Both the US Preventive Services Task Force (USPSTF) and the American College of Obstetricians and Gynecologists (ACOG) recommend that women with specific demographic or obstetric factors associated with risk for preeclampsia receive prophylactic low-dose aspirin (LDASA) during pregnancy to reduce this risk.1,2 Krishnamurti and colleagues3 examined multiple potential barriers to effective implementation of this important recommendation, including practitioners’ awareness of factors that made their patients eligible for LDASA during pregnancy, communication between patients and practitioners about the recommendation of LDASA for preeclampsia prevention, and patient adherence to LDASA prophylaxis. To do so, the authors conducted a cohort study using patient data collected from MyHealthyPregnancy, a commercially available smartphone app. The app applies machine learning algorithms to patient-entered data to model an individual patient’s likelihood of adverse pregnancy events including preeclampsia3 and was provided to all English-speaking adult pregnant patients at the University of Pittsburgh Medical Center at their first prenatal appointment. The study population comprised 2563 of the 3484 women (74%) who were invited to use the app and used it. Of note, women who were invited to use the app and used it had similar demographic and obstetric factors as women to whom the app was recommended but who did not use it, with the exception of differences in insurance type.

The prospective cohort study by Krishnamurti and colleagues3 had several important findings. First, prenatal care practitioners, including midwives, nurse practitioners, and physicians (obstetrics and gynecology residents and attending physicians), appropriately recommended LDASA for only 46.0% of women identified as eligible for LDASA according to high-risk criteria. Second, among the 124 pregnancies for which the pregnant patients disclosed on the app that they had at least 1 high-risk criterion for preeclampsia and also answered a prompt about whether their practitioner recommended LDASA, 27.4% did not have an LDASA recommendation documented in their medical record. Of the patients who did, only 63.3% were aware that this recommendation had taken place, suggesting a possible communication failure between some practitioners and patients. Third, patient recollection of a recommendation for LDASA was not strongly associated with adherence: of the 132 patients who reported receiving an LDASA recommendation (regardless of whether it was documented in the medical record), only 64 (48.5%) reported adherence to LDASA guidelines.

Krishnamurti and colleagues3 are to be commended for their innovative approach to assessing potential impediments to LDASA implementation; their study findings could be used to increase understanding of both the prescription of and patient adherence to LDASA prophylaxis per USPSTF and ACOG clinical guidelines recommending screening for preeclampsia risk factors and LDASA prophylaxis for those at risk. First and foremost, prenatal care practitioners must successfully identify patients at risk for preeclampsia to recommend LDASA for all those who should receive it. As Krishnamurti and colleagues3 suggest, technology-based tools such as automatic reminders in the electronic medical record may facilitate appropriate identification. However, identification of eligible patients is only the first step; practitioners must then successfully communicate the importance of LDASA adherence to all women to whom this therapy is recommended. This could occur directly by practitioners or by using videos or other mobile health interventions, which have been shown to be associated with improved adherence to daily medication regimens.4
However, a simpler and more effective method to ensure that all women who may benefit from LDASA actually receive it may be to transition to a policy of universal LDASA prophylaxis during pregnancy. A study\(^5\) showed that in almost all plausible scenarios, universal LDASA prophylaxis may be associated with reduced frequency of preeclampsia, decreased mortality, and lower health care costs in the US compared with the current approach based on using risk factors to identify patients at risk for preeclampsia. Furthermore, randomized clinical trials\(^6,^7\) have shown that universal LDASA lowers the frequency of preterm birth irrespective of preeclampsia prevention, suggesting that the benefits of LDASA may extend beyond prophylaxis for preeclampsia. In addition, the findings of the study by Krishnamurti and colleagues\(^3\) may support universal LDASA prophylaxis: 1367 of 2563 participants (53.3%) in the study had factors rendering them eligible for LDASA prophylaxis. Thus, it may make little sense to try to target LDASA therapy to specific patients when more than half of pregnant women may have an indication for it, especially if such targeting might actually impede effective implementation. Adopting universal LDASA prophylaxis would change patients' choice from opt-in to opt-out, which may increase the number of patients who receive an inexpensive, safe, and beneficial preventative therapy.\(^8\) In addition, this approach would allow prenatal care practitioners to focus on patient education instead of risk factor identification and thereby may increase adherence. Simply put, for LDASA therapy to achieve its substantial promise, practitioners may need to think of it less like a medication and more like a vitamin.

ARTICLE INFORMATION
Open Access: This is an open access article distributed under the terms of the CC-BY License. © 2021 Lewkowitz AK et al. JAMA Network Open.

Corresponding Author: Adam K. Lewkowitz, MD, MPH, Women & Infants Hospital of Rhode Island, Alpert Medical School of Brown University, 101 Dudley St, Providence, RI, 02905 (adam_lewkowitz@brown.edu).

Author Affiliations: Women & Infants Hospital of Rhode Island, Alpert Medical School of Brown University, Providence, Rhode Island.

Conflict of Interest Disclosures: Dr Lewkowitz reported receiving personal fees from and participating in a virtual advisory board for Shield Pharmaceuticals outside the submitted work. No other disclosures were reported.

REFERENCES