The incremental cost of switching from Option B to Option B+ for the prevention of mother-to-child transmission of HIV
Lisa O’Brien, a Nathan Shaffer, b Nalinee Sangrujee a & Taiwo O Abimbola a

Introduction
In July 2011, a United Nations political declaration called for greater efforts to eliminate human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS). It established commitments and targets, including eliminating new HIV infections among children and substantially reducing AIDS-related maternal deaths by 2015.1 Nevertheless, in 2012 there were 260 000 new pediatric HIV infections globally and 40% of pregnant women in 20 countries with a high burden of HIV infection did not receive antiretrovirals (ARVs) to prevent the vertical transmission of HIV.2,3

The optimal way to structure programmes for the prevention of mother-to-child transmission (PMTCT) of HIV has not yet been determined. Countries with a high burden of HIV infection are left to decide what PMTCT options are feasible and most effective for their own contexts. In its 2010 revision of Antiretroviral drugs for treating pregnant women and preventing HIV infection in infants: recommendations for a public health approach,4 the World Health Organization (WHO) recommended that HIV+ pregnant women who are eligible for antiretroviral therapy (ART) [based on a CD4+ T lymphocyte (CD4+ cell) count of ≤ 350 cells/µl, or on the presence of WHO stage 3 or 4 disease] receive lifelong triple ARV treatment. The guidelines also recommended that HIV+ pregnant women not eligible for lifelong ART be placed on one of two PMTCT protocols – Option A or Option B – beginning as early as the 14th week of gestation to reduce the risk of vertical transmission of HIV during pregnancy, delivery and the postpartum period, including breastfeeding. The protocol known as Option A comprised giving zidovudine (AZT) to the mother prophylactically during pregnancy; single-dose nevirapine (NVP) to both the mother and the neonate at delivery; maternal AZT and lamivudine (3TC) to the mother during the first week postpartum; and NVP daily to the infant for 6 weeks. The protocol known as Option B comprised giving a CD4+ cell count (350–500 versus > 500 cells/µl), rate of decline in CD4+ cells (average, rapid, slow), breastfeeding status (yes, no) and breastfeeding duration (12, 18 or 24 months).

Methods
Data from cost studies and other published sources were used to determine the cost, per woman and per cohort (1000 breastfeeding and 1000 non-breastfeeding women), of switching from Option B (maternal triple antiretroviral [ARV] regimen during pregnancy and breastfeeding plus daily nevirapine for the infant for 6 weeks) to Option B+ (maternal triple ARV regimen initiated during pregnancy and continued for life). The variables used to model the different scenarios were maternal CD4+ T lymphocyte (CD4+ cell) count (350–500 versus > 500 cells/µl), rate of decline in CD4+ cells (average, rapid, slow), breastfeeding status (yes, no) and breastfeeding duration (12, 18 or 24 months).

Findings
For women with CD4+ cell counts of 350–500 cells/µl, the incremental cost per 1000 women was 157 345 United States dollars (US$) for breastfeeding women and US$ 92 813 for non-breastfeeding women. For women with CD4+ cell counts > 500 cells/µl, the incremental cost per 1000 women ranged from US$ 363 443 to US$ 484 591 for breastfeeding women and was US$ 605 739 for non-breastfeeding women.

Conclusion
From a cost perspective, a policy switch from Option B to Option B+ is feasible in PMTCT programme settings where resources are currently being allocated to Option B.

Abstracts in Arabic, Chinese, French, Russian and Spanish at the end of each article.

Objective
To estimate the incremental cost over 5 years of a policy switch from the Option B to the Option B+ protocol for the prevention of mother-to-child transmission (PMTCT) of the human immunodeficiency virus (HIV).

From a cost perspective, a policy switch from Option B to Option B+ is feasible in PMTCT programme settings where resources are currently being allocated to Option B.

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laxis. The newly proposed Option B+ may be even easier to implement, for it possesses the same advantages as Option B and the same triple ARV regimen initiated during gestation is used to maintain treatment as patients graduate from the PMTCT programme and transition to adult care and treatment programmes. In addition, Option B+ may confer benefits by not delaying treatment initiation among mothers and by reducing sexual transmission among those who have a serodiscordant partner. However, the higher cost of a triple ARV regimen can be a limiting factor in implementing either Option B or Option B+ in some countries.

