S. 2020



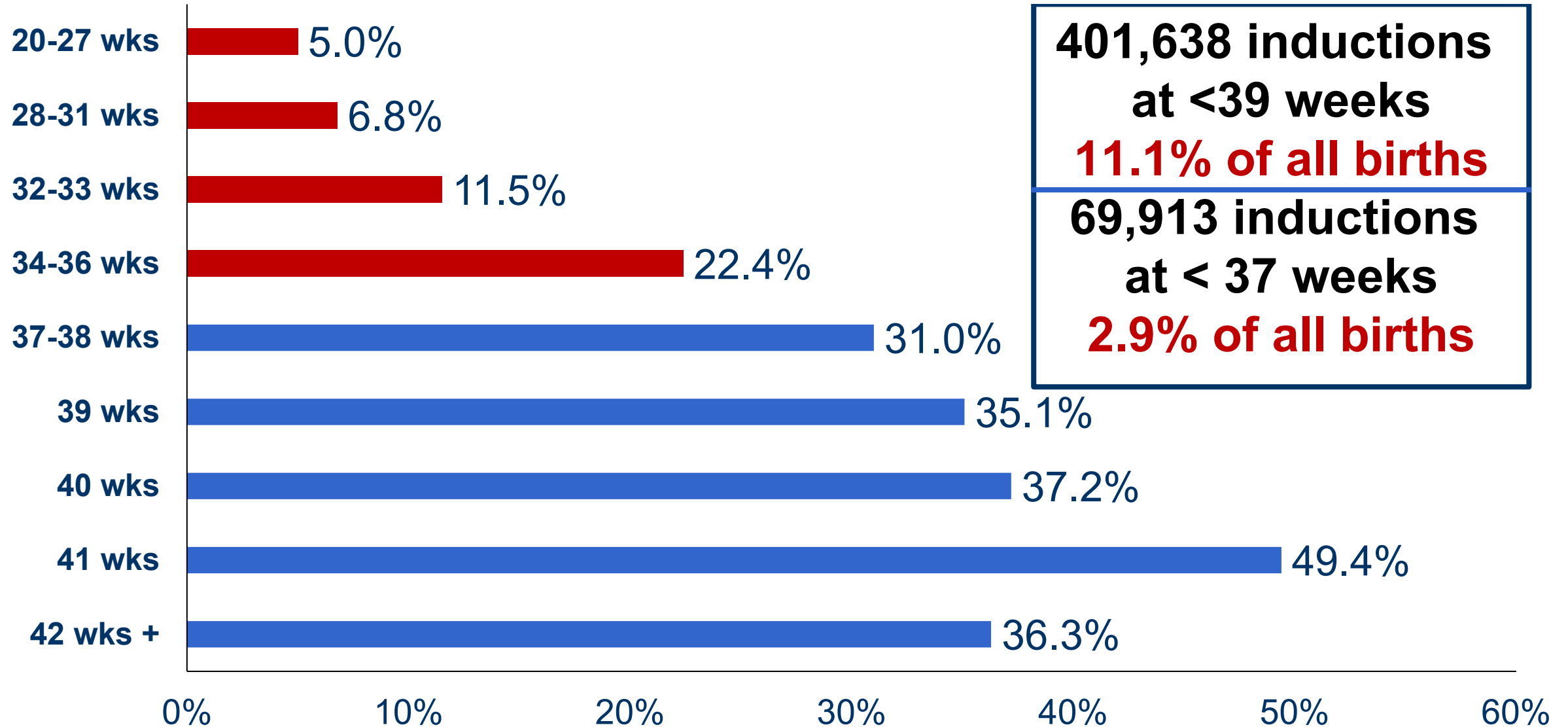
Timing of inductions, U.S. 2021



Timing of inductions, U.S. 2022

