

# HATiP

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# MTCT-plus: Family-focused care and treatment

## Authorship

This article is an edited version of a longer and more detailed case study written for WHO by Drs Miriam Rabkin and Wafaa M El-Sadr of the MTCT-Plus Initiative at the Mailman School of Public Health, Columbia University, New York, USA. The full text of "Saving Mothers, Saving Families: The MTCT-Plus Initiative" is available online at: [http://www.who.int/hiv/pub/prev\\_care/en/Saving\\_Mothers\\_E.pdf](http://www.who.int/hiv/pub/prev_care/en/Saving_Mothers_E.pdf) and further resources, as described in the article, are available on the Initiative's website at [www.mtctplus.org](http://www.mtctplus.org) [free registration required].

## Summary and key messages

This article describes the approach taken by the MTCT-Plus Initiative to provide and support HIV-related care and treatment at multiple sites in Africa and Asia, including antiretroviral (ARV) provision. Many of the written training materials that have been developed for the Initiative are available for others to use, should they so wish.

Key messages are:

- HIV treatment is more than provision of ARVs.
- Patient education, empowerment, and participation is an essential component of any HIV treatment programme.
- The systems needed to provide treatment include establishment of continuity care services (appointment systems, medical records, outreach and education) as well as those to provide medicines, laboratory testing, and clinical services.
- Family-centred care is an effective way to strengthen individuals and communities.
- Multidisciplinary care is feasible and effective.
- The MTCT-Plus Initiative focuses on a specific patient population. Multiple different care programmes and models are needed if we are to approach our goal of universal access to care.

## What it is, why it began

Columbia University's MTCT-Plus Initiative was established in 2001 to provide HIV and AIDS-related treatment and care to families in resource-poor settings. The program supports the enhancement and extension of antenatal care (ANC) that includes measures to prevent mother-to-child transmission of HIV (pMTCT).

The MTCT-Plus Initiative aims to address a problem and to exploit an opportunity.

The problem is that despite the successful expansion of pMTCT services, most participants in such programs have no access to care. HIV-positive women are identified, but no treatment is provided, raising both practical and ethical dilemmas. Babies born to HIV positive mothers remain at high risk of being orphaned at an early age. Repeated illness makes it hard for parents to look after themselves and their children and to contribute to their communities.

The opportunity is that antenatal care and pMTCT programs in particular - provide a practical entry-point for HIV-specific care and treatment services. It is boosted by falling prices of antiretroviral drugs (ARVs) and a growing international commitment to treatment for people with HIV.

## How it began

The initiative began in a process sponsored by the Rockefeller Foundation, which to varying degrees has backed many other important strategic initiatives in public health, including the International HIV/AIDS Alliance, the International AIDS Vaccine Initiative and most recently the International Partnership for Microbicides. Pre-launch discussion brought together scientists, clinicians, policy makers and community advocates. Five working groups also included patient advocates, ethicists and experts on procurement of medications and supplies. By the time of the public launch, in December 2001, no less than eight US Foundations had agreed to fund MTCT-Plus. The first patients began treatment in February 2003, more than 1,200 are currently enrolled, and the goal is to provide long term treatment and care to at least 10,000 people.

## Objectives for sites

The primary objective is to provide long term care and treatment for HIV/AIDS to families in resource-poor settings. In addition to reducing mortality and morbidity, the Initiative hopes to further reduce mother-to-child-transmission of HIV, to promote VCT and other prevention strategies, to strengthen local health care capacity, to decrease stigma and enhance support for persons living with HIV/AIDS, to empower patients, and to develop a generalisable model for HIV care in resource-poor settings.

12 "demonstration sites" in 8 countries were selected, all but one (the Thai Red Cross AIDS Research Centre, Bangkok) being in Africa: Cote d'Ivoire, Kenya, Mozambique, Rwanda, South Africa, Uganda, and Zambia. Criteria for selection included a 5% antenatal prevalence rate for HIV, local and national support for the Initiative, and having an effective pMTCT programme in place. Another 12 agencies/sites, all in Africa, were awarded planning grants to develop proposals that could be funded later.

