Ukraine Maternal and Infant Health Project (MIHP-II)

Improving maternal and infant health by implementing evidence-based technologies

2006-2011
MIHP-II Partner Organizations:

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**ACRONYMS**

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<th>Acronym</th>
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<tr>
<td>AMTS</td>
<td>Active management of the third stage of labor</td>
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<td>ARC</td>
<td>Autonomous Republic of Crimea</td>
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<td>BCC</td>
<td>Behavior change communication</td>
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<td>BTN</td>
<td>Beyond the numbers</td>
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<td>CDF</td>
<td>Crimean Development Fund</td>
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<td>COE</td>
<td>Center of excellence</td>
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<td>EBM</td>
<td>Evidence-based medicine</td>
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<td>ENM</td>
<td>Early neonatal mortality</td>
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<td>EPC</td>
<td>Effective perinatal care</td>
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<td>HCP</td>
<td>Health care provider</td>
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<td>HIV</td>
<td>Human immunodeficiency virus</td>
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<tr>
<td>ICATT</td>
<td>Integrated Management of Childhood Illness Computerized Adaptation of Training Tool</td>
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<td>IEC</td>
<td>Information, education, and communication</td>
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<td>JSI</td>
<td>JSI Research &amp; Training Institute, Inc.</td>
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<tr>
<td>KAP</td>
<td>Knowledge, attitude, and practice</td>
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<td>KMC</td>
<td>Kangaroo mother care</td>
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<td>MCH</td>
<td>Maternal and child health</td>
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<td>M&amp;E</td>
<td>Monitoring and evaluation</td>
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<td>MIHP</td>
<td>Maternal and Infant Health Project</td>
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<td>MMR</td>
<td>Maternal mortality ratio</td>
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<td>MOE</td>
<td>Ministry of Education</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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<td>MW</td>
<td>Midwife</td>
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<td>NICU</td>
<td>Neonatal intensive care unit</td>
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<td>OB/GYN</td>
<td>Obstetrician/Gynecologist</td>
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<td>PMTCT</td>
<td>Prevention of mother-to-child-transmission</td>
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<td>SIDS</td>
<td>Sudden infant death syndrome</td>
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<td>SSP</td>
<td>Second-stage prematurity</td>
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<td>TAG</td>
<td>Technical advisory group</td>
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<td>TNK-BP</td>
<td>Tuman Oil Processing Company-British Petroleum</td>
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<td>The JSI Together for Health Project in Ukraine</td>
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<td>TOT</td>
<td>Training-of-trainers</td>
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<td>UNICEF</td>
<td>United Nations Fund for Children</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>World Health Organization</td>
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The Maternal and Infant Health Project (MIHP) began in Ukraine on October 1, 2002 with the goal of implementing evidence-based technologies to improve the quality of perinatal care. The project was awarded a U.S. $6 million initial contract by the United States Agency for International Development (USAID) for a model four-year demonstration effort in selected maternities and women’s clinics in four oblasts: Lviv, Volyn, Donetsk, and the Autonomous Republic of Crimea. At the time the project began, birth preparation, birth-giving practices, and newborn care were conducted with outdated perinatal technologies and clinical guidelines inherited from the former Soviet Union. As a result, maternal and infant mortality rates in Ukraine were three times higher than those of the majority of western European countries during the same time period.

Over time, the project grew in geographic and technical scope. An amendment in September 2004 increased project funding, allowing for the addition of three new oblasts (Poltava, Kirovograd, and Zhitomir) and one maternity in Kiev City to the project, and adding work on the prevention of mother-to-child transmission (PMTCT) of HIV.

As word about MIHP spread, requests to become part of the project increased. Gradually, MIHP expanded to other oblasts and facilities and began disseminating effective perinatal care (EPC) practices. In September 2006, by the end of its first phase, the project’s coverage included nine oblasts (Donetsk, Dnepropetrovsk, Lugansk, Volyn, Rivne, Lviv, Kirovograd, Poltava, and Zhytomyr), as well as Kiev City and the Autonomous Republic of Crimea.

