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## Influenza Vaccination Among Pregnant and Postpartum Women in Minnesota: The Importance of the Prenatal Care Provider

*Pregnant and postpartum women who were either recommended or offered influenza vaccine by their health care providers were 2 times more likely to be vaccinated than women who were not recommended or offered the vaccine.*

*"I was surprised my doctor didn't talk to me about... flu vaccinations."*

*—PRAMS mother*

### Background

Pregnant women have increased morbidity and mortality from seasonal influenza due to the changes that occur during pregnancy.<sup>1-3</sup> Influenza vaccination with the trivalent inactivated vaccine is the most effective way to protect pregnant women from influenza and its complications.<sup>4-5</sup> Recent studies have demonstrated that vaccination during pregnancy significantly reduced the chance of influenza illness among infants up to 6 months of age.<sup>6-8</sup> Vaccination of pregnant women is a key way to protect these babies who are at high risk of severe illness from influenza, but who are too young to be vaccinated.<sup>5-8</sup>

Before 2009, pregnant women had the lowest rates of seasonal influenza vaccination among all adult priority groups.<sup>9-10</sup> In 2009, only about half of pregnant women received the influenza vaccine.<sup>11</sup> Prenatal health care providers play a critical role in increasing rates of influenza vaccination among pregnant women by recommending and providing influenza vaccine to their patients.<sup>10,12</sup>

### Influenza Vaccination Recommendations for Pregnant Women

The Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) and the American College of Obstetricians and Gynecologists (ACOG) recommend that women who are or plan to be pregnant during influenza season should receive the influenza vaccine as soon as possible.<sup>4-5</sup> Inactivated influenza vaccine is considered effective during any stage of pregnancy and is proven to benefit both the mother and baby.<sup>4-5</sup>

### Recommended Actions for Prenatal Care Providers

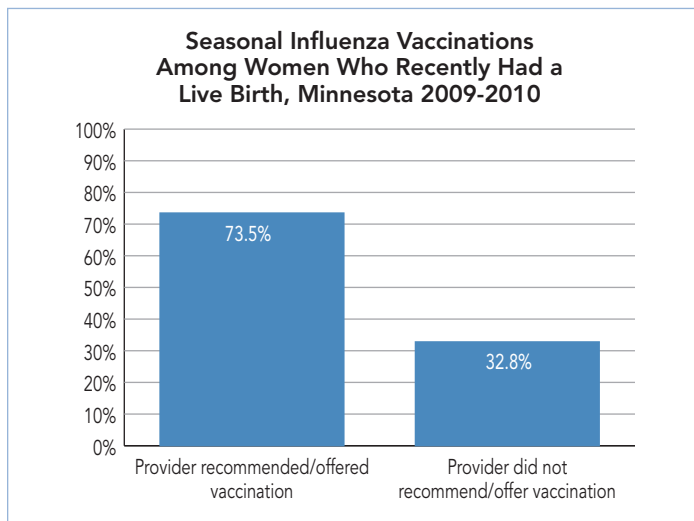
There are many things that can be done to protect pregnant and postpartum women and infants from this vaccine-preventable disease.

- Educate staff and pregnant women about the importance of influenza vaccination during pregnancy and evidence related to its safety; provide a strong recommendation for vaccination
- Issue standing orders for influenza vaccination of pregnant and postpartum women
- Establish an influenza vaccination reminder system in their practices
- Post influenza prevention announcements and provide brochures to prompt vaccination requests
- Offer vaccination to pregnant women at the earliest opportunity and throughout flu season (October–April)
- Vaccinate all healthcare personnel in their practices to prevent healthcare personnel from influenza and from spreading influenza to patients
- Vaccinate postpartum women who were not vaccinated during pregnancy, preferably before hospital discharge or at 6 week postpartum visit
- Know where to refer patients if influenza vaccine is not available in the practice
- Educate staff and postpartum women that breastfeeding is not a contraindication to vaccination
- Advise family members and other close contacts of pregnant and postpartum women and infants that they should also be vaccinated against influenza