## Model of care

The aim of MTCT-Plus is to enhance existing services, and to provide an essential package of care and treatment which goes beyond ARV drugs. Nutrition and family planning are integrated with other interventions that aim "to maintain and/or restore health to HIV-infected families. Rather than waiting until an HIV-infected person is ill and in advanced stages of HIV disease, MTCT-Plus aims for early engagement of patients in HIV care programmes in order to maintain their health. Patient education and counselling, prevention of opportunistic infections, and early management of complications when they occur are all critically important, as is the use of antiretroviral medications when indicated."

## Care package components

The care package currently consists of:

- Medical care for HIV infected adults and children
- Early diagnosis of infant infection status
- Clinical and immune monitoring
- Prevention of opportunistic infections
- Antiretroviral therapy
- Patient education and counselling,
- Adherence support

- Social and psychological support
- Outreach and community linkage
- Retention in long term care
- Prevention of transmission to others

### What MTCT-plus actually provides

At the sites MTCT-Plus is funding, it provides:

- Funding to support staff
- Funding to support key laboratory tests, e.g. CD4 cell count, infant diagnostics
- Funding to support patient costs, e.g. transportation
- Funding to enhance site capacity and infrastructure
- The Clinical Manual and treatment algorithms
- Central procurement of MTCT-Plus medications (antiretrovirals, co-trimoxazole, isoniazid, dapsone, multivitamins, and others)
- Staff training
- Site support
- Data management
- Programme evaluation

### The Clinical Manual

Developed by a Clinical Working Group for the MTCT-Plus Initiative, the Clinical Manual is designed as a 'living document' which grows and develops as a public resource, located on the [MTCT-Plus website](#) (free registration is required). It can also be obtained by writing to MTCT-Plus at [mtctplus@columbia.edu](mailto:mtctplus@columbia.edu) - and is available in English, French, Spanish, Portuguese and Thai language editions.

The Clinical Manual includes detailed, specific and practical treatment guidelines for delivering HIV/AIDS care in resource-poor settings. It includes advice about what to include in the "essential package", how infants should be diagnosed, when to start and switch ARV agents in adults and children, and how to monitor patients on ARVs. It also reviews topics such as family care coordination, adherence, psychosocial and nutritional support, patient education, and community outreach.

### Multidisciplinary Team Work

One of the principles of the MTCT-Plus programme is that HIV care and treatment should not be provided by physicians alone. Not only do human resource shortages preclude physician-directed care in many countries, but experience in resource-rich settings has demonstrated that care delivered by a multidisciplinary team is simply more effective. To that end, MTCT-Plus teams are composed of physicians, nurses, medical officers, counsellors, social workers, community advocates, outreach workers and peer educators. Team composition varies from site to site, but communication, regular team meetings, and interdisciplinary partnership are hallmarks of the MTCT-Plus approach.

While the initial sites funded by MTCT-Plus have relatively high levels of medical staffing, including doctors, it is recognised that expanded access to treatment in many settings will depend on having services led by clinical officers and nurses, providing most of the clinical care for families with HIV. The standardised algorithms and systematic approach to care will enable these cadres to provide care and treatment for patients with HIV/AIDS.

### How patients enrol

Family enrolment in MTCT-Plus begins with women who are HIV positive and who are pregnant or have recently been pregnant. Once the women are enrolled, they can refer their children, partners and other household members who will also be eligible for care and treatment, when they meet set clinical criteria. Paediatric treatment is integral to the project, with detailed protocols for infants and older children.

Some 20 percent of the initial 1000 persons in MTCT-Plus required ARVs at the time of enrolment. Once enrolled in MTCT-Plus, however, patients have joined a programme of life-long care. They receive patient education and counselling, nutritional and psychosocial support, and ongoing clinical and laboratory monitoring. When clinically appropriate, prophylactic and antiretroviral therapies are initiated.

