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## Scale-up Strategy for the Prevention of Mother-to-Child Transmission of HIV/AIDS in Resource-Limited Settings in Eurasia

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### BACKGROUND

According to WHO/Europe, the former Soviet Union is facing one of the most rapidly increasing HIV epidemics in the world. More women are becoming infected and vertical transmission of HIV is steadily rising.<sup>1</sup> To combat this, countries in this region are scaling up their response to the epidemic through various strategies, including the prevention of mother-to-child transmission (PMTCT) of HIV. Countries invest in PMTCT first and foremost on humanitarian grounds because it may protect infants born to HIV+ woman from undue suffering and death.<sup>2</sup> But, there are also economic reasons for implementing PMTCT programs, namely keeping infants virus free prevents long-term drains on health service resources. Ultimately, preventing pediatric HIV infection is less costly than caring for children who develop HIV/AIDS, especially if highly-active antiretroviral therapy (HAART) is used.<sup>3</sup>

According to recommendations made by WHO in 2003, PMTCT programs will help to reduce HIV infections by 50% by 2010 if these programs are based on four key components:

- primary prevention of HIV infection;
- prevention of unintended pregnancies among HIV+ women;
- prevention of mother-to-child transmission; and
- provision of care for HIV+ mothers and their infants.<sup>4</sup>

The Odessa +PMTCT+ Model is one that limited-resource countries can look to for guidance as they work toward this goal. It has been successfully shown to decrease vertical transmission by 75%<sup>5</sup> from 2001-2003 and is currently being replicated in seven cities throughout Eurasia.

### THE ODESSA MODEL

In 2001, the American International Health Alliance (AIHA), with support from the US Agency for International Development's (USAID) Bureau for Europe and Eurasia (E&E), initiated a pilot PMTCT project in Odessa, Ukraine, to establish a comprehensive and replicable PMTCT program. In 2003, that project was expanded to include the pre- and post-pregnancy provision of care (see poster #ThPeB7020). Defined as a +PMTCT+ approach because it includes these two components in addition to providing interventions to decrease the likelihood of vertical transmission, the project is an integral part of a larger, coordinated effort being undertaken by the international donor community (including UNAIDS, UNICEF, and Médecins Sans Frontières) to address HIV/AIDS prevention, care, and treatment in the region.

#### Key Components of the Odessa +PMTCT+ Model

- Outreach and family planning
- Services for HIV+ pregnant women
- Protection of healthcare workers
- Networking
- On-going support and follow-up services
- Training and developing health professionals

The Odessa +PMTCT+ Project focuses primarily on introducing systemic and institutional capacity-building related to HIV/AIDS prevention and treatment. Among its goals are:

- the reorganization and strengthening of the service delivery system to ensure that PMTCT is well integrated into both maternal/child health and new family-focused primary care;
- the adaptation of evidence-based treatment protocols to ensure that treatment is effective and possible within the changing social and economic context of a resource-limited setting; and
- the development of training materials and curricula for health professionals in important areas such as voluntary counseling and testing (VCT), obstetrics, occupational safety, pediatric care, women's health, and family planning.

### CREATING A FOUNDATION FOR REPLICATION

The Odessa +PMTCT+ Project is based at the Odessa Oblast Hospital (OOH) and draws upon the resources of the AIHA-established Women's Wellness Center (WWC),<sup>6</sup> as well as other AIHA partnership activities in the city.<sup>7</sup> In June 2003, with the support of AIHA and partners from Boulder, Colorado,

OOH established the Southern Ukraine AIDS Education Center (SUAEC), a PMTCT training center located within the OOH Maternity Hospital, to provide practical, skills-based training to healthcare professionals throughout the region. Center trainers were educated at Boulder Community Hospital in all aspects of PMTCT care and treatment, as well as in adult learning methodologies. Together, AIHA and the Odessa/Boulder partners developed training materials for the courses SUAEC offers in all facets of the Odessa +PMTCT+ Model, including integrated case management; infection control procedures and occupational safety; VCT; effective drug therapy; safe delivery practices; prenatal, follow-up, and pediatric care; patient education; and social support services. SUAEC is an affiliated training center of the Regional Knowledge Hub for the Care and Treatment of HIV/AIDS in Eurasia, a project supported by WHO and GTZ.<sup>8</sup>