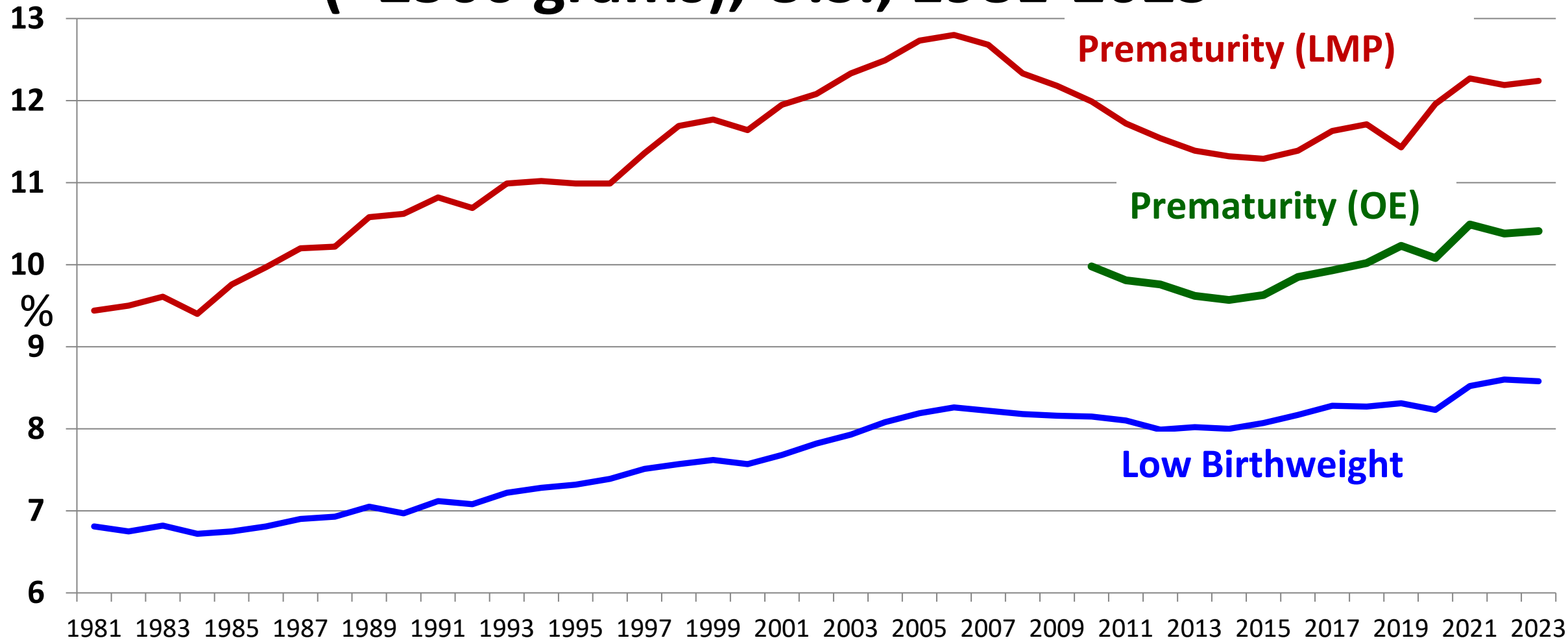


Timing of inductions, U.S. 2023



So, do early inductions matter?