Each MTCT-Plus site has developed [its own] patient eligibility criteria ... These local eligibility criteria are developed with the assistance of community advisory boards and/or ethical review committees, and ensure that community values and priorities are taken into consideration. Each site has developed a working definition of "household," that will govern enrolment of family members. The programmatic emphasis on adherence and retention in care has led many sites to restrict participation to patients living close to the clinic." Some set conditions related to clinic attendance, some require patients to have disclosed their HIV status to at least one other person (to support their adherence) and, in addition, many have asked patients to make a promise to practise safer sex.

### Clinical care

The MTCT-Plus "essential package" encompasses more than antiretroviral treatment. As outlined in The Clinical Manual, patients in the MTCT-Plus programme receive patient education and counselling, access to family planning and reproductive health services, nutritional counselling and support including multivitamins, adherence support in the form of pill boxes and medication blister packs, psychosocial support including patient support groups and peer educator programmes, and linkage to community resources.

Prophylaxis of opportunistic infections plays a prominent role in MTCT-Plus, as does the early identification and management of HIV-related complications. Patients are encouraged to return to clinic for evaluation at regular intervals defined by their disease stage, and patient education and support is available at every visit.

The use of co-trimoxazole is encouraged in all HIV-exposed infants starting at four weeks of age and continuing through the first 12 months of life. For older children known to be HIV-infected, co-trimoxazole is recommended for those with CD4% < 15 or total CD4 < 200, as well as all children previously diagnosed with PCP.

Co-trimoxazole (or dapsone if intolerant) is also recommended for all adults with symptomatic AIDS (WHO stage IV) and all those with CD4 < 200. At some sites, when consistent with country guidelines, co-trimoxazole will be prescribed for all adults with CD4 < 500.

The MTCT-Plus Initiative pays particular attention to the issue of tuberculosis, the most common and deadly opportunistic infection among HIV-infected patients globally. The importance of early identification of TB through regular assessment for related signs and symptoms [is stressed]. In addition, sites are encouraged to

maintain strong linkages with their local TB control programs. The use of isoniazid for the treatment of latent TB infection is encouraged in settings in which active TB disease can be excluded. In coordination with local TB programmes, some MTCT-Plus sites in high-prevalence areas are providing INH for all adult patients without active TB or to those with positive tuberculin skin tests. The use of INH in infants and children is similarly coordinated with local TB control programmes and policies.

Additional preventive treatments at some sites include the use of insecticide-treated bednets and intermittent malaria treatment during pregnancy. In Thailand, fluconazole is used to prevent cryptococcal meningitis, in accordance with local practice. MTCT-Plus sites also ensure the administration of routine paediatric vaccines, and provide education about food and water hygiene.

## ARV Treatment Regimens

The clinical and biological criteria used by MTCT-Plus for ARV eligibility are similar to those described in WHO guidelines but include additional groups of patients defined by CD4 cell counts. For adults, this includes asymptomatic patients with 200 CD4 cells or fewer, patients in WHO stage II or III with 350 CD4 cells or fewer, and all patients with symptomatic AIDS (WHO stage IV) irrespective of CD4 count. For infants (1-12 months with two positive virologic HIV tests), this includes failure to thrive, or AIDS-defining illness (CDC category C/WHO III), or CD4% < 20 in an asymptomatic infant. For children, this includes failure to thrive, or AIDS-defining illness, or CD4% < 15 in an asymptomatic child.

As with programme eligibility criteria, ARV eligibility criteria are refined at the site level. Each site has developed its own protocols, many of which include adherence criteria/regular clinic attendance, evaluation of the home environment, and assessment of social support and disclosure [of HIV status to individuals who could support adherence].

MTCT-Plus employs the WHO-endorsed "public health approach" to the use of antiretroviral therapy, using standardised first- and second-line regimens for adults and children. While the programme provides structured algorithms for the use of antiretroviral medications, not all MTCT-Plus sites use the same regimens. In consultation with the MTCT-Plus Secretariat, sites choose from a limited formulary of antiretroviral medications.

