

A Hidden Shield: Addressing the Underutilized — and Underreported — Potential of Low-Dose Aspirin (LDA) in Preeclampsia Prevention

Low visibility of over-the-counter treatments like LDA presents challenges for ensuring guideline adherence to protect high-risk patients and their babies.

KEY FINDINGS:

- Only 11% of patients classified as high risk for preeclampsia had a record of an LDA prescription during pregnancy.
- Formal LDA prescriptions are on the rise: Among pregnancies classified as high risk, those with recorded LDA prescriptions increased by 8 percentage points over 5 years — from 6% in 2018 to 14% in 2023.
- Patients classified as high risk were 72% more likely to undergo a cesarean section than those not classified as high risk.
- Black patients were 49% more likely than White patients to be classified as high risk.

EXECUTIVE SUMMARY:

LDA is a pivotal intervention in the prevention of maternal preeclampsia — a condition that poses substantial risks to both maternal and fetal health. The condition is characterized by elevated maternal blood pressure and the presence of protein in the urine. Preeclampsia can lead to severe pregnancy complications, including preterm birth, placental abruption, and, in the most severe cases, maternal and fetal mortality. Identifying patients at high risk is a critical component of robust maternal care, as is prophylactic LDA therapy after 12 weeks of pregnancy. This clinical recommendation is endorsed by the [American College of Obstetricians and Gynecologists](#), the [U.S. Preventive Services Task Force](#), and the [World Health Organization](#). Its application, which is both cost-effective and low risk, reduces the likelihood of developing preeclampsia by 10 to 20%.

Despite broad support for this guideline and a growing body of evidence supporting its effectiveness, the extent to which it is being applied is difficult to ascertain due to the low-cost availability of over-the-counter LDA and minimal prescriptions written by healthcare providers. This lack of comprehensive practice data stymies efforts to inform and drive interventional initiatives to ensure widespread guideline adherence.

METHODOLOGY:

This analysis was built on Komodo's Healthcare Map™, the industry's largest and most comprehensive database of de-identified real-world patient journeys in the U.S. All prescriptions, risk levels, and diagnoses were identified exclusively through birth events documented in Komodo's claims-based data between January 2018 and December 2023 using a combination of ICD-10-PCS, HCPCS, and CPT codes that are specific to delivery. About 15.3 million births were analyzed, with 1.5 million identified as meeting our criteria for a high risk of preeclampsia. We defined women at high risk for preeclampsia using ICD-9-CM and ICD-10-CM codes for high-risk factors, including: history of preeclampsia; multifetal gestation; chronic hypertension; diabetes mellitus; renal disease; and autoimmune disease, as supported by [literature](#).

A woman was considered to be high risk for preeclampsia if there were at least one of these high-risk codes up to 280 days before the birth event. To define births of women prescribed LDA, we looked for at least one LDA prescription up to 280 days before the birth event using NDC codes for LDA. We also looked at different birth outcomes, such as preeclampsia, cesarean delivery, and vaginal delivery, on the day of the birth. We used the Cohort Report template from Komodo's MapLab™ solution to find patient distributions by race and ethnicity, state, payer channel, payer name, HCPs, and prescribed drugs.

RESULTS:

Of the 15.3 million qualifying births, 10% were classified as high risk for preeclampsia and 5% developed the condition.

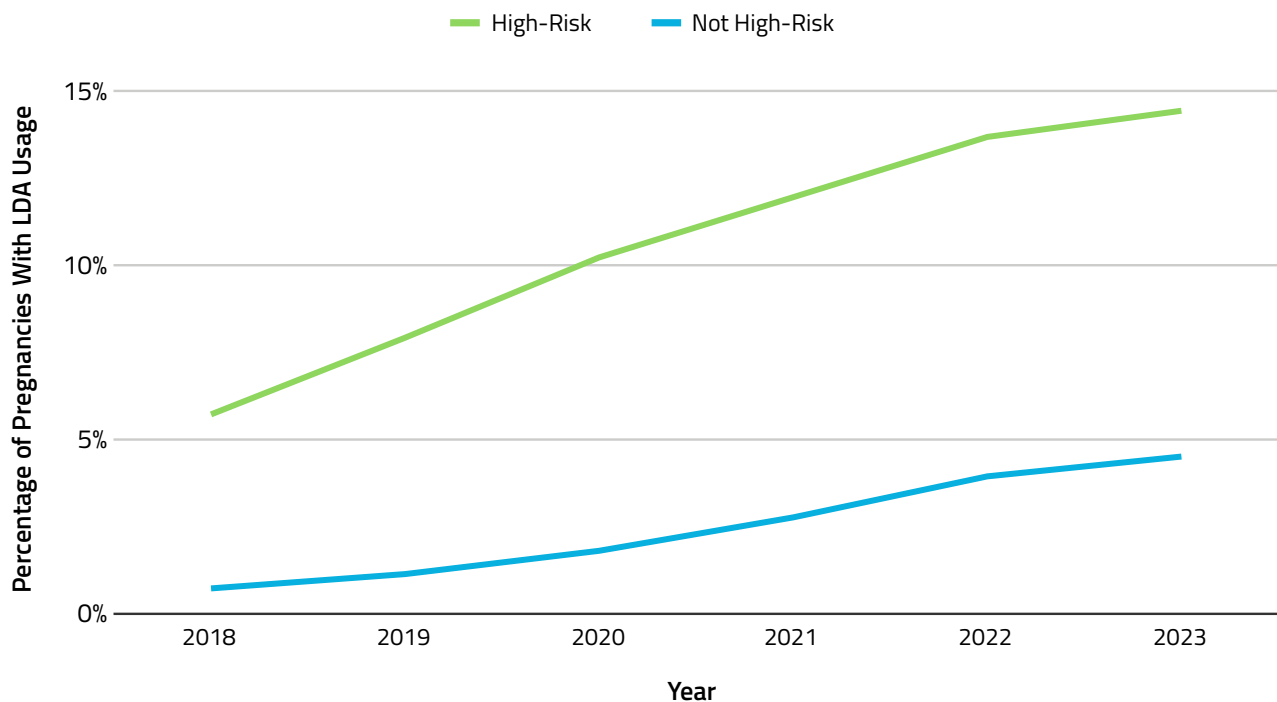
Only 11% of high-risk patients had a record of being prescribed LDA during pregnancy.

Accordingly, 89% of high-risk patients had no record of an LDA prescription. While this number is likely due to undercapture from low billing and a high proportion of patients purchasing LDA over-the-counter, it also may also reflect a lack of guideline adherence. Among births not classified as high risk, more than 2% had received an LDA prescription during pregnancy.

Formal LDA prescriptions are on the rise: Among pregnancies classified as high risk, those with recorded LDA prescriptions increased by 8 percentage points over 5 years, from 6% in 2018 to 14% in 2023.

Among the LDA prescriptions captured, a marked upward trend of LDA usage was seen in both high-risk and not high-risk groups. The share of births with LDA prescriptions in the not high-risk group rose by more than 3 percentage points between 2018 and 2023, from 1% to 5%. While an increase in guideline adherence would be a positive trend, it's unclear what this rise reflects — whether improvements in reporting and/or increases in the number of high-risk patients.

PREGNANCIES WITH AN LDA PRESCRIPTION, BY RISK GROUP



Of patients at high risk for preeclampsia, 1 in 4 developed the condition regardless of whether they had a prescription for LDA or not.

A slightly higher proportion of high-risk patients with a prescription developed preeclampsia than those without an LDA prescription (25% vs. 24%). As the number of patients in the no-prescription group were likely taking LDA fulfilled over-the-counter, a greater difference between groups would likely be seen if true LDA status were reflected.

Of patients not classified as high risk, 3% developed preeclampsia. A greater difference was seen across patients with and without LDA prescriptions in this group: 7% of those with an LDA prescription developed preeclampsia compared to 3% of those without an LDA prescription. This difference may reflect that patients prescribed LDA (a much smaller group by comparison) were more likely to have other risk factors not included in this analysis that could influence the risk of preeclampsia. Additionally, the presence of a formal LDA prescription did not necessarily reflect patient adherence to the therapy.

Patients classified as high risk for preeclampsia were 72% more likely to have a cesarean section than those not classified as high risk.

While 34% of patients not at high risk had a cesarean section, the incidence increased to 58% of high-risk patients.