With the evidence surrounding PMTCT regimens constantly evolving, countries must ensure that their PMTCT programmes are effective. A December 2012 snapshot of PMTCT regimens approved by ministries of health in 22 countries with a high burden of HIV infection revealed that 10 countries had in place an Option A regimen policy (although three of them had piloted Option B+ in select districts); six had an Option B policy; and six had an Option B+ policy. (A PMTCT regimen policy reportedly approved by the health ministry may not entirely reflect the PMTCT regimen actually implemented in a country.) With WHO’s recent endorsement of Option B+, other countries may start to shift their PMTCT policies and will need to plan their resources accordingly.

Given the respective mandates of the United Nations Millennium Development Goals and the Global plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive 2011–2015, of the Joint United Nations Programme on HIV/AIDS, countries with a high burden of HIV infection are trying to scale up their PMTCT programmes and implement the most effective PMTCT ART strategies, especially in the context of limited domestic and international financial resources and donor funding. WHO’s 2010 PMTCT guidelines emphasized the importance of considering the short- and long-term feasibility and cost implications of scaling up programmes. WHO’s 2012 Programmatic update: use of antiretroviral drugs for treating pregnant women and preventing HIV infection in infants: executive summary points to a decrease in the costs of triple ARVs as an encouraging trend; however, it did not include an analysis of programme costs.

Although initial drug costs are a driving factor in decision-making, an in-depth understanding of programme costs over time, including the ongoing costs of drugs and non-ARV care, is also needed. The objective of this study was to estimate the incremental programme cost, over 5 years, of switching from policy Option B to Option B+.

Methods
We used cost data from the ART cost study of the United States President’s Emergency Plan for AIDS Relief (PEPFAR), WHO’s Global price reporting mechanism (GPRM) and other published sources to derive study estimates. In our main analyses we examined the cost per woman (individual analysis) and the cost per cohort of women (cohort analysis). We also conducted sensitivity analyses to examine the effect on costs of varying ARV prices and postpartum rates of decline in CD4+ cell count. The analysis was based on a five-year time frame and employed a programmatic cost perspective.

We compared the costs of Option B and Option B+ under two scenarios: breastfeeding and absence of breastfeeding. In the breastfeeding scenario, we assumed a breastfeeding duration of 12 months, as recommended by WHO, for the main analyses, although we also considered breastfeeding durations of 18 and 24 months. We assumed that (i) a woman following the Option B protocol who stopped ARV prophylaxis because she was no longer breastfeeding would go through the same process for initiating ART as any patient initiating ART at a care and treatment facility (i.e. on the basis of a CD4+ cell count of ≤ 350 cells/µl); (ii) a woman following the Option B+ protocol would be maintained on ART for the full 5-year postpartum period.

In the non-breastfeeding scenario, a woman following Option B would be followed through the period in which she was in care after the cessation of ARVs at delivery and until becoming ART-eligible in her own right (i.e. the pre-ART period), at which time she would be initiated on ART and then transitioned into the ART maintenance phase. A woman following the Option B+ protocol would be maintained on ART for the full 5-year postpartum period.

Because no standard guidelines exist for operationalizing Option B+, different applications of Options B and B+ are possible in different settings. We assumed that the cost of providing Option B was similar to the cost of providing Option B+ during pregnancy and in the intrapartum period, so in our analyses we considered only the variation in costs incurred during the postpartum period. We did not consider the costs associated with Option B prophylaxis during subsequent pregnancies that might have occurred within the 5-year postpartum period. To calculate drug costs we used non-fixed-dose ARV pricing for our main analyses and included fixed-dose ARV pricing in our sensitivity analyses. We calculated the cost for a 12-month period of the generic ARV drugs used in the recommended first-line regimen: tenofovir (TDF), 3TC and efavirenz (EFV). For this calculation we used the individual prices of these drugs and the currently available fixed-dose prices for sub-Saharan Africa as obtained from the 2011 WHO GPRM. For non-ARV drugs, we obtained the annual cost per patient in care, the annual cost per patient for the first 12 months on ART, and the annual cost per patient after their first year on ART (maintenance) from the PEPFAR ART costing study, which was based on 43 care and treatment sites.

To adjust costs for inflation we used an average annual rate of inflation (2.4%) based on the US Consumer Price Index from 2009 to 2011. All costs are reported in 2011 United States dollars (US$). All model inputs are presented in Table 1.