Considerations for the choice of first-line agents included compliance with WHO and country guidelines for the use of ARVs. Toxicity and teratogenicity are important concerns, as MTCT-Plus, by definition, includes a large number of pregnant women and women who are likely to become pregnant again. An emphasis was placed on simple regimens, with low pill burden and no refrigeration requirements. Minimising interactions with anti-TB medication was important for most sites; the prevalence of HIV-2 [which does not respond to nevirapine or efavirenz] was an issue in some regions. Cost is also taken into consideration, and generic medications are used as long as they are pre-qualified by WHO and permitted by country regulations. Single-drug replacements were selected to use in case of toxicity, and a second-line regimen was identified for use in clinical or immunological failure.

In most cases, the preferred first-line regimen for adults is nevirapine with either zidovudine (ZDV) + lamivudine (3TC) or stavudine (d4T) + 3TC. The second line would then be nelfinavir with didanosine (ddI) and whichever out of ZDV and d4T had not been used.

However, the lactic acidosis risks of combining d4T and ddI, especially for pregnant women, are recognised and lead to advice to use that combination with caution.

## ARV regimens for children

The choice of paediatric regimens is complicated by the fact that stavudine suspension, required for smaller infants, must be refrigerated and thus can not be used at most sites. In addition, efavirenz dosing for smaller infants has not yet been firmly established, and the use of abacavir in infants less than a year of age has not yet been validated. For some older children, the adult first line treatment of ZDV + 3TC + NVP paired with the second line ddI + d4T + nelfinavir (NFV) might be appropriate. For younger children, the first line treatment may be guided by their age and body weight. Detailed recommendations are available in the MTCT-Plus Clinical Manual.

## Monitoring ARV treatment

Patients in MTCT-Plus receive careful clinical monitoring as well as laboratory monitoring. Standard protocols have been developed with the understanding that in some settings HIV care may be provided by clinical officers rather than by physicians or nurses. Algorithms appropriate for these cadres have been developed, although more individualised care may be provided at sites with access to greater clinical expertise.

Clinical visit schedules are dictated by disease stage, and emphasis is placed on retaining patients in care even if asymptomatic. At each clinical visit, a symptom checklist is used, and patients undergo targeted physical examination if indicated. Symptoms are evaluated, laboratory tests are ordered if appropriate, and the patient is restaged at the end of each visit. At each visit, eligibility for prophylaxis and antiretroviral therapy is reassessed.

In the absence of evidence to guide laboratory protocols, the question of how much laboratory monitoring to include in the "essential package" was debated at length. Priorities included not only patient safety, but the need to demonstrate program effectiveness and to create a generalisable model of care that could be used by sites without access to sophisticated laboratory infrastructure. In the end, the decision was made to utilise laboratory monitoring during year one of the MTCT-Plus program and to reassess these [guidelines] as the program developed.

These preliminary guidelines include:

- Immunologic monitoring via CD4 count every six months for all patients in MTCT-Plus
- Baseline laboratory assessment for patients initiating antiretroviral therapy: haematology, assessment of liver function, assessment of kidney function
- Virologic testing of infants to determine HIV status
- Additional testing on an as-needed basis only (to be dictated by clinical symptoms/signs)

## Sample symptom checklist

A simple form is used, in two columns, where signs and symptoms are listed with a circle to fill in to record a 'yes' when the sign or symptom is present. The following list is an example:

Cough; Depression; Diarrhoea; Difficulty breathing; Fatigue; Fever; Headache; Memory problems; Nausea and/or vomiting; New visual problems; Night sweats; Numbness or tingling in legs and/or feet; Pain abdominal; Pain muscles; Pain legs/feet; Poor appetite;



Rash; Thrush; Weakness; Weight gain; Weight loss; Other 1 (specify); Other 2 (specify), Other 3 (specify).