#### Key Factors in the Success of the Odessa Model

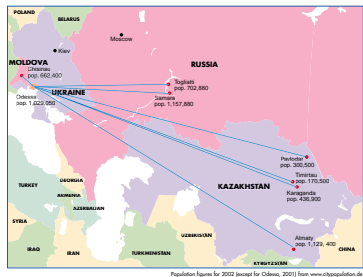
- Integration of PMTCT services into the existing FMCs and WWCs.
- Collaboration between OOH, Odessa Oblast Health Administration (OOHA), and local NGOs, ensuring outreach to the most vulnerable groups of pregnant HIV+ women.
- Coordination with other organizations (such as UNAIDS, UNICEF, and MSF) working to prevent vertical transmission in Odessa.
- Commitment of Ukrainian Ministry of Health and OOHA officials to develop PMTCT regulations for the Odessa Oblast.
- Implementation of a case-management monitoring system that allows providers to monitor HIV+ women who have received antenatal care and given birth (see poster #ThPeC4918).

The Odessa +PMTCT+ Project is becoming widely recognized as an important model for other Eurasian cities and oblasts, in no small part thanks to its successes and the establishment of SUAEC. The first trainings at SUAEC brought together healthcare providers and policymakers from Kazakhstan, Moldova, Russia, and Ukraine; this summer trainings will also be held for multidisciplinary groups from Azerbaijan and Georgia. Since its inception, the Center has trained more than 200 professionals through seminars that include lectures and site visits, as well as meetings with clinicians, representatives of local NGOs, and actual patients—all designed to provide an overview of Odessa's comprehensive model of care. In addition, UNICEF recently sponsored a site visit to Odessa for representatives from the Central Asian ministries of health that included an extensive orientation to the +PMTCT+ Project, as well as site visits:

- to the WWC where VCT and prenatal care is provided;
- to OOH where all HIV+ pregnant women receive obstetrical care; and
- to two Family Medicine Centers (FMCs) where follow-up care is provided for HIV+ mothers and their children.

### SITE REPLICATIONS

A key aspect of the Odessa +PMTCT+ Project is the further development of the model through replication in selected beta sites. These sites were selected by USAID and AIHA based on HIV-infection rates and previous AIHA programmatic experience in the region. Replication began in Almaty, Kazakhstan; Chisinau, Moldova; and Samara, Russia in 2003—all communities that have been involved in AIHA partnerships during the past decade. Each of these cities has a WWC, in addition to established capacity in areas related to infection control and primary care, built through their relationships with American counterparts. Four additional sites were selected for replication later that same year—Togliatti in Russia and Karaganda, Pavlodar, and Temirtau in Kazakhstan—with the understanding that the beta sites in



Samara and Almaty will assist the additional sites in their respective countries.

The main elements of the scale-up strategy include:

- relying on the proven effectiveness of the basic model;
- building political commitment with national, regional, and local health authorities and NGOs;
- selecting suitable replication sites;
- conducting needs assessments;
- training providers from replication sites at SUAEC;
- establishing an on-going monitoring system using the PMTCT case-management database and regular assessments by SUAEC staff; and
- introducing continuous quality improvement principles and developing regional PMTCT Centers of Excellence.

#### Goals of Replication

1. To strengthen human and organizational capacity to develop, deliver, and sustain PMTCT services at the local level.
2. To facilitate the rapid scale-up of quality PMTCT and related services available to HIV+ women at each site.
3. To improve and expand collaboration between the healthcare system and local and national NGOs providing non-medical and psychosocial services to high-risk groups.
4. To expand the potential impact of the PMTCT programs and to avoid duplication of efforts through close coordination with related US government-funded and other donor-funded programs.