Individual analysis
The cost per woman in care was defined as the annual cost per woman of all care received in the pre-ART period (i.e. co-trimoxazole prophylaxis, routine clinical monitoring and laboratory services). The cost per woman on ART (first 12 months on ART or in maintenance) comprised the costs of ARVs and non-ARV drugs, routine clinical monitoring and laboratory services.

We derived the total cost per woman of each PMTCT option as the sum of drug and non-drug costs per patient. The breastfeeding scenario, the total cost of Option B per woman comprised the sum of the costs of following the woman through four phases totalling 5 years: the breastfeeding...
For each scenario, we estimated the incremental cost of a policy switch from Option B to Option B+ by calculating the difference in the total costs of the two options. Table 2 outlines the time spent by breastfeeding and non-breastfeeding women in each phase of the 5-year postpartum period for Option B and Option B+.

**Cohort analysis**

We considered a hypothetical cohort of HIV+ pregnant women and followed them for the first 5 years postpartum. For each PMTCT option, 1000 women were breastfeeding and 1000 were non-breastfeeding. Within Option B there were two subpopulations: (i) women who were ART-eligible at the beginning of the postpartum period (based on the CD4+ cell eligibility threshold of ≤ 350 cells/µl) and who were maintained on ART for the full 5-year postpartum period; and (ii) women who stopped ARV prophylaxis at delivery (non-breastfeeding women) or after breastfeeding and who became ART-eligible at a later date. Based on CD4+ cell count distribution and the rates of CD4+ cell count decline over time – that 40% of the women in the Option B cohort would be ART-eligible at the beginning of the postpartum period.

**Table 2. Time spent per woman in Option B or Option B+ over 5 years postpartum**

<table>
<thead>
<tr>
<th>Breastfeeding status and duration</th>
<th>CD4+ count 350–500 cells/µl</th>
<th>CD4+ count &gt; 500 cells/µl</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Months spent in care (pre-ART)</td>
<td>First 12 months on ART</td>
</tr>
<tr>
<td>Breastfeeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 months</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>18 months</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>24 months</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>No breastfeeding</td>
<td>17</td>
<td>12</td>
</tr>
</tbody>
</table>

ART, antiretroviral therapy

a Option B comprises a maternal triple antiretroviral (ARV) regimen, typically consisting of the recommended first-line ART, during pregnancy and throughout breastfeeding, in combination with 6 weeks of daily nevirapine for the infant, regardless of infant feeding method.

b Option B+ comprises a triple ARV regimen initiated during pregnancy and continued for life.

c Includes duration of breastfeeding.

3TC, lamivudine; ART, antiretroviral therapy; ARV, antiretroviral; EFV, efavirenz; TDF, tenofovir; US$, United States dollars; WHO, World Health Organization.

Values in parentheses were used to simulate a slow and a rapid monthly decline in CD4+ cell count.

Breastfeeding and non-breastfeeding women.

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period\textsuperscript{18,21} and that the remaining 60% would spend time in pre-ART care before becoming ART-eligible. Scenarios with cohorts containing varying CD4+ cell counts (350–500 cells/µl and > 500 cells/µl) were also considered.

### Sensitivity analyses

We conducted univariate sensitivity analyses by varying the monthly rates of postpartum decline in CD4+ cell count and the costs of ARV drugs. We used published estimates of the monthly rates of decline in CD4+ cell counts by breastfeeding status (Table 1) in our modelling.\textsuperscript{18} We first assumed that CD4+ cell count declined at an average monthly rate of 3.9 cells/µl, regardless of breastfeeding status. We then estimated the impact on the incremental cost of switching from Option B to Option B+ for women with a rapid and a slow rate of decline in CD4+ cell count, defined as follows: in breastfeeding women, rapid decline, 6.0 cells/µl/month; slow decline, 2.7 cells/µl. We also examined the impact on the incremental cost of Option B+ of doubling and halving the prices of ARV drugs.

#### Results

**Individual analysis**

The total cost of Option B+ was US$ 2069 per woman over 5 years, regardless of CD4+ cell count, breastfeeding status or breastfeeding duration (Table 3). For a breastfeeding woman with a CD4+ cell count between 350 and 500 cells/µl, the incremental cost per woman of Option B+ versus Option B was US$ 255; for a non-breastfeeding woman, the incremental cost was US$ 154. For a breastfeeding woman with a higher CD4+ cell count (i.e. > 500 cells/µl), the incremental cost per woman of Option B+ versus Option B ranged from US$ 606 to US$ 808, depending on breastfeeding duration. For a non-breastfeeding woman with CD4+ cell count > 500 cells/µl, the incremental cost of Option B+ relative to Option B was US$ 1010 (Table 3).