## Procurement of medications/supplies

In partnership with UNICEF, MTCT-Plus has established a centralised procurement system for programme-specific medications and supplies. These include antiretrovirals, co-trimoxazole, dapsone, isoniazid, multivitamins and items such as tuberculin skin testing (TST) kits and pill boxes. These medications and supplies are delivered directly to the sites. Central procurement is an efficient system that allows access to the least costly sources of medications. In partnership with John Snow Inc., local pharmacy management is assessed and enhanced where necessary. In addition, sites are assisted in the development of a secure medication management system and accurate forecasting of needed supplies.

## Human resources

One of the initial working groups assembled in 2001 was dedicated to the topic of human resources and HIV/AIDS care. Building on this early work, an MTCT-Plus Training Working Group was established in mid-2002. Clinicians and educators worked with sites to develop a training plan for the Initiative, settling on a competency-based model. A train-the-trainer model was considered but rejected based on feedback from sites. The decision was made to conduct on-site multidisciplinary training, taking into account local experience and expertise.

A detailed set of expected competencies was developed for each provider type clinicians (doctors, nurses, clinical officers), supportive services providers (counsellors, patient educators, psychosocial care providers), and administrators (programme managers, clinic managers, pharmacists). Competencies were also identified for each visit type screening, enrolment, follow-up, laboratory visit, pharmacy visit etc. MTCT-Plus competencies, subcompetencies, and learning objectives are available via email from [mtctplus@columbia.edu](mailto:mtctplus@columbia.edu).

These competencies and learning objectives informed the development of a series of "foundation" training modules (listed below). Rather than merely providing an information update, MTCT-Plus training focused on teaching the skills needed to implement the protocols outlined in The Clinical Manual. Interdisciplinary teams were trained together, promoting the value and contributions of each team member to multidisciplinary care. Training modules include detailed slide sets, as well as case studies and interactive classroom exercises.

MTCT-Plus training teams visited 10 sites in early 2003. Visits ranged from three to seven days. The teams themselves were interdisciplinary, including nurses, doctors, counselors and educators. Assessment includes immediate questionnaire-based feedback from trainees, as well as ongoing competency-based evaluation performed at quarterly site visits. Follow-up training will be provided at least annually; with frequency will be based on site needs.

## Training modules

MTCT-Plus foundation training modules include:

- Family care coordination
- Adherence to care
- Adherence to treatment

- Adherence in the paediatric patient
  - Nutritional assessment and support
  - Psychosocial assessment and support
  - Care of the adult patient (clinical staging and prophylaxis)
  - Antiretroviral therapy for the adult patient
  - Care of the paediatric patient (clinical staging and prophylaxis)
  - Antiretroviral therapy for the paediatric patient
- Additional modules include:
- Patient education
  - Diagnosis of HIV in infants
  - Antiretroviral therapy in pregnant patients
  - Treatment of HIV/TB co-infection
  - Paediatric growth and nutrition
  - Prevention of HIV transmission

## Community involvement and leadership

Linkage to local community resources NGOs, CBOs, traditional healers etc. is a hallmark of the MTCT-Plus program. The complexity of HIV/AIDS care demands a multisectoral approach, and each MTCT-Plus site is strongly encouraged to develop a formal inventory of local assets. In addition, the Initiative supports outreach workers, patient support groups, and peer educators, all with strong links to the community. Many MTCT-Plus sites are also enriched by Community Advisory Boards.

The MTCT-Plus Initiative has also established an African Women's Leadership Group in order to guide and support its efforts. The Group consists of several eminent women including parliamentarians, leaders of community based organisations and women actively involved in HIV related efforts within their communities. The Group is committed to providing support to the MTCT-Plus sites in their communities, to overcoming the stigma faced by women with HIV disease and to enhancing the rights of women in general. The Group is chaired by Mrs Graça Machel and met in Johannesburg in February 2003.

## Adherence support

The MTCT-Plus program was designed with an acute awareness of the centrality of patient adherence to individual and program success. Efforts have focused on adherence to care and adherence to treatment.