Health outcomes for women and infants improved as a result of project activities, including in-depth training of health care providers in pilot facilities, the development of 40 evidence-based protocols, guidelines for behavior change activities, as well as procurement of basic life-saving equipment. These successes also marked the end of the traditional authoritarian, “over-medicalized” one-sided approach to maternal and infant care, and the beginning of a family-centered model of care that utilizes modern, international evidence-based World Health Organization (WHO)-recommended practices.

In 2006, USAID awarded $5,375,000 to MIHP-II (2006-2011), the second phase of the project, which expanded MIHP services and key evidence-based medicine interventions to 20 of Ukraine’s 27 administrative territories by 2011. This was accomplished by directly increasing the use of evidence-based maternal and newborn health care practices, services, and resources covering over half of all births in Ukraine, and indirectly covering 65% of all births.
In addition to providing support to oblasts to implement improved maternal and newborn health services, MIHP-II continued its intensive cooperation with the Ministry of Health (MOH) to revise key protocols and clinical guidelines for obstetric, neonatology, epidemiology, and preventive pediatric care. MIHP-II supported the revision of pre-service curricula for medical students on obstetric and neonatology and also implemented a wide range of behavior change communication (BCC) interventions and PMTCT. Moreover, it improved care of small newborns using the kangaroo mother care (KMC) model in eight pediatric hospitals, including the national 4th level pediatric Ochmodet Hospital in Kiev.

At the request of the MOH, the project developed and tested a new monitoring and evaluation (M&E) data system to improve tracking and monitoring of perinatal care and to facilitate user-friendly data for rapid clinical and programmatic decision-making. Moreover, the project developed successful public-private partnerships with Tuman Oil Processing Company – British Petroleum (TNK-BP), Linen of Desna, and Bel company, and collaborated extensively with organizations such as UNICEF, UNFPA, WHO, and the French Embassy.

This report summarizes MIHP-II’s years of project implementation, and focuses on the project’s successes, lessons learned, constraints, and legacy.
1. POLICY STRENGTHENING

Some of the most significant results of MIHP and MIHP-II came through its close collaboration with national partners. Although individual oblasts have autonomy in many ways, they are guided by national directives, and are influenced by medical schools and training institutions. Accordingly, it was important for the project to work closely with these influential institutions in order to ensure the long-term sustainability of project efforts.

EVIDENCE-BASED NATIONAL PROTOCOLS

In Ukraine, all prikazes—directives regarding standards of care, protocols, and procedures—are developed, issued, and implemented by the MOH. The Maternal and Child Health (MCH) Department of the MOH is the leading force on protocol development. MIHP-II’s role in protocol development and revision was to train local Ukrainian experts from the MOH, oblasts, and university professors and members of professional associations in evidence-based medicine (EBM); research scientific evidence on worldwide and regional best practices in perinatal care; translate major documents for the experts; financially support and organize working sessions; and edit and print more than 1,000 copies of newly-endorsed national protocols.

By the end of July 2011, the project had supported the development and revision of 55 national protocols on important topics in obstetrics, gynecology, neonatology, epidemiology, and preventive pediatric care. All of these prikazes are in line with the most up-to-date international evidence-based recommendations. In order to ensure that the most important of these new protocols were fully understood and systematically implemented, the project developed comprehensive training packages in cooperation with the MOH. Later, the project trained a sufficient number of experienced experts to teach these new protocols to each health care provider in the 20 regions collaborating with MIHP.

Four protocols—C-section, vaginal delivery after C-section, antenatal care, and neonatal infection—were finalized in 2010 by MOH experts, and by the end of the project, MIHP-II and the MOH were finalizing the revision of the C-section protocol. All four of these protocols will be officially endorsed in 2011 for nationwide dissemination.

INTRODUCTION TO WHO BEYOND THE NUMBERS STRATEGY

Knowing how many women die in childbirth and post-partum is not enough to prevent such deaths. Each maternal death or case of life-threatening complication has a context which can suggest practical ways to address
its causes and determinants. WHO has developed a strategy to address preventable maternal death, called the Beyond the Numbers (BTN) strategy. It has two components: 1) the analysis of ‘near miss cases’; and 2) a nationwide anonymous analysis of all cases of maternal deaths.

Using information gained from such inquiries as a prerequisite for action, this strategy has been implemented over the past 50 years in several countries, including the UK and Canada, and has increased the understanding of the reasons behind maternal deaths. Such information can inspire appropriate, targeted actions to prevent these deaths.