**Cohort analysis**

For breastfeeding women with a CD4+ cell count between 350 and 500 cells/µl, the incremental cost of Option B+ relative to Option B per 1000 women was US$ 157 345, regardless of breastfeeding duration (Table 4); for non-breastfeeding women, the incremental cost per 1000 women was US$ 92 813. For breastfeeding women with a CD4+ cell count > 500 cells/µl, the incremental cost of Option B+ ranged from US$ 363 443 to US$ 484 591, depending on breastfeeding duration. The incremental cost per 1000 non-breastfeeding women was US$ 605 739 (Table 4).

### Sensitivity analyses

**Varying the rate of CD4+ cell decline**

When a single rate of decline in CD4+ cell count (3.9 cells/µl/month) was ap-
applied in the model for women with a CD4+ cell count between 350 and 500 cells/µl, regardless of breastfeeding status or duration, the incremental cost per woman of switching from Option B to Option B+ was US$ 255 (Table 5).

When a rapid rate of decline in CD4+ cell count was modelled for women with CD4+ cell counts between 350 and 500 cells/µl, Option B remained the least costly option for both breastfeeding and non-breastfeeding women. The incremental cost of switching from Option B to Option B+ per woman was US$ 87 for non-breastfeeding women and US$ 121 for breastfeeding women (Table 5). Regardless of CD4+ cell count, when a slow rate of decline in CD4+ cell count was modelled, Option B was again a less costly option than Option B+ in both breastfeeding and non-breastfeeding women. The incremental cost of switching from Option B to Option B+ per woman was US$ 339 in non-breastfeeding women and US$ 808 in breastfeeding women with CD4+ cell counts between 350 and 500 cells/µl (Table 5).

Varying the price of ARV

Doubling the price of the ARV had the following effect on the incremental cost per woman of switching to Option B+, regardless of breastfeeding status: for women with CD4+ cell counts between 350 and 500 cells/µl, it more than doubled the cost; for women with a CD4+ cell count > 500 cells/µl, it increased the cost by about 80%. Halving the price of the ARV had the following effect on the incremental cost: for breastfeeding women with CD4+ cell counts between 350 and 500 cells/µl, the incremental cost per woman of Option B+ increased by 9% and 10% in breastfeeding and non-breastfeeding women, respectively. For women with a CD4+ cell count > 500 cells/µl, the incremental cost per woman increased by 6%, regardless of breastfeeding status (Table 6).

Table 5. Incremental cost* per woman of Option B+ relative to Option B over 5 years postpartum, by CD4+ cell count and breastfeeding status, for varying rates of decline in CD4+ cell count

<table>
<thead>
<tr>
<th>Breastfeeding status</th>
<th>CD4+ count 350–500 cells/µl</th>
<th>CD4+ count &gt; 500 cells/µl</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total cost</td>
<td>Total cost</td>
</tr>
<tr>
<td>Breastfeeding (12 months)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of CD4+ cell decline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>2069</td>
<td>1814</td>
</tr>
<tr>
<td>Rapid</td>
<td>2069</td>
<td>1948</td>
</tr>
<tr>
<td>Slow</td>
<td>–</td>
<td>1261</td>
</tr>
<tr>
<td>ARV price</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doubled</td>
<td>2905</td>
<td>2330</td>
</tr>
<tr>
<td>Halved</td>
<td>1650</td>
<td>1556</td>
</tr>
<tr>
<td>No breastfeeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of CD4+ cell decline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>2069</td>
<td>1915</td>
</tr>
<tr>
<td>Rapid</td>
<td>2069</td>
<td>1982</td>
</tr>
<tr>
<td>Slow</td>
<td>–</td>
<td>1730</td>
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<tr>
<td>ARV price</td>
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<td>Doubled</td>
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<td>2514</td>
</tr>
<tr>
<td>Halved</td>
<td>1650</td>
<td>1615</td>
</tr>
</tbody>
</table>

ARV, antiretroviral.

