Introduction of Routine HIV Testing in Prenatal Care—Botswana, 2004

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In 2003, approximately 37% of pregnant women in Botswana (2001 population: 1.7 million; approximately 40,000 births per year) were infected with human immunodeficiency virus (HIV). Since 2001, all prenatal clinics in Botswana have offered HIV screening and interventions for prevention of mother-to-child transmission of HIV (PMTCT), which can decrease vertical transmission of HIV from 35%-40% to 5%-10%.

Introduction of Routine Testing

In February-April 2004, the first 3 months of routine testing, 314 (90.5%) of 347 pregnant women were tested for HIV, compared with 381 (75.3%) of 506 women during October 2003-January 2004, the last 4 months of the opt-in testing period (p<0.001). However, many women who were tested never learned their HIV status because of logistical problems or not returning to the clinic. Substantial increases in HIV testing of pregnant women were also observed at the Francistown referral hospital and at prenatal clinics nationwide. These findings highlight the potential public health impact of routine HIV testing with rapid, same-day results for programs seeking to increase the number of persons with access to HIV-prevention and treatment services.

Clinic Evaluation

In February 2004, in accordance with the new national policy of routine HIV testing in Botswana, personnel in four selected clinics were trained in a routine approach to prenatal HIV testing. Under the new system, existing PMTCT counselors (secondary-school graduates with 4 weeks of HIV-counseling training) held 10- to 15-minute group education sessions with pregnant women, using a flip chart as a discussion guide. The discussion focused on HIV transmission, PMTCT, ARV therapy, and testing needed for all mothers and infants. Women were informed that they would be routinely screened for HIV and other diseases. All were informed of their right to refuse testing. Women who did not want any of the tests were encouraged to discuss their concerns with the counselor. Women who arrived for prenatal care when no group could be convened received the same education individually. Women who did not refuse had blood drawn for HIV testing, which was performed off-site by laboratory technicians. Women usually received results and posttest counseling at their next scheduled prenatal visit (normally 1 month later). Women who were tested received individual posttest counseling, with a focus on PMTCT interventions for women who were identified as HIV positive, and were advised regarding next steps in medical care and psychosocial support.

Data on prenatal-care attendance, HIV test acceptance, and receipt of HIV test results were collected from clinic logbooks for the 4 months before the routine testing project began and for the first 3 months of routine testing. The median number of women beginning prenatal care at all four clinics was 114 per month (range: 95-134 women) during the opt-in testing period and 130 (range: 97-154 women) during the routine testing period, with a total of 859 women beginning care during the period of data collection. Six women who were known to be HIV positive before their first prenatal visit were excluded from this analysis. The median time for HIV test results to return from the laboratory was 19 days (range: 0-59 days).

Acceptance of HIV testing and receipt of test results increased (Figure) after the introduction of routine testing. However, no difference was observed in the percentage of women who were tested but did not receive results between the opt-in and routine periods (29.4% versus 33.0%; p=0.29). Of all 639 women for whom test results were available, 306 (47.9%) were HIV positive.

Referral Hospital and National Program Data

Data from other sources also indicated an increase in the number of pregnant women learning their HIV status since routine testing began. Nyangabgwe Referral Hospital in Francistown is the site of approximately 10% of Botswana’s annual deliveries, serving women from Francistown (including the four clinics involved in this project and eight other clinics where staff were trained in routine testing by project staff) and surrounding rural areas. For women who...
do not know their HIV status at delivery, routine testing is performed on the postnatal ward. Data from postnatal ward logbooks indicated that the percentage of women who delivered at Nyangabgwe Referral Hospital who knew their HIV status at the time of discharge increased from 50% in 2003 to 76% during the first 9 months of 2004. Data reported by all 24 health districts to the national PMTCT program indicated that the percentage of women who delivered in health facilities who knew their HIV status increased from 52% in 2003 to 69% during the first 6 months of 2004.

As a complement to routine HIV testing, the government of Botswana plans to train HIV counselors in all health facilities to perform rapid, onsite HIV testing. This measure should reduce the number of clients who are tested but never receive results.

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CDC Editorial Note: Botswana has one of the greatest HIV burdens in the world. To improve coverage and effectiveness for its national PMTCT and ARV programs, Botswana recently adopted a national policy of routine HIV testing in prenatal and other health-care settings. The findings in this report demonstrate that group education and routine HIV testing were largely acceptable to this population of pregnant women in Botswana. Approximately 90% of women had an HIV test, and the introduction of routine testing did not lead to reductions in the number of women attending prenatal care or the percentage receiving test results compared with the opt-in period. Under both testing paradigms, many women who were tested did not learn their HIV status because laboratory testing was conducted offsite and results were not immediately available. Approximately 20% of women in Francistown never return to the clinic where they first seek prenatal care (Francistown District Health Team, unpublished data, 2002). Some women return but choose not to receive their results, and laboratory, clerical, and staffing difficulties add to the number of women who do not receive results during pregnancy.

Interventions to prevent mother-to-child transmission of HIV are effective and safe, and HIV-infected women who know their status can also receive life-sustaining ARV therapy. Without intervention, 35%-40% of HIV-positive women transmit HIV to their infants; however, drug prophylaxis and formula feeding can reduce transmission to 5%-10%, and combination ARV therapy can reduce transmission to <1%. For these reasons, routine HIV testing has become the standard of care for pregnant women in developing countries, where HIV seroprevalence is relatively low. A routine approach to HIV testing has been rare in Africa, where HIV prevalence is higher, stigma associated with an HIV diagnosis has been a barrier to test acceptance, and large-scale PMTCT and ARV treatment programs are only recently becoming available. As part of worldwide efforts to expand access to PMTCT and ARV therapy, routine HIV testing of pregnant women (with the right to refuse) is recommended in the 2004 joint United Nations and World Health Organization policy statement on HIV testing.

The findings in this report are subject to at least two limitations. First, this project involved clinics that had substantially higher-than-average testing acceptance even before implementation of the routine testing policy. Project clinics reported 76% acceptance at a time when the national program reported 52% acceptance; this was likely attributable to their highly committed staff. Second, data are being collected but are not yet available to determine whether women tested for HIV under the routine testing policy accept PMTCT interventions at the same rate as women tested under an opt-in testing policy. Introduction of routine HIV testing can improve HIV testing participation and access to prevention and treatment services in prenatal and other clinical settings. Use of same-day, rapid HIV testing can increase the impact of such a strategy in settings in which patients might not receive results from off-site testing.

REFERENCES
5. CDC. Revised recommendations for HIV screening of pregnant women MMWR. 2001;50(No. RR-19):59-86.

Influenza Vaccination and Self-Reported Reasons for Not Receiving Influenza Vaccination Among Medicare Beneficiaries Aged ≥65 Years—United States, 1991-2002

MMWR. 2004;53:1012-1015

2 figures omitted

ANNUAL INFLUENZA VACCINATION OF the U.S. elderly population has been demonstrated as safe and effective in reducing the risks of illness, hospitalization, and death. The Medicare Current Beneficiary Survey (MCBS) has measured annual influenza vaccination rates since 1991; the latest data