In 2008, WHO/EURO conducted an informational meeting on BTN with support from MIHP-II. Subsequently, BTN was included yearly in the MOH agenda and became a top priority for Ukraine beginning in 2009 as the maternal mortality ratio (MMR) increased. In 2010, three MCH staff were invited to a WHO meeting on the BTN Strategy in Uzbekistan. As a result of this meeting, the MOH asked the WHO to support the implementation of the BTN components in the near future. Unfortunately, not all planned WHO/EURO support had been provided by July 2011.

**REVISION OF CURRICULA**

In order to provide medical students with internationally recognized evidence-based perinatal technologies and support long-term sustainability through ongoing medical training, it was clear that revision of pre-service and post-graduate curricula needed to be undertaken in parallel with ongoing in-service training courses for health care providers.

In 2007, MIHP-II began collaborating with the MOH and the majority of leading Ukrainian universities to revise national medical curricula for obstetrics and neonatology. By the spring of 2010, the National Pre-service Curriculum for Obstetrics was finalized. Additionally, the revision of the national pre-service curriculum for neonatologists was initiated in late 2009. It was finalized in July 2011 and will be disseminated to each University Cathedra for pre-service training on neonatology.

Following this model, teaching manuals for educators and a learning evidence manual for students were prepared, proposed, and officially endorsed by the MOH and MOE for nationwide use. This curriculum introduces effective perinatal technologies as well as modern teaching methodologies for pre-service education. After minor adaptations, it will be suitable for use as a post-graduate
curriculum for obstetricians, as well as a pre-service curriculum for midwives and nurses.

The process of doing a complete and extensive revision of post-graduate curricula for obstetricians and neonatologists was complex due mainly to the inherent freedom in post-graduate cathedra programs in Ukraine. Nevertheless, a survey conducted nationwide demonstrated that the majority of post-graduate cathedra of obstetric and neonatology were using the entire WHO/EURO/EPC training course with only minor adaptations. Both theoretical and clinical practice modules are used to retrain specialists. Unfortunately, some topics are still not covered by all universities, such as “introduction to evidence-based medicine” and “postpartum depression.” The Kiev Cathedra of Post-Graduate Neonatology is currently implementing all the neonatal components of WHO/EPC training materials.

UPGRADING THE NATIONAL M&E SYSTEM FOR DATA FOR DECISION-MAKING IN PERINATAL CARE

The M&E system for perinatal care was complex, time-consuming (i.e. heavily dependent on handwriting), and generally out-of-date, as it did not require reporting on several important national evidence-based practices. The system needed to be simplified in order to easily and objectively collect useful data in order to effectively monitor the implementation of new national recommendations and technologies for perinatal care. Moreover, each maternity, raion, and oblast needed to be able to analyze their own performance, objectively identify challenges, and make timely decisions.

In 2008, the MOH asked MIHP-II to support groups of experts in the development of new medical records for mothers and infants, including a comprehensive set of “perinatal process indicators” and a new monitoring system. In 2010, the MOH and MIHP-II finalized the development of a new medical record for pregnancy and delivery, and a new medical record for newborns. Additionally, in collaboration with the MOH and a group of Ukrainian experts, MIHP-II developed a comprehensive perinatal monitoring system, including new delivery and newborn logs, reporting formats, and special software for oblast statistical centers. By July 2011, the software had been installed in 22 administrative regions, including Kiev Oblast and Kiev City.

At present, 21 administrative regions (20 MIHP-II, and Vinnitsa supported by UNICEF) are collaborating with MIHP/MOH to use this monitoring system. Oblast health authorities have expressed appreciation for the simplified system, and in all par-
ticipating oblasts, all maternities are reporting their activities according to the new system, even those not directly involved in the project. Approximately 70% of all births in Ukraine, which in July 2011 was more than 200,000 births, are reported on, allowing for their information to be more easily analyzed.

In 2011, the MOH plans to officially approve and implement the new medical records nationwide (pregnancy/delivery and newborn records). Additionally, the revised perinatal M&E system will be approved by the MOH. Moreover, MCH Department plans to conduct short trainings for the seven oblasts that were not part of the project. MIHP is also installing the new monitoring software in the MOH headquarters and training statisticians to appropriately use it for routine EPC data collection and analysis.