* All costs are given in 2011 United States dollars (US$).

Varying the price of ARV

Doubling the price of the ARV had the following effect on the incremental cost per woman of switching to Option B+, regardless of breastfeeding status: for women with CD4+ cell counts between 350 and 500 cells/µl, it more than doubled the cost; for women with a CD4+ cell count > 500 cells/µl, it increased the cost by about 80%. Halving the price of the ARV had the following effect on the incremental cost: for breastfeeding women with CD4+ cell counts between 350 and 500 cells/µl, the incremental cost per woman of Option B+ increased by 9% and 10% in breastfeeding and non-breastfeeding women, respectively. For women with a CD4+ cell count > 500 cells/µl, the incremental cost per woman increased by 6%, regardless of breastfeeding status (Table 6).

Discussion

Using data available from the literature and basic assumptions about the movement of women through the continuum of care as they progress towards ART eligibility, we estimated the 5-year incremental costs, per woman and per 1000 women, of a policy switch from Option B to Option B+ for a cohort of HIV+ postpartum women.

We chose a 5-year time frame because it is readily understandable and relevant for many budgeting and planning cycles. However, planners should
not simply divide the 5-year incremental costs by five to estimate the annual incremental cost because it is unlikely that costs will be accrued equally across this time frame; it is more reasonable to expect that higher costs will be incurred during the initial years of a policy switch. Although these estimates cannot be used to directly compare the costs of switching from Option A to Option B+, this analysis is also relevant for policy-makers considering a switch from Option A to either Option B or Option B+

We believe that a policy switch from Option B to Option B+ is feasible from a cost perspective in PMTCT programme settings where resources are currently being allocated to Option B as the standard practice or where Option B is being actively considered, even before considering the additional benefits of Option B+. This study provides a realistic perspective for policy-makers who are faced with the immediate question of how much more Option B+ would cost than Option B. Our analyses not only address the initial cost requirements of a change in policy, but they also look at a 5-year time frame during which cohorts of breastfeeding and non-breastfeeding women would progress towards ART initiation. Our sensitivity analysis indicates that a 50% reduction in ARV drug costs would decrease the 5-year incremental cost of transitioning from Option B to Option B+ by 41 to 77%. Given the encouraging trend of decreasing first-line ART costs, the incremental 5-year programme cost of Option B+ is likely to decrease further.

Our analysis has several limitations. We did not consider the cost of Option B prophylaxis in subsequent pregnancies. Including subsequent pregnancies in the analyses would have decreased the incremental costs of Option B+ over Option B because women following the Option B+ protocol would have already been receiving triple ARVs and would have therefore avoided the costs associated with ART initiation. Another limitation of our analysis is that it lacks longitudinal evidence about patient adherence/compliance and drug resistance as they relate to Option B+. We did not consider the resource implications of either non-adherence to the ART regimen or drug resistance as a result of being initiated on lifelong ART. Considering that 0.2% of patients routinely fail first-line treatment (by 12 months post-initiation) and are moved onto second-line treatment, we have potentially underestimated the overall costs of both Option B and Option B+. In addition, some have expressed concern that, with widespread access to ARVs, the benefits of lifelong treatment may be offset by risk compensation in the form of risky sexual behaviour and the use of illicit injected drugs. However, evidence suggests that HIV+ patients receiving ART do not demonstrate more risky sexual behaviour than HIV+ patients not receiving ART.

Further evidence is beginning to emerge about the cost implications of a policy switch to Option B+. A recent study from Malawi showed that, when averted infant infections and maternal survival were considered, Option B+ was more cost-effective than the WHO 2010 PMTCT practices being employed. Additionally, a model using Zimbabwean data revealed Option B+ to be more cost-effective than Option B in terms of the years of maternal life saved. A Rwandan study suggested that Option B was more cost-effective than dual ARV therapy; however, Option B+ was not considered in that analysis.

The recent endorsement of Option B+ by WHO provides high-burden countries with another regimen to consider for scaling up their PMTCT programmes and meeting elimination targets by 2015. We hope that our study’s preliminary financial considerations will assist countries contemplating a policy switch from Option B to Option B+ in determining their resource needs.

To better estimate the potential cost savings associated with Option B+, researchers need to develop additional cost-effectiveness models informed by field data based on experiences with Option B and Option B+. These data should consider the operational issues surrounding each PMTCT option and the potential benefits of Option B+, including improved maternal health and the reduced risk of sexual transmission of HIV in serodiscordant couples.