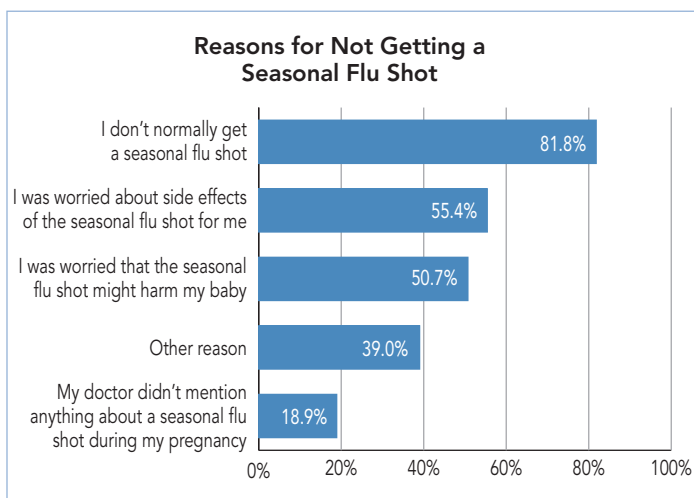
## The Minnesota Experience

In 2009, Minnesota collected information on influenza vaccination among pregnant and postpartum women through CDC's Pregnancy Risk Assessment Monitoring System (PRAMS). PRAMS data are used to measure progress towards goals in improving the health of mothers and infants, and to identify women and infants at high risk for health problems.

Minnesota PRAMS data demonstrate that health care providers play a critical role in the acceptance of influenza vaccine. Pregnant and postpartum women who were either recommended or offered influenza vaccine by their health care providers were 2 times more likely to be vaccinated than women who were not recommended or offered the vaccine (73.5% vs. 32.8%).



Minnesota's data reveal several reasons why women do not receive influenza vaccinations during and after pregnancy.



**For more information about vaccination, including other vaccines for pregnant and/or postpartum women, visit:**

[www.health.state.mn.us/divs/idepc/diseases/flu/hcp/index.html](http://www.health.state.mn.us/divs/idepc/diseases/flu/hcp/index.html)

## References

1. Dodd L, MCNeil SA, Fell DB, et al. Impact of influenza exposure on rates of hospital admission and physician visits because of respiratory illness among pregnant women. *CMAJ* 2007;176(4):463-468.
2. Neuzil KM, Reed GW, Mitchel EF, et al. Impact of influenza on acute cardiopulmonary hospitalization in pregnant women. *Am J. Epidemiol.* 1998;148(11):1094-1102.
3. Jamieson D, Theiler R, Rasmussen S. Emerging infections and pregnancy. *Emerging Infectious Disease.* 2006;12:1638-1643.
4. CDC. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2009. *MMWR.* 2009;58(RR08):1-52.
5. ACOG Committee on Obstetric Practice. ACOG committee opinion number 468, 2010. Influenza vaccination during pregnancy. *Obstet Gynecol* 2010;116:1006-7.
6. Zaman K, Roy E, Arifeen S, et al. Effectiveness of maternal influenza immunization in mothers and infants. *New England Journal of Medicine.* 2008;359:1555-1564.
7. Eick A, Uyeki TM, Kilmov A, et al. Maternal Influenza Vaccination and Effect on Influenza Virus Infection in Young Infants. *Arch Pediatr Adolesc Med.* 2010; doi:10.1001/archpediatrics.2010.192. Accessed on 12/2/2010.
8. Benowitz I, Esposito DB, Gracey KD, Shapiro ED, Vazquez M. Influenza vaccine given to pregnant women reduces hospitalizations due to influenza in their infants. *CID* 2010; 51:1355-1361.
9. CDC. Receipt of Influenza Vaccine During Pregnancy Among Women With Live Births — Georgia and Rhode Island, 2004–2007. *MMWR.* 2009;58(35):972-975.
10. Ahluwalia IB, Jamieson DJ, Rasmussen SA, et al. Correlates of Seasonal Influenza Vaccine among pregnant women in Georgia and Rhode Island. *Obstetrics & Gynecology* 2010;116:949-955.
11. Ahluwalia IB, Jamieson DJ, D'Angelo D, Singleton JA, Sanibanez T, Euler G, Weinbaum C. Seasonal Influenza and 2009 H1N1 Influenza Vaccination Coverage among Pregnant Women—10 States, 2009–10 Influenza Season. *MMWR* 2010; 59:1541-1545.
12. CDC. Influenza Vaccination in Pregnancy: Practices Among Obstetrician-Gynecologists—United States, 2003–04 Influenza Season. *MMWR.* 2005;54(41):1050-1052.