Overall, it is expected that the new M&E system will enable the MOH, oblast health authorities, heads of maternities, and leading specialists to better understand progress and challenges in perinatal care and to take appropriate decisions to improve the health of mothers and infants. Information from the data management system should be made available to all stakeholders, including policy-makers, as well as the larger public health community both at national and international levels.

RESULTS

- Between the beginning of MIHP-II & June 2011, 51 national protocols were developed and endorsed by the MOH as National Pri-kazes.

- In 2010-2011, the protocols on C-section, vaginal delivery after C-section, antenatal care, and neonatal infection were finalized and submitted to the MOH for endorsement.

- In 2011, 62 were certified as quality-of-care maternities by MIHP-II/MOH.

- 533 facilities (186 maternities, 205 women’s clinics, 134 pediatric polyclinics, and 8 pediatric hospitals) collaborated with MIHP-II to implement evidence-based protocols and prikazes and improve the health care of mothers and infants.

- Pre-service curriculum on obstetrics was revised and endorsed by the MOH & MOE for national dissemination. All 22 pre-service institutions now use this curriculum.

- Pre-service curriculum on neonatology was developed and will be endorsed by the MOH & MOE in 2011. 50 printed copies were distributed among all cathedra of neonatology.

- As of mid-2011, ten cathedra for postgraduate education in obstetrics and neonatology now include the majority of EPC technologies in their curricula.
MIHP-II has supported a wide variety of in-service training activities with the objective of reaching a “critical mass” of health care providers, especially those in charge of maternal and newborn care, in order to strengthen perinatal care throughout the health care system. The project adopted a cycle of life approach, which was implemented in a variety of facilities, including women’s clinics, maternity and pediatric policlinics, family doctor practices, and HIV/AIDS centers. The goal of the life cycle approach is to change outdated practices in all facilities in oblasts supported by MIHP-II.

Cost sharing was an important strategy adopted to both foster sustainability and to increase commitment of oblast administration and health care providers. MIHP-II shared expenditures with the oblasts and organized a series of training courses on different EPC topics for staff of maternity hospitals, women’s clinics, and polyclinics, including OB/GYNs, family doctors, midwives, nurses, and epidemiologists in order to help them integrate international evidence-based clinical protocols into their daily practices. A total of 10,562 health care providers (HCPs) were trained on different aspects of EPC during MIHP-II.

Development of local training centers was another important sustainability strategy, and one which also decreased unit costs of in-service training. In all, the project organized and equipped 19 oblast training centers—also referred to as ‘centers of excellence’ (COE) — in the following cities: Lusk, Donetsk (2), Dnipropetrovsk, Zhytomyr, Uzhgorod, Zaporijjya, Kirovograd, Luhansk, Lviv, Poltava, Rivne, Cherkassy, Chernivtsy, Kharkiv, Simferopol, Kiev City, Sumy, and Sevastopol. MIHP-II-assisted oblast training centers are located in active maternity hospitals (i.e. those with more than 1,500 deliveries per year), which are implementing EPC technologies and demonstrating good practices. Centers are responsible for conducting trainings for the entire oblast. More than 70% of training center staff is made up of health care providers trained in each of the different EPC components.

EXPANDING THE SCOPE OF TRAINING: TRAINING COURSES ON A RANGE OF TOPICS

One particular success story was in the Autonomous Republic of Crimea (ARC). MIHP-II activities covered all 24 maternity hospitals in the ARC and the two maternity hospitals in the city of Sevastopol, according to the Plan of the Crimean Development Fund. Cumulatively, dur-
ing the training courses in the ARC, 343 health care providers (HCPs) were trained on evidence-based medicine and EPC; 130 HCPs and epidemiologists were trained on antenatal care and infection control. With minimum financial support from the project, antenatal training courses were conducted in all MIHP-II oblasts, with a total of 910 trained. Trainings on evidence-based practices in the second stage of labor were conducted for 25 people in each MIHP-II oblast. 503 HCPs were trained.

