

HIV Testing and Counselling for Prevention of Mother-to-Child Transmission at Labour and Delivery in Guyana

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Mother-to-child HIV transmission (MTCT) accounts for nearly 90% of approximately 600 000 new HIV infections that occur in children worldwide each year. Without intervention, there is a 15–45% risk of a HIV-infected mother transmitting HIV to her child during pregnancy, delivery and breastfeeding (1). Comprehensive prevention of mother-to-child transmission (PMTCT) programmes, which provide prevention messages, testing and interventions including antiretroviral (ARV) prophylaxis and replacement feeding have nearly eliminated MTCT in developed countries. However, in resource-limited settings, one of the biggest challenges is testing pregnant women and identifying HIV-positive women for further interventions. Provider-initiated testing and counselling (PITC), wherein HIV testing is provided as part of standard services unless the client declines (or “opts-out”), increases HIV testing uptake (2–4) is now globally recommended (5). However, implementation in resource-limited settings has been slow.

HIV prevalence among pregnant women in Guyana is estimated to be 1.6% (6). Antenatal care (ANC) coverage (≥ 1 visit) is about 81%. Approximately 13 000 of 17 000 (76%) annual deliveries occur in the public sector and approximately 208 of these women are HIV-positive. Despite a successful introduction of a national PMTCT programme, available data from Guyana’s Ministry of Health (MOH) suggested that during 2005, only 20–40% of pregnant women delivering in a health facility had been tested for HIV at ANC sites. Guyana’s PMTCT programme began in November 2001; at April 2006, 59 (45%) of the country’s 130 ANC sites offered PMTCT services including HIV testing and counselling. According to Guyana’s policy at the time, women at ANC received voluntary counselling and testing and had to “opt-in” or request testing.

In November 2004, five hospitals which account for 75% of all births in Guyana began HIV counselling and testing at labour and delivery (L&D) because of many pregnant women presenting to L&D with unknown HIV status.

In an effort to assess the new programme of testing, women of unknown HIV status at L&D, the US President’s Emergency Plan for AIDS Relief (PEPFAR) and the Centers for Disease Control and Prevention conducted a focussed PMTCT programme review of testing and counselling activities at L&D. This assessment was conducted over a three-week period (March–April 2006). The review included patient charts, L&D registries and counselling/testing logbooks for January–March 2006 from the five hospitals. Staff interviews were also conducted.

In January 2006, 360 (44%) pregnant women delivering at these five hospitals arrived at L&D with unknown HIV status. Of these, 246 (68%) received HIV testing and counselling before discharge and five (2%) tested positive (Table 1). Among women with unknown HIV status, those admitted

Table 1: HIV testing at labour and delivery at five facilities in Guyana, January 2006

Variables	Number	Percentage
Total delivered	819	
Arrived at L&D with unknown HIV status	360/819	44%
Proportion with unknown HIV status who received HIV testing and counselling before discharge	246/360	68%
Proportion of women tested HIV positive at L&D	5/246	2%

to L&D ≥ 6 hours before delivery were more likely to be tested than women admitted < 6 hours before delivery (64% *versus* 49%; risk ratio = 1.3; 95% confidence interval = 1.1,1.6). A need for transportation to the hospital and lack of beds were some reasons women presented late to L&D. One hospital, with two counsellors and a weekend on-call schedule, tested 5 of 7 (71%) women who were admitted and discharged on the weekends.

Another site, which had one counsellor and no on-call system, tested only 3 of 18 (17%) of its weekend patients with unknown HIV status.

PMTCT prophylaxis information was collected at two sites. Among women with unknown HIV status who tested HIV-positive at these hospitals, 21 (44%) of 48 received single-dose nevirapine (SDNVP) prophylaxis; among their newborns, 36 (75%) received prophylaxis and 31 (65%) received replacement feeding.