Prematurity (<37 weeks) and Low Birthweight (<2500 grams), U.S., 1981-2023

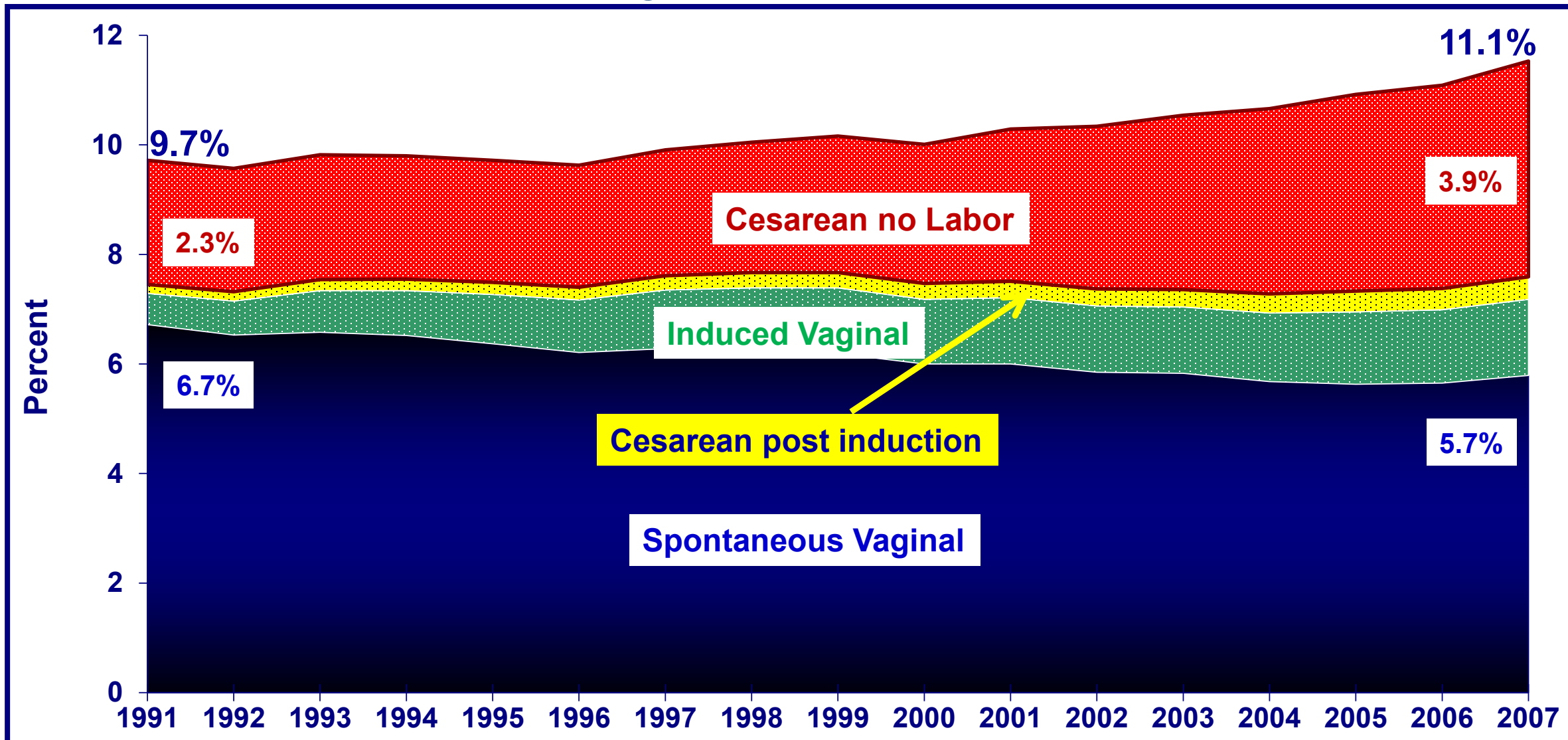


LMP – based on last menstrual period

OE – based on obstetric estimate (only available since 2010)