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**SUPPORTIVE SUPERVISION:** FOLLOW-UP VISITS AND TUTORIALS TO REINFORCE IMPLEMENTATION OF EPC

Evidence from Ukraine and other Eastern European countries that have implemented EPC suggested that follow-up and supportive supervision is a key to long-term, sustainable gains in improved practice. Thus, the project paid close attention to the sound implementation of EPC at the oblast/facility levels because good implementation supported its sustainability of EPC implementation.

Repeated supportive and problem-solving follow-up visits and regular monitoring and data analyses helped identify gaps in implementation and also helped in the identification of timely, appropriate solutions. Annual or bi-annual follow-up visits were made to each MIHP-II-supported maternity. These visits were aimed at assessing the existing situation with EPC implementation in each maternity developing clear and helpful recommendations for further improvements, and deciding whether there was a need for “one-on-one” tutorials on EPC.

Reinforcement training based specifically on problems identified during follow-up visits helped each facility to effectively adopt and master the practices that had not been previously mastered. During such trainings, the staff of each maternity, perfected their skills, and found possible solutions to constraints as well as measures to improve the quality of care. Over the course of the project, 84 tutorial EPC training courses (usually three to five days each depending on maternities’ identified problems and activities) were carried out. More than 2,100 HCPs received additional knowledge and improved their skills through these training sessions.
In addition to the tutorial training, several specific, day or half-day trainings were organized in several oblasts to reinforce important points of national protocols or other specific technical challenges. Examples of topics covered include training on normal delivery for OB/GYNS and midwives at 20 maternities; training on newborn jaundice for neonatologists and paediatric nurses at 12 maternities; training on newborn resuscitation; and training on breathing difficulties for neonatologists and paediatric nurses at 15 maternities. Each of these short, specific trainings was attended by an average of 20 participants. In all, 2,365 HCPs were trained with minimal financial support from MIHP-II.

“Companion presence in the delivery room, free position during labor and delivery, other non-medical interventions, and active management of the third stage of labor, as well as early skin-to-skin contact and constant rooming-in after delivery—these are the practices we could never imagine five or eight years ago,” said Lyuba Pozdnyakova, a midwife at Donetsk Maternity Hospital No. 3 and now an international midwifery trainer. “Thanks the dramatic changes in birthing practices, Ukrainian families are happier and eager to have more babies.” Midwife Lyuba Pozdnyakova (left) gives a perinatal training at Dnepropetrovsk City Maternity No. 2.

“DEVELOPING A CADRE OF LOCAL EXPERTS: TRAINING OF TRAINERS

In line with the Presidential Initiative “New Life,” the MOH requested MIHP-II to prepare a team of experts to assess the quality of perinatal care at Ukrainian facilities. MIHP invited a WHO expert to train 13 national experts in the practical application of the WHO assessment tool for the quality of hospital care for mothers and newborn babies. These local specialists are being used by the MOH to advance quality improvement activities in perinatal facilities throughout Ukraine.

The strategy adopted to sustain gains in EPC and continue training health care providers with minimal resources was to train: one
course director and two trainers on evidence-based medicine; six trainers on EPC (two OB/GYNs, two neonatologists, and two midwives); two trainers on antenatal care (OB/GYN and midwife); two trainers on infection control (including 1 epidemiologist); two trainers on integration of PMTCT into EPC; and a minimum of two trainers on neonatal care, breastfeeding, and postpartum counseling, etc. This was an ambitious undertaking and currently not all MIHP-II oblasts have a full set of trainers. Sometimes trainers from other oblasts are invited to conduct trainings. MIHP-II lead trainers advised and supported each oblast to train a sufficient numbers of key trainers. A total of 80 HCPs were trained as master-trainers.

In addition, to the development, approval, printing, and distribution of new clinical protocols, and ongoing training and support for new protocols through existing trained trainers is a major undertaking. Merely distributing printed national protocols without follow-up, training, and supportive supervision would likely result in only small changes in practice and EPC implementation.

Over the last year, MIHP-II has worked with partners to develop or revise clinical protocols on neonatal infections, C-section, C-section after vaginal delivery, and antenatal care to include up-to-date evidence and international recommendations. These protocols are completed and have been placed on the MOH website for consideration and discussion. Once the protocols are discussed and endorsed, the MOH will develop training packages to train medical personnel in the oblasts to use the protocols beyond MIHP-II.