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This review illustrates the improvement in Guyana's PMTCT programme with the addition of testing at L&D and its capacity to implement PMTCT interventions such as maternal and infant prophylaxis and infant feeding counselling once a pregnant woman tests positive for HIV. However, challenges remain with identifying the HIV-positive women at ANC and L&D. Of women with unknown status at L&D, 68% knew their status at discharge during this review. Our data also suggest the need to encourage women to arrive at the hospitals in earlier stages of labour. A woman in Guyana who was hospitalized longer was more likely to be tested and, if positive, to receive the appropriate interventions. The low HIV testing uptake during weekends when there were no testers and counsellors suggests the need for adequate staffing to improve HIV testing coverage at L&D. Countries like Guyana can consider assigning more counsellors to high volume settings with pregnant women of unknown HIV status. Ensuring a counsellor is available at every shift is ideal.

Guyana's programme would benefit from implementing PITC at ANC and L&D. Provider-initiated testing and counselling (PITC) has been shown to increase HIV testing uptake to over 90% in resource-limited settings (2,3) and is now highly recommended in the new World Health Organization's PITC guidelines and standardized HIV testing and counselling for PMTCT support tools (4, 5). Providing PITC to all women in ANC will reduce the number of women who need HIV testing at L&D and allow interventions to begin earlier.

Given the effort to implement national PMTCT programmes, it is important to increase HIV testing coverage and uptake at both ANC and L&D and to identify more HIV-positive women and link these women and their families to care and treatment. Considering there are 208 HIV-positive women delivering each year in Guyana, the majority of infant infections could be prevented with increased HIV testing uptake at ANC and L&D. Based on a 35% transmission rate, the use of SDNVP and safe infant feeding could avert about

50% of the nearly 100 perinatal transmissions that occur annually in Guyana. The proportion of infant infections averted would be higher (~70%) with the increasing use of more effective combination ARV prophylaxis.

Based in part on this assessment, PEPFAR is providing L&D beds at the biggest hospital in this assessment, so women are less crowded and may present to the hospital sooner before delivery. The Ministry of Health, Guyana, adopted PITC with right to "opt-out" at ANC and L&D and is focussing on increasing facility coverage and testing uptake.

Testing at L&D remains an important safety net for women missed at ANC and is a key element of a comprehensive PMTCT programme. This is especially important in Guyana where most women deliver at five hospitals.

REFERENCES

1. De Cock KM, Fowler MG, Mercier E, de Vincenzi I, Saba J, Hoff E et al. Prevention of mother-to-child HIV transmission in resource-poor countries: translating research into policy and practice. *JAMA* 2000; **283**: 1175–82.
2. Bolu OO, Allread V, Creek T, Stringer E, Forna F, Bulterys M et al. Approaches for scaling up HIV testing and counselling in prevention of mother-to-child HIV transmission (PMTCT) settings in resource-limited countries. *Am J Obstet Gynecol* 2007 Sep;197 (3 **Suppl**): S83–9. Review.
3. CDC. Introduction of Routine HIV Testing in Prenatal Care—Botswana, 2004. *MMWR* 2004; **53**: 1083–6.
4. Bulterys M, Jamieson DJ, O'Sullivan MJ, Cohen MH, Maupin R, Nesheim S et al. Mother-Infant Rapid Intervention at Delivery (MIRIAD) Study Group. Rapid HIV-1 Testing During Labour: A Multicenter Study. *JAMA* 2004; **292**: 219–23.
5. World Health Organization. Guidance on Provider-Initiated HIV Testing and Counselling in Health Facilities. Released and accessed May 30, 2007. Available at http://www.unaids.org/en/MediaCentre/PressMaterials/FeatureStory/20070530_testing_counsellig_guidance.asp.
6. Guyana HIV Antenatal Care (ANC) Seroprevalence Survey, 2006. Summary Report. 2004. Ministry of Health, Georgetown, Guyana.
7. CDC/WHO/UNICEF/USAID/OGAC. Testing and Counselling for Prevention of Mother-to-Child Transmission of HIV (TC for PMTCT) Support Tools. Available at: <http://womenchildrenhiv.org/wchiv?page=vc-10-00#S1X> Accessed on July 24, 2006.