Trends in Preeclampsia Prevalence and Comorbidity Burden Among Pregnant Women Using U.S. Administrative Claims Data

EPH215

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Objective: To assess longitudinal trends in preeclampsia prevalence among pregnant women using a U.S. administrative claims database and to identify comorbidity groups exhibiting differential growth patterns compared with the overall pregnant population

Background

Preeclampsia is a hypertensive disorder of pregnancy and a leading cause of maternal and neonatal morbidity worldwide, affecting approximately 2–5% of pregnancies.[1,2] It is associated with significant short- and long-term health risks, including increased cardiovascular risk in mothers.[1] Evidence suggests that the prevalence of hypertensive disorders of pregnancy is increasing over time, reflecting a growing public health burden.[3] Real-world data enables evaluation of population-level trends and comorbidity patterns to inform risk stratification.[4]

Methods

A retrospective analysis of U.S. administrative claims data from 2015-2024 was conducted. Pregnant patients (N=18.6M) were identified using delivery-related ICD-10 codes, and preeclampsia (N=1.14M) was captured using diagnosis codes. Annual preeclampsia prevalence was calculated among pregnant patients. Comorbidity groups were defined using diagnosis clusters, and prevalence trends within each group were evaluated relative to the overall pregnant population, focusing on medically and therapeutically relevant conditions.

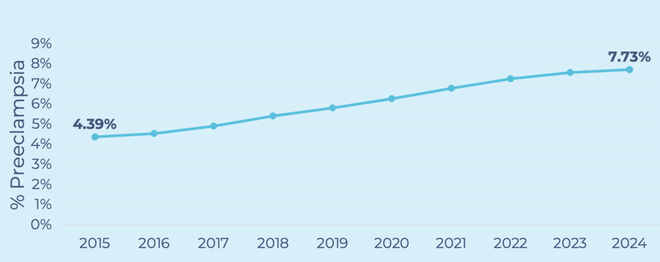
Results

From 2015-2024, preeclampsia prevalence among pregnant women increased steadily from 4.4% to 7.7%, with the most pronounced growth observed after 2017. Several common and clinically relevant comorbidity groups demonstrated higher, and faster-growing preeclampsia prevalence compared with the overall pregnant population. Among pregnant patients with mental health-related conditions, preeclampsia prevalence increased substantially over time. In patients with anxiety disorders, prevalence rose from approximately 7.8% in 2017 to 11.1% in 2024, while patients with depression experienced a similar increase from 7.7% to 11.3% over the same period. Patients with asthma also demonstrated increasing preeclampsia prevalence, growing from approximately 7.7% in 2017 to 10.9% by 2024. Among immune-mediated inflammatory diseases, preeclampsia prevalence increased from 7.9% to 12.6% in patients with severe psoriasis and psoriatic arthritis, and from 6.4% to 9.8% among patients with Sjogren's syndrome between 2017 and 2024.

Conclusions

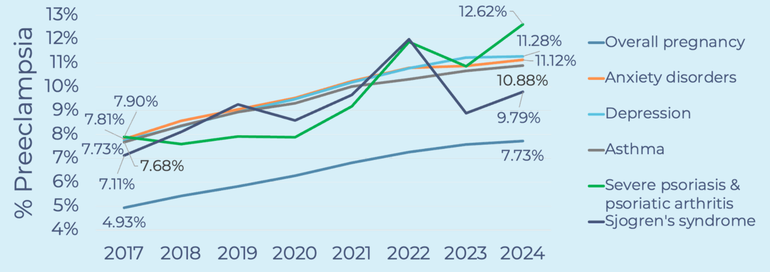
Preeclampsia prevalence increased substantially over the past decade among pregnant women, with accelerated growth observed in multiple clinically relevant comorbidity groups. These findings highlight increasing risk stratification within the pregnant population and demonstrate the value of real-world claims data for identifying subgroups that may benefit from enhanced monitoring and targeted management strategies.

Figure 1. Increasing Prevalence of Preeclampsia Among Pregnant Women, 2015–2024



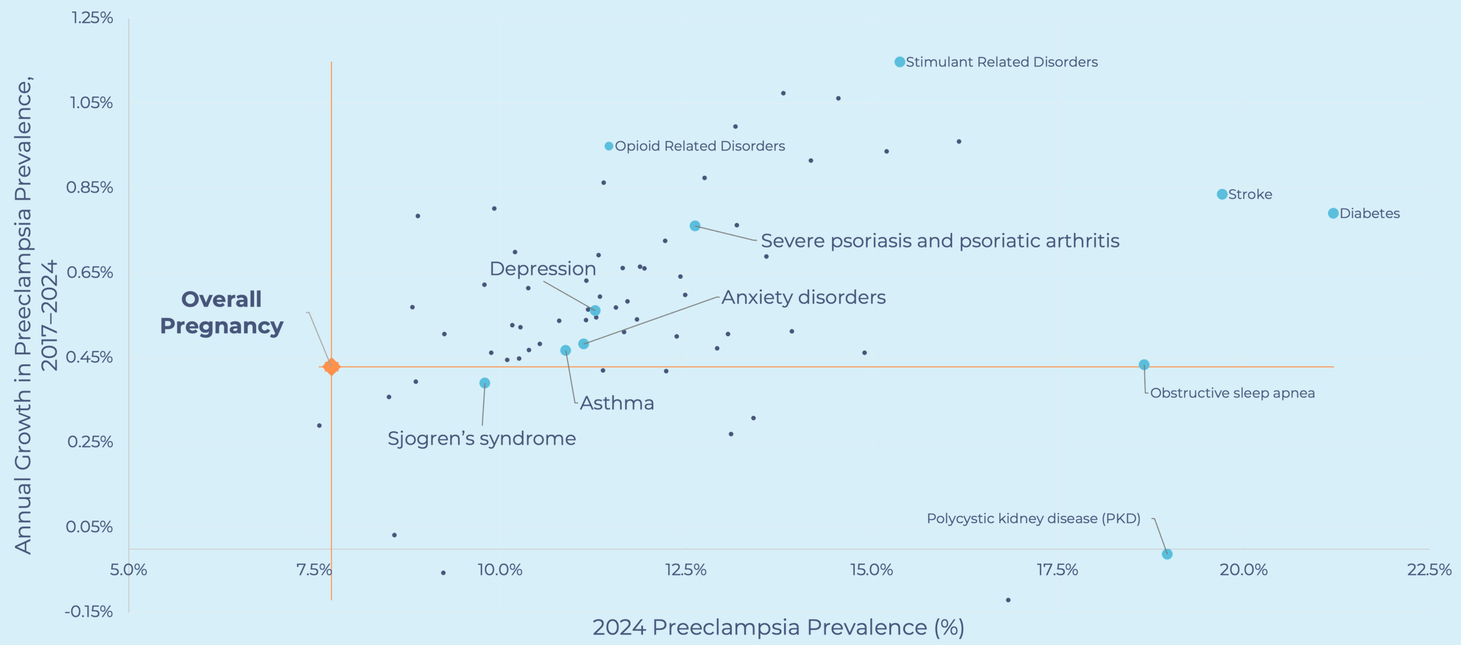
Prevalence calculated annually among pregnant patients identified via ICD-10 codes.

Figure 2. Preeclampsia Trends by Selected Comorbidity Group, 2017–2024



Annual preeclampsia prevalence by condition group; selected groups remained above the overall pregnancy trend.

Figure 3. Comorbidity Risk Profiles Relative to Overall Pregnancy



Citations

1.Dimitriadis E, et al. Pre-eclampsia. Nat Rev Dis Primers. 2023.
2.Preeclampsia: Contemporary Concepts in Pathophysiology. J Clin Med. 2024.
3.Ayyash MK, et al. Trends in Preeclampsia Risk Factors in the US. JAMA. 2024.
4.American Journal of Obstetrics and Gynecology Workshop Report on Preeclampsia. AJOG. 2022.