A cost impact survey conducted by MIHP in three maternities showed that reductions in unnecessary and non-evidence-based medical interventions in birthing practices yielded significant cost savings. The average savings was US$ 17 per delivery, leading to a global yearly savings for Donetsk Maternity No. 3 of $45,000, $60,000 in savings for Lutsk Maternity, and at least $10,000 in savings for the small maternity of Kovel.
SNAPSHOT OF RESULTS

- 54-55% of births in Ukraine are being covered by the project in 2011.
- 312 trainings conducted for 10,562 HCPs.
- 85 tutorial EPC training courses conducted, attended by more than 2,125 HCPs.
- 16 national experts trained on use of the WHO Assessment Tool of the Quality of Hospital Care for Mothers and Newborns.
- All 20 administrative regions involved in MIHP-II have training centers equipped with training equipment and didactic training staff.
- AMTSL (Active Management of Third Stage Labor) is increasing in MIHP maternities (see Chart 1 below); it is now nearly universal at 98.5%.

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**Chart 1: Active Management of the Third Stage of Labor, %**
SUCCESS STORY:
USAID/MIHP ADVANCES MATERNAL CARE IN UKRAINE

Postpartum bleeding remains a major cause of maternal mortality in Ukraine, where maternal deaths are three to four times higher than in Western Europe. In 2009, the Maternal Mortality Rate (MMR) in Ukraine was 25.4 (per 100,000 live births) compared to, for example, 1.65 in Estonia, 2.62 in Austria, and 1.62 in Norway. As a result of changes in birthing practices introduced by hospitals with technical support from the USAID-funded MIHP Project, postpartum bleeding at the Donetsk Oblast Maternity Hospital decreased from 3.7 percent in 2003 to 0.85 percent in 2010. Other participating facilities have seen similar dramatic results.

“I was convinced that injecting oxytocin alone, as we did in the past, was enough to prevent bleeding at birth. However many women were losing more than 1,000g of blood postpartum, and some of them were on the verge of death. Personally, it took me time to properly follow all the steps of the active management technique (AMTSTL). Once I followed the steps, we noticed that the blood loss in women after delivery significantly decreased,” said Anna Chaika, Head Physician of Rhivne Maternity Hospital No. 2.

In a letter written after her delivery at the Zhytomyr Maternity, an MIHP-II site of excellence that conducts vaginal deliveries after previous C-sections, Olga Smirnova said,

“\textit{In the name of every Ukrainian woman, I’d like to thank all the doctors and nurses of the maternity for an extraordinary experience of physiological delivery after my previous C-section. I now feel fully valued as a woman, for myself and my family.”}
3. BEHAVIOR CHANGE COMMUNICATION

IMPROVED COMMUNITY, CIVIL SOCIETY, CLIENT KNOWLEDGE, ATTITUDES AND CHOICES FOR EFFECTIVE PERINATAL CARE

The major thrust of the behavior change communications (BCC) strategy in MIHP-II was to inform communities about the benefits of EPC, and to increase mothers’ and couples’ demand for appropriate, evidence-based care for themselves and their infants. Over the course of the project, women and their families have become more aware of the importance of modern birthing and care practices. They are increasingly requesting that the public or private sector clinics they patronize offer updated perinatal care practices and services and that this same standard of care be found in all the facilities they patronize—antenatal clinics, maternity units, pediatric polyclinics, or ambulatory clinics.

MIHP-II attributes the good results of its BCC campaigns in part to ongoing collaboration with various organizations. In partnership with UNICEF, for example, MIHP-II conducted several trainings on optimal infant feeding practices and Prikaze #149 for family physicians. At the same time, MIHP-II developed a training module on infant feeding practices with, at UNICEF’s request, an added chapter on complementary feeding. This is expected to be adopted by the MOH soon.

The MOH, UNICEF, and MIHP-II successfully implemented large EPC behavior change campaigns in Zhytomir, Vinnitsa, and Rhivne and Sumy oblasts. Joint BCC/IEC activities included dissemination of IEC materials with appropriate counseling for young families on breastfeeding, postpartum contraception, baby, and mother care. The MIHP-II and UNICEF-run breastfeeding trainings resulted in a strong team of local trainers from Rivne, Zhytomyