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Antenatal detection of HIV: national surveillance and unlinked anonymous survey

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In 1999 national targets were adopted for the universal offer and recommendation of a test for HIV during antenatal care throughout England. This built on earlier initiatives aimed at enhancing maternal diagnosis of HIV infection and reducing perinatal transmission of HIV with appropriate interventions.

Substantial improvement in the proportion of maternal HIV infections diagnosed has been reported for much of London, and improvement has been observed more recently for the rest of England. We used published estimates of rates of vertical transmission of HIV in the United Kingdom to assess whether the target of an 80% reduction in the proportion of vertically infected infants by December 2002 is likely to be achieved.

Participants, methods, and results

We used results from the unlinked anonymous dried blood spot survey to estimate the number of births in
England to women infected with HIV. Combining these data with confidential reports of pregnancies in women diagnosed as being infected with HIV made through the Royal College of Obstetricians and Gynaecologists to the national study of HIV in pregnancy and childhood allowed us to estimate the proportion of maternal infections diagnosed before delivery. We used data from 1997 to reflect the baseline situation before the implementation of national antenatal HIV testing and data from 1999 to investigate recent improvements in rates of maternal diagnosis.

To estimate the number of babies acquiring HIV infection from their mothers we assumed a vertical transmission rate of 2.2% for women whose infection was diagnosed before delivery and 26.5% for women whose infection was not diagnosed. To calculate the minimum number of infected babies achievable we assumed diagnosis of all maternal infections before delivery and a vertical transmission rate of 2.2%. The vertical transmission rate for women with diagnosed infection was based on British surveillance data for 1997, when 62% of women with diagnosed infection had their babies delivered by caesarean section and 97% accepted some antiretroviral treatment.

In 1997 infection was diagnosed and reported for 82 of the estimated 275 women infected with HIV who gave birth in England. We estimate that 53 babies were likely to have been infected (three born to women with a diagnosis and 50 to women without a diagnosis), and that 47 (89%) of these infections were preventable (minimum number achievable = 6) (table).

The recent improvement in the proportion of maternal HIV infections diagnosed before delivery in England (particularly in London) reflects an increase in the number of women with a previous diagnosis becoming pregnant as well as an improvement in rates of antenatal diagnosis. Although there were more births to infected women in 1999 than in 1997, the increasing proportion of maternal infections diagnosed before delivery is likely to have led to fewer infants acquiring infection (table). Although nearly three quarters of pregnant women infected with HIV live in London, rates of diagnosis must improve throughout the country if the target for reduction in paediatric infection is to be reached. Even if all infected women in London had had a diagnosis in 1999 there would still have been 26 babies born with HIV infection in England as a whole (20 + 6), a reduction of 51% from the 1997 baseline of 53 (table).

**Comment**

Achieving the national target of an 80% reduction in paediatric HIV infections depends on improving rates of diagnosis outside London as well as sustaining and further improving them in London. Most pregnant women infected with HIV live in London, and improvements in rates of antenatal diagnosis in this region have already had an impact in reducing transmission of HIV from mother to child. Recent data for the first half of 2000 indicate that rates of antenatal detection outside London have increased substantially as routine antenatal testing has been implemented, and this should result in further reductions in the proportion of infected infants.

We thank obstetric and paediatric respondents to the Royal College of Obstetricians and Gynaecologists and British Paediatric Surveillance Unit schemes and colleagues at the Institute of Child Health, Public Health Laboratory Service, and Scottish Centre for Infection and Environmental Health, Glasgow.

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