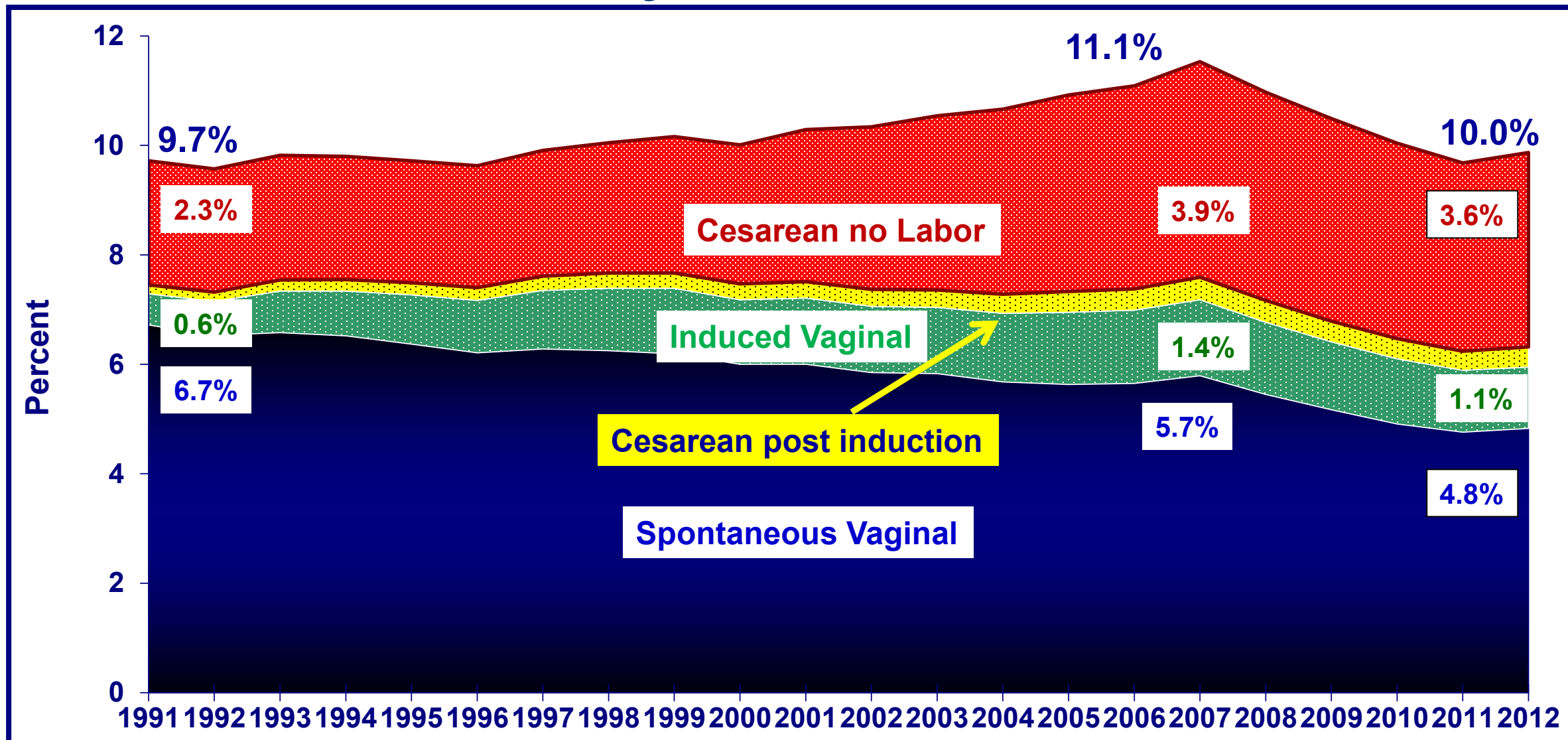
Year

Percent of singleton preterm (<37 weeks) births by method of delivery, United States, 1991-2007