### REPLICATION ACTIVITIES

#### Trainings

As noted above, primary training for replication occurs at SUAEC, which takes advantage of its close proximity to the associated WWC and FMCs to ensure that trainees can observe and participate in high-quality prevention, care, and treatment programs as part of their educational experience. Replication site staff and key stakeholders are trained in four specific areas:

- decision-making related to developing PMTCT programs in resource-limited settings;
- PMTCT obstetrics and gynecology;
- neonatal, pediatric, and follow-up care; and
- VCT.

#### When/Where

When/Where	Who/What
June 2003	12 policy-makers from Almaty, Chisinau, Samara, and Togliatti • Discussion of strategies for replicating the PMTCT model in their respective regions
July-August 2003	19 health professionals from Almaty, Chisinau, Samara, and Togliatti • VCT
August 2003	12 pediatricians and pediatric nurses from Almaty, Chisinau, Samara, and Togliatti • Pediatric PMTCT
September-October 2003	15 obstetricians and OB/GYN nurses from Almaty, Chisinau, Samara, and Togliatti • PMTCT obstetrics
January 2004	8 MCH and AIDS experts from Karaganda, Pavlodar, and Temirtau • General principles of PMTCT
March 2004	15 MCH and AIDS experts from Karaganda, Kiev, Pavlodar, and Temirtau • VCT
March-April 2004	PMTCT teams from Kazakhstan, and Samara • Two-week train-the-trainers course on OB/GYN and pediatric PMTCT

PMTCT trainings held at SUAEC for replication site staff and policy makers.

#### Assessment of Replication Sites

Initial assessments have been conducted at all seven of the replication sites and AIHA has provided technical assistance to decision-makers as they develop a PMTCT strategy. The institutional framework of the site, its relationship to local and national AIDS Centers, as well as to local NGOs, and the selection of an appropriate hospital for service delivery were all discussed. At several sites, AIHA staff facilitated a meeting of key stakeholders to discuss a regional approach to implement PMTCT and solicited ideas from decision-makers about how to develop strategies that will work in their particular environments (see poster #ThPeB7021).

#### Assessment of Equipment, Supplies, and Medications

Equipment, supplies, and medication needs have been assessed. In the case of Kazakhstan, AIHA has assisted the Republican AIDS Center's application to Axios for Viramune.

#### Database

To document baseline information and project results, a PMTCT case-management monitoring database is now operational in six of the seven replication sites; the seventh will be finalized later this summer. The manager of the database

in Odessa has trained the selected database manager at each replication site.

During the policymakers training (June 2003), each participant received a PMTCT database manual and MS Access on CD-ROM. The manual provides a brief description of the database program and an installation guide. It also includes data entry and analysis assistance. The database reflects the main +PMTCT+ Project objectives specific to each replication site.

In addition to the database, an overall PMTCT patient management system has been established for each replication site. To facilitate the creation of this system, participants at the policymakers training received the PMTCT patient-flow algorithm used in Odessa.

#### Togliatti Case Study<sup>9</sup>

In July 2003, the Central District of the City of Togliatti was nominated as a pilot site for the introduction of the AIHA PMTCT Project.

In August-September 2003, two OB/GYNs and two pediatricians from Togliatti City Polyclinic #2 received PMTCT training at SUAEC. Upon returning to Togliatti, they conducted PMTCT educational workshops for colleagues at their polyclinic.

Comparative results for 2002-2004 show the following outcomes:

	2002	2003	~April 2004
Terminated pregnancy when learning about HIV+ status	77.8%	16.7%	6%
Abandoned child	9.5%	4%	0

Excerpts regarding changed attitudes and practices of Togliatti health professionals include:

- "For a long time, the pregnancy of an HIV+ woman was perceived as something rather tragic because it was believed that the baby, as well as its mother, was doomed. However, knowledge about the mechanisms of infection transmission from mother to fetus is rapidly being developed, and today we know that MTCT is almost completely preventable."
- "Times have changed and today, instead of being denied the right to motherhood, we have learned to help HIV+ women reduce the risk their future children face. Currently, there is no method that would guarantee 100% protection from the virus for the infant, nevertheless there are ways to minimize this risk and our knowledge about mother-to-child transmission is constantly updated and refined."
- "A choice made by a patient no matter how much it differs from the physician's opinion should determine the subsequent actions of the physician."