### ADHERENCE TO CARE

The introduction of a continuity care model into settings where the usual pattern is episodic care [i.e. only when unwell] poses specific challenges to the health care system. At some sites, this will be the first time an appointment system has been used. At others, medical record-keeping is skeletal and on-site medical records a novelty. Coordination of maternal and pediatric care is rarely seen. Providers are not always motivated to encourage attendance of asymptomatic patients. And patients are accustomed to coming to clinic only when ill.

The MTCT-Plus Secretariat has worked with each site to develop and enhance systems of care, supporting additional staff and training, peer support, patient education, and community outreach. MTCT-Plus forms have been designed so that they can be used as a medical record. MTCT-Plus funds can be used to expand clinic

hours, and/or to pay for patient transportation. At some sites, the waiting area has been expanded. At others, additional outreach workers have been hired to follow-up on missed appointments. Sites have purchased locked filing cabinets to secure records, developed patient education materials, and instituted both paper-based and computer-based appointment systems.

At all sites, the MTCT-Plus program has stressed the importance of regular interdisciplinary team meetings to share information, review plans, and coordinate care. Providers are encouraged to consider barriers to access to care can the patient afford transportation costs? Does she have someone to watch her children? Does she have family support? and to develop strategies to support adherence where possible.

#### ADHERENCE TO TREATMENT

Medication adherence is the cornerstone of successful HIV/AIDS care and the focus of MTCT-Plus training. Prior to the initiation of antiretroviral therapy, sites conduct a formal assessment of adherence and barriers to it. Clinic attendance is reviewed. Adherence to preventive therapies is assessed. Disclosure [of HIV status] is supported at many sites, a medication "buddy" is required. Patient education focuses on medication adherence. Patient support groups and peer educators are available and, at some sites, mandatory.

In recognition that the first months of ARV use are critically important, patients are followed very closely during this period. As a rule, patients return to clinic on a weekly basis for at least two months after antiretroviral therapy is initiated. One site has instituted modified directly observed therapy; patients come to clinic once-daily five times a week. One site will alternate biweekly home visits with biweekly clinic visits. This additional surveillance is intended to reinforce adherence lessons, provide ongoing support, and enable patients to access care easily in the case of medication side effects.

While personal support and patient education are the sine qua non of adherence support, the MTCT-Plus program also supplies practical adherence tools such as pill boxes, patient handouts, and medication blister packs.

#### PSYCHOSOCIAL SUPPORT AND OUTREACH

HIV/AIDS care cannot be delivered effectively in a vacuum. More than drugs are needed, and a programme which is not responsive to the world in which patients live is unlikely to be successful. Supportive services education, counselling, empowerment are an integral part of the MTCT-Plus Initiative. The multidisciplinary team includes counsellors and social workers, patient support groups and peer educators, tailored to site needs and environments. At many sites, community workers provide home visits. One site plans to initiate a dialogue with local traditional healers. Another has initiated modified directly observed therapy supervised by community activists for patients on antiretroviral medication. At all sites, linkage to community resources is a priority.

### Data management

The MTCT-Plus Data Working Group spent months developing simple forms that could collect key programmatic information and guide patient management. The goal was to assist sites to create and maintain the strong medical records required for continuity care, to enable MTCT-Plus to provide feedback to sites to enable ongoing quality improvement, to facilitate cross-site assessment and sharing of lessons learned, and, finally, to determine the impact of the MTCT-Plus Initiative.

The forms, created in partnership with John Snow Inc., are intended to assist clinicians by guiding them through the MTCT-Plus care algorithms. They utilise checkboxes, simple skip patterns, and highlight therapeutic decisions such as initiation of OI prophylaxis or antiretroviral therapy. These duplicate forms may be used as a patient chart; where one copy is sent to the Data Management Center (DMC) and one is kept as the medical record. Some sites will use their own forms and enter key data directly on-site. Regular reports will be generated for each site by the DMC, and will include patient enrollment and follow-up statistics, key clinical parameters for each patient, and reminders to sites of anticipated patient visits. The forms and data manual are available via email from [mtctplus@columbia.edu](mailto:mtctplus@columbia.edu).