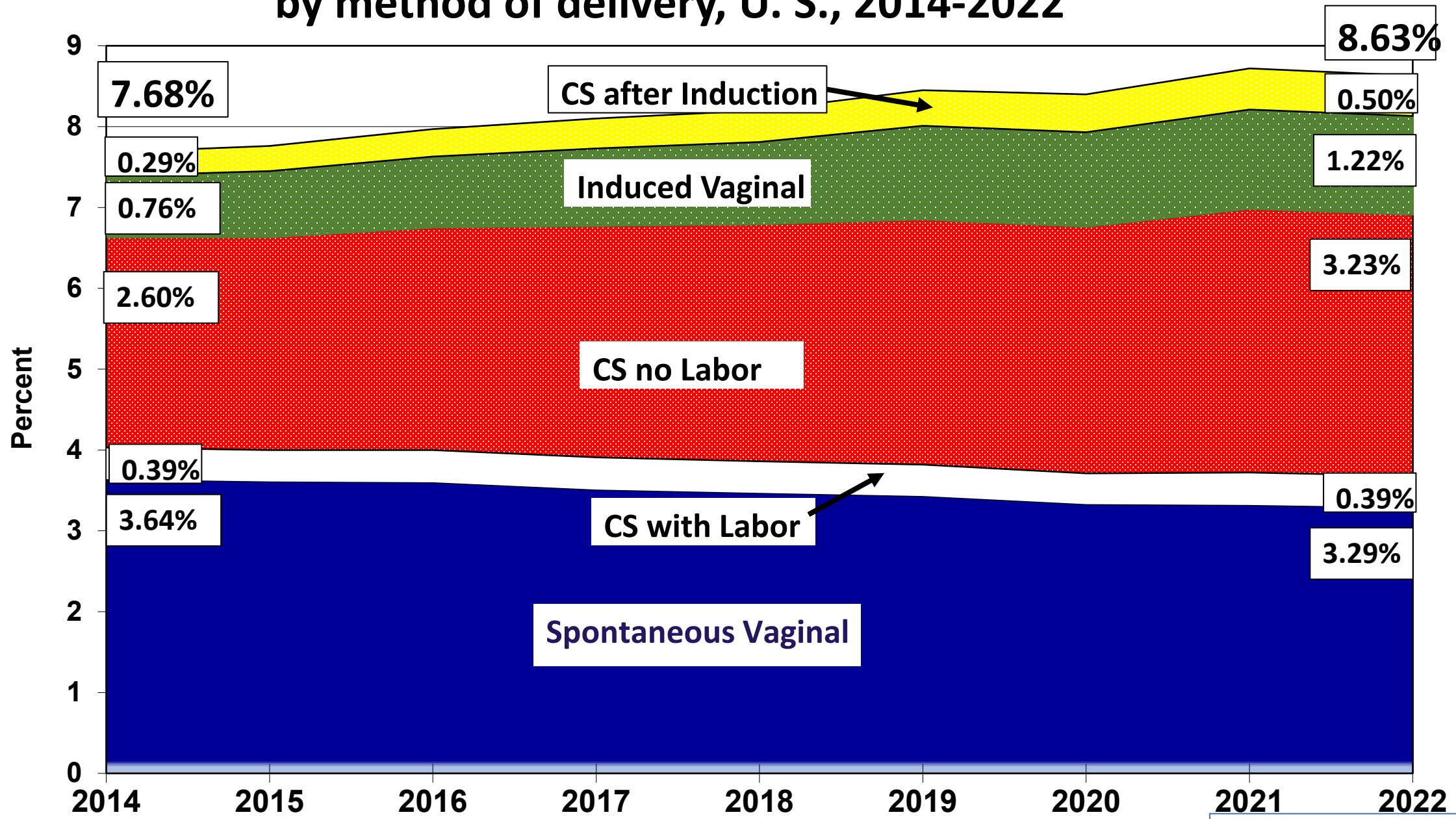
Source: Adapted from MacDorman et al. AJPH, 2011.

Percent of singleton preterm (<37 weeks) births by method of delivery, United States, 1991-2012