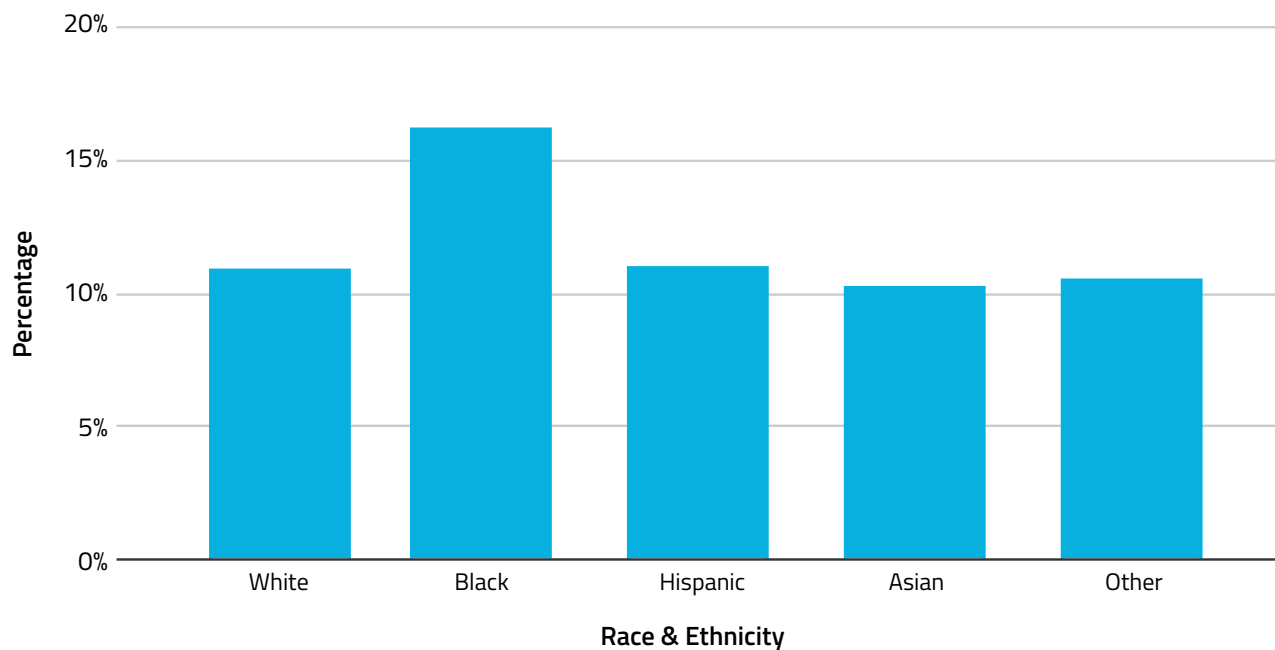
Patients with preeclampsia were more than twice as likely to have a preterm birth.

Among patients with preeclampsia, 11% had a preterm birth, compared to 5% in patients without preeclampsia.

Black patients were 49% more likely than White patients to be classified as high risk for preeclampsia.

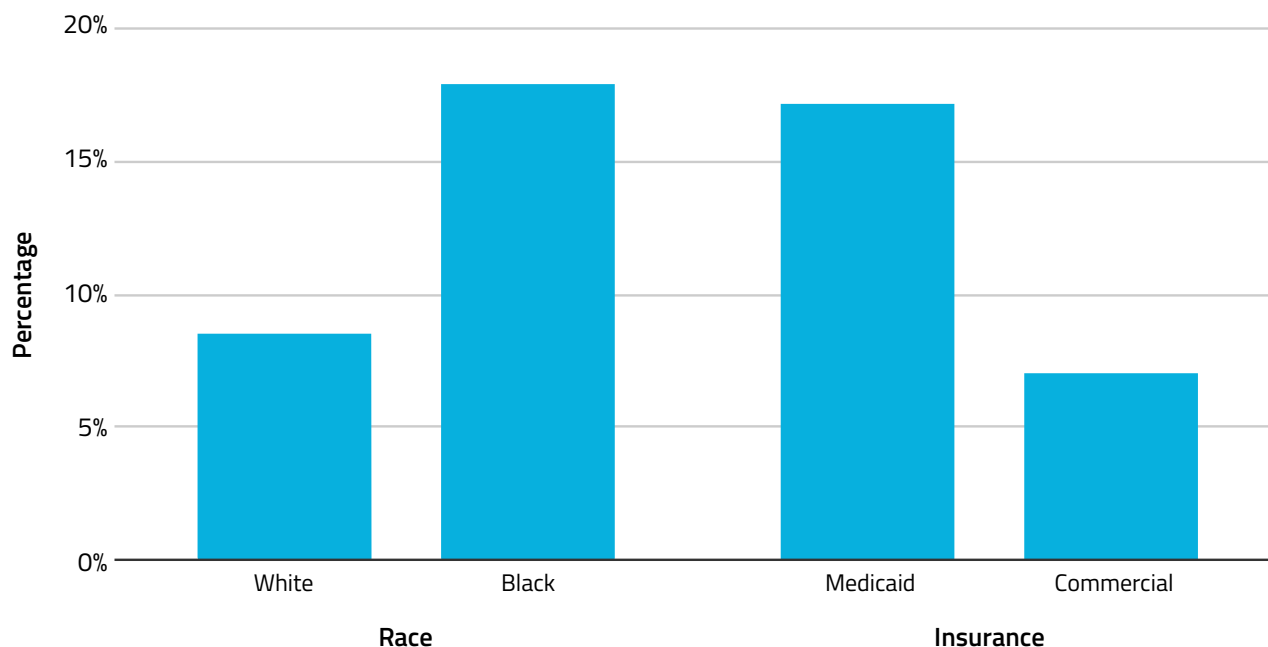
Sixteen percent of Black patients were classified as high risk vs. only 11% of White patients. This is supported by studies showing that preeclampsia and other hypertensive disorders of pregnancy are more prevalent among Black patients than other races and ethnicities in the U.S. Our findings likely reflect race-based disparities in care.

PERCENTAGE OF PATIENTS CLASSIFIED AS HIGH RISK FOR PREECLAMPSIA, BY R&E



The rates of LDA prescriptions among high-risk women showed significant variation. Eighteen percent of high-risk Black women received a prescription, compared to 13% of high-risk Hispanic, Latino, and Asian or Pacific Islander women, and 9% of high-risk White women.

PERCENTAGE OF HIGH-RISK PATIENTS WHO RECEIVED LDA PRESCRIPTION, BY RACE AND INSURANCE



DISCUSSION:

This analysis highlights a critical limitation in the monitoring of LDA for preventing preeclampsia in high-risk pregnancies. LDA is a cost-effective and low-risk intervention; it has a substantial capacity to mitigate the severe risks associated with preeclampsia, and the barriers to its full adoption are relatively low. Improving guideline adherence, however, demands data-driven approaches informed by current real-world applications, necessitating higher-fidelity tracking via prescriptions and billing in clinical settings: We can't address what we can't measure.

For many patients, a written prescription for LDA offers no financial benefit over sourcing it over-the-counter (generic aspirin can be more affordable without a prescription). Other lower-income patients and those with less access to affordable over-the-counter options may benefit from a prescription. Physicians should be encouraged to record prescriptions for LDA even in cases where their patients intend to purchase it independently, in order to populate its utilization in healthcare data, contribute to more targeted strategies for guideline adherence, and, ultimately, improve maternal/fetal outcomes. Insurers should be urged to cover this type of low-cost therapy in full to remove all barriers that may disproportionately impact low-income patients. These improvements could apply to many low-cost over-the-counter therapies, including supplemental iron for iron deficiency anemia, a topic of a recent [Komodo analysis](#).

The underutilization of LDA is also likely reflected in this analysis, pointing to a disconnect between clinical guidelines and real-world practice. This could be due to a lack of provider awareness, patient safety concerns, and patient-provider communication barriers.

By addressing these challenges, the healthcare community can move closer to optimizing maternal and fetal health outcomes through the appropriate use of LDA in preventing preeclampsia. Leveraging Komodo Health's robust real-world data analytics capabilities in collaboration with March of Dimes' comprehensive educational and advocacy initiatives is a multifaceted approach to encouraging widespread compliance with established best practices, ultimately elevating maternal and fetal health standards for U.S. women and their families.



MARCH OF DIMES' CALL TO ACTION

In May, March of Dimes launched the Low Dose, Big Benefits™ initiative to raise awareness among healthcare and support professionals and those at risk of preeclampsia about taking low dose aspirin (also called baby aspirin or 81-mg aspirin) throughout pregnancy. LDA can provide big benefits, giving moms and babies the healthy start they deserve.

The primary objective of this initiative is to amplify awareness among health professionals and individuals of childbearing age on the risk factors of preeclampsia and the use of LDA to mitigate its adverse impacts, and to diminish healthcare disparities by promoting equal access to information for all races and ethnicities. While certain groups are at higher risk, everyone should ask about their preeclampsia risk factors at their first doctor's visit.

Together, we can spread the word about this easy, safe way to prevent preeclampsia and preterm birth.

Visit marchofdimes.org/lowdosebigbenefits to learn more about preeclampsia and the safe use of LDA when prescribed by a healthcare professional.

RESOURCES

- [USPSTF Recommendation Statement. Aspirin Use to Prevent Preeclampsia and Related Morbidity and Mortality \(2021\)](#)
- [ACOG Practice Advisory Number 743 \(reaffirmed in 2023\)](#)

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About March of Dimes

March of Dimes leads the fight for the health of all moms and babies. We support research, lead programs and provide education and advocacy so that every family can get the best possible start. Since 1938, we've built a successful legacy to support every pregnant person and every family. To learn more about March of Dimes, please visit marchofdimes.org.

About Komodo Health

Komodo Health is a technology platform company creating the new standard for real-world data and analytics by pairing the industry's most complete view of patient encounters with enterprise software and machine learning that connects the dots between individual patient journeys and large-scale health outcomes. Across Life Sciences, payers, providers, and developers, Komodo helps its customers unearth patient-centric insights at scale — marrying clinical data with advanced algorithms and AI-powered software solutions to inform decision-making, close gaps in care, address disease burden, and help enterprises create a more cost-effective, value-driven healthcare system. For more information, visit [Komodohealth.com](https://komodohealth.com).