### CONCLUSION

The Odessa +PMTCT+ Project has achieved visible results in the Odessa Oblast. It has influenced both changes in Ukrainian PMTCT regulations and the standards of treatment and care, thereby increasing access to PMTCT services for vulnerable women. As is the case in Ukraine, as well as throughout Eurasia, a key factor in the success of any PMTCT program is adequate training of healthcare workers, something that is currently lacking in the region.

As the HIV/AIDS epidemic continues to grow in this part of the world, the need not only to train providers in medical interventions and strategies, but also to integrate medical and psychosocial care increases. The Odessa +PMTCT+ Model represents an approach that has proven highly-effective at both decreasing the rate of vertical transmission and increasing collaboration among local stakeholders, psychosocial and healthcare service providers, and patients. As such, it represents a model that can be replicated in other regional settings as international, national, and local governmental and non-governmental organizations look to scale-up their response to this deadly disease.

Results on the success of this replication will be available as the program progresses over the next year. Further information about the Odessa +PMTCT+ Model, USAID, and AIHA can be found at [www.aiha.com](http://www.aiha.com).

### REFERENCES

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4. WHO. Strategic Approach to Prevention of HIV Infection in Infants. *WHO Meeting, Geneva, Switzerland, March 26-27, 2002* p. 2.
5. *Healthcare professionals' experience: "Prevention is easier than cure"*. *Proceedings of the 12th International Conference on AIDS and STI, Durban, South Africa, 2003*. <http://www.unaids.org/pressroom/2003/20031201update.htm#top> (accessed June 29, 2004).
6. AIHA. Women's Wellness Centers (WWCs) located in more than 20 communities throughout Eurasia provide an integrated model of client centered health care delivery. AIHA resources WWCs provide a comprehensive range of clinical services—from reproductive health to primary and secondary care—within the setting of an ambulatory care facility in addition to a wide range of health promotion, disease prevention, and educational programs such as classes addressing topics from intimate partner violence and substance abuse to breast self-exams and coping with cancer. The Odessa WWC was established in 1999 by the AIHA-Ukrainian Government partnership.
7. AIHA has partnership in Odessa (1992-1998) and the Odessa Oblast Hospital with Casey School Hospital of New York. The partnership resulted specifically in the areas of: monitoring and managing chronic care for patients; low birth weight and risk reduction and teaching labor resuscitation and pediatric infection control and nutrition; surgery, introducing new techniques, technology, and the concept of a surgical team and teaching the knowledge of aseptic techniques and operating room setup with regard to aspects of pre-operative, post-operative and post-operative patient care, infection control, providing the education necessary to establish a hospital wide infection control program, including the creation of an Infection Control Unit and development of educational literature for all hospital employees; monitoring and research health, establishing a comprehensive VCT.
8. The second Odessa partnership (1999-present) joined the Odessa State Medical University, Odessa Support Occupational Pediatric, Family Medicine Clinic, Odessa City Council, and the Odessa Oblast Health Administration with Boulder Colorado Community Hospital, applying in collaboration with the University of Colorado School of Medicine Boulder County Health Department, Odessa, Ukraine, and Boulder County Health Department. The partners mostly worked to assess related to primary care, specifically family medicine education, dentistry patient control, and breast health, before working with Odessa Oblast Hospital to establish a +PMTCT+ Project.
9. For more information on The Knowledge Hub and USAID, visit [www.knowledgehub.org](http://www.knowledgehub.org).
10. Togliatti City Polyclinic #2 Quarterly Report, June 2004.

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