A small number of studies have begun to formally evaluate the cost of Option B+. However, in-depth programme data are still lacking in this area—and, in theory, existing evidence about the cost of initiating adults on highly-active ARV therapy can provide insight into the potential costs of implementing Option B+. In the absence of primary programme data on costs and effectiveness, published
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Competing interests: None declared.

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models such as ours provide the opportunity to estimate these costs. Cost data should be routinely collected as part of programme planning, implementation and evaluation to enhance the evidence base surrounding Option B+

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Competing interests: None declared.

Résumé

Surcoût du passage de l’Option B à l’Option B+ pour la prévention de la transmission du VIH de la mère à l’enfant
Objectif Estimer le surcoût sur 5 ans d’un changement de politique, avec le passage du protocole de l’Option B à celui de l’Option B+ dans le cadre de la prévention de la transmission de la mère à l’enfant (PTME) du virus de l’immunodéficience humaine (VIH).
Méthodes Des données issues d’études de coûts et d’autres sources publiées ont été utilisées pour déterminer le coût, par femme et par cohorte (1000 femmes qui allaient et 1000 femmes qui n’allaient pas), du passage de l’Option B (traitement par trithérapie antirétrovirale [ARV] de la mère pendant la grossesse et l’allaitement, et administration quotidienne de névirapine à l’enfant pendant 6 semaines) à l’Option B+ (traitement par trithérapie ARV initié pendant la grossesse et ensuite pris à vie). Les variables utilisées pour modéliser les différents scénarios ont été la numération des lymphocytes T CD4+ (cellules CD4+) chez la mère (350–500 contre > 500 cellules/µl), la vitesse de la baisse des cellules CD4+ (moyenne, rapide, lente), la situation au regard de l’allaitement maternel (oui, non) et la durée de l’allaitement (12, 18 ou 24 mois).

Résultats Pour les femmes présentant une numération des cellules CD4+ de 350–500 cellules/µl, le surcoût pour 1000 femmes était de 157 345 dollars pour les femmes qui allaient et de 92 813 dollars pour les femmes qui n’allaient pas. Pour les femmes qui allaient, le surcoût pour chaque femme était de 157 345 dollars (pour l’Option B) et de 350–500 cellules/µl pour les femmes qui n’allaient pas. Les femmes qui allaient allaient 5% des femmes qui n’allaient pas.

Conclusion Le surcoût du passage de l’Option B à l’Option B+ pour la prévention de la transmission du VIH de la mère à l’enfant est estimé à 157 345 dollars pour les femmes qui allaient et 92 813 dollars pour les femmes qui n’allaient pas.

ملخص

التكلفة الإضافية للتحول من الخيار B إلى الخيار B+ وتحلول السياسة من بروتوكول الخيار B (نظام مضادات الفيروسات القهقرية الثلاثي للأم أثناء الحمل) والانخفاض في الخلايا اللمفاوية التائية المساعدة للأم إلى الخيار B+. وabilité (متوسط وسريع وبطيء) وحالة الرضاعة الطبيعية (نعم أو لا) ومدة الرضاعة الطبيعية (12 أو 18 أو 24 شهرًا).
Среди женщин с уровнем клеток CD4+ 350–500 T материнских (350–500 против > 500 клеток/мкл), скорость снижения уровня клеток CD4+ (средняя, высокая, низкая), наличие или отсутствие грудного вскармливания (да, нет) и продолжительность грудного вскармливания (12, 18 или 24 месяца).

Результаты
Среди женщин с уровнем клеток CD4+ 350–500 клеток/мкл дополнительные издержки на 1000 женщин составили 157 345 долларов США для женщин, кормящих грудью, и 92 813 долларов США для женщин, не кормящих грудью. Среди женщин с уровнем клеток CD4+ > 500 клеток/мкл дополнительные издержки на 1000 женщин варьировались от 363 443 до 484 591 долларов США для женщин, кормящих грудью, и достигли 605 739 долларов США для женщин, не кормящих грудью.

Вывод
С точки зрения издержек политика перехода от Варианта B к Варианту B+ в рамках программы предотвращения передачи ВИЧ от матери к ребенку, ресурсы которой в настоящий момент используются для обслуживания Варианта B, является оправданной.

References