MTCT-Plus forms include: patient intake form, patient locator form, patient enrolment forms (adult, infant, child), patient follow-up forms (adult, infant, child), laboratory result form, non-clinical encounter form, infant HIV diagnosis form, programme discontinuation form.

### Evaluating the programme

Patient enrolment in the MTCT-Plus program began in February 2003 and by the end of August, there were 1200 patients enrolled. These include women as well as their partners and children. Women have been enrolled either during their pregnancy while in antenatal care or after giving birth.

The MTCT-Plus Evaluation Working Group has identified specific programmatic indicators that will be assessed on a regular basis. These parameters will assist in site assessment as well as cross-site evaluation. In addition, broad outcome measures have been developed to assess programmatic impact. Indicators include number of participants enrolled, retention of participants in care, hospitalisation rates, rates of clinical complications and mortality rates. These parameters can be assessed in the program as a whole as well as across sites. Information and feedback is provided to the sites in order to facilitate problem solving. In addition, cross-site data is used to promote sharing between sites of successful models.

### Future plans

As the MTCT-Plus Initiative expands, new sites will be added and the number of patients at each of the first sites will grow. The experience at the initial sites will serve to guide future expansion and to allow for more efficient and effective site development. Future directions for the program include:

- AN INCREASED VARIETY OF CLINICAL SETTINGS

At present, most MTCT-Plus sites are in urban or peri-urban areas. As the program expands, attempts will be made to add rural sites, and to further increase the diversity of health care settings where MTCT-Plus programs will be established.

- REDUCED COMPLEXITY OF LABORATORY MONITORING

Current MTCT-Plus algorithms use CD4 counts for monitoring of HIV disease stage and response to therapy. In addition, virologic tests are utilised for infant HIV diagnosis. While many sites will continue to use these protocols, we anticipate that some will provide HIV care and treatment with less sophisticated laboratory monitoring.

- INCREASED DIVERSITY OF CLINICAL PROVIDERS

While physicians are available at each of the initial MTCT-Plus sites, some have clinical officers as the mainstay of their HIV care workforce. Efforts will be made to expand the roles of nurses and clinical officers at MTCT-Plus sites.

#### ● SHARING OF EXPERIENCES ACROSS/BETWEEN SITES

A wealth of experience is being gained by each of the programme sites. Opportunities to share these experiences will be very important. In addition to an annual MTCT-Plus Team meeting, in which lessons learned are shared between sites, as new sites are added, existing programs will be used as centres of clinical excellence, enhancing training and providing support to regional sites. In addition, linkages between specific types of providers will be encouraged. For example, establishment of an MTCT-Plus nurses' group may allow for sharing of specific experiences and expansion of the role of nurses in HIV care and treatment programmes.

### Conclusion

The MTCT-Plus Initiative is focused on providing HIV care and treatment to a particular group of patients with HIV infection. It aims to provide those families enrolled in the program with comprehensive HIV care through multidisciplinary teams. Not only will the programme focus on clinical services, but it will include all the other supportive services needed by the patients. The resources provided by the MTCT-Plus Initiative in building the human and resource infrastructure at the various sites will assist in building

other HIV care and treatment programmes in these communities. Thus, additional funds from other sources can be used rapidly to build such programmes and to provide care and treatment to the many patients who need it in resource limited settings.

The document on which this report is based was prepared by Miriam Rabkin and Wafaa M. El-Sadr, on behalf of the MTCT-Plus Initiative at the Mailman School of Public Health, Columbia University. Additional members of the MTCT-Plus core team include: Elaine Abrams, Alan Berkman, Pamela Collins, Thomas Hardy, David Hoos, and Louise Kuhn.

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## about HATiP

A regular electronic newsletter for health care workers and community-based organisations on HIV treatment in resource-limited settings.

The newsletter is edited by Theo Smart (Cape Town) and Keith Alcorn, NAM's Senior Editor (London).

For further information please visit the HATIP section of [aidsmap.com](http://aidsmap.com)