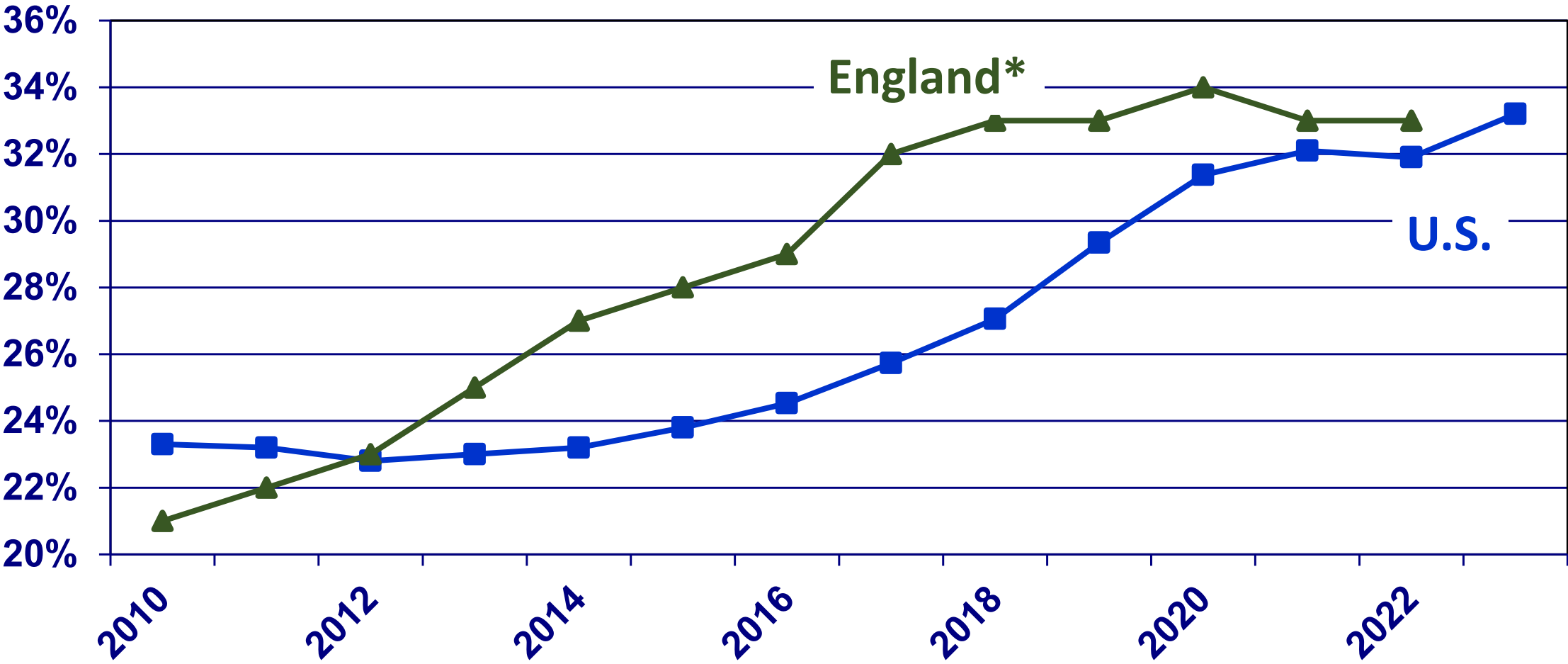
Source: Adapted from MacDorman et al. AJPH, 2011.

Percentage of singleton preterm births, out of total births, by method of delivery, U. S., 2014-2022



Source: Adapted & updated from MacDorman *PLOS One*. 2022 Mar 30;17(3):e0265146..

Inductions, U.S. & England, 1990-2023



Source: U.S.: CDC Wonder. <https://wonder.cdc.gov/nativity.html> ; England: HES, NHS Digital – NHS Maternity Statistics, 2022-2023
*English data does not conform to calendar years – here 2010-2011 is listed under 2010; 2011-12 as 2011 & 2022-23 as 2022, etc.

Take home points

- The rate of inductions has tripled in the U.S. between 1990-2023 rising to 32% of all births and 37% of vaginal births in 2023.
- The increase has occurred at virtually all gestational ages
- The overall induction rate is highest among non-Hispanic white (NHW) women (45% in vaginal, first births).
- Women 40+ having their first birth vaginally, have a 51% induction rate.
- In the U.S., in 2023, there were almost 70,000 inductions at < 37 weeks gestation.
- Inductions appear to have increased faster after the 2018 ARRIVE trial, though plateaued in 2022 before rising again in 2023.
- Overall increases in prematurity appear to be related to recent increases in cesareans and especially inductions.



Sam

Lee

Maya

Ruby

Corey

Lucy

Staige

Jordy

Kylia

Christina

Sarah

Katie

Sheridan

Annette

Ebere

Allison

Brittany

Jessica

Veronica

Juliana

Kali

Isabelle

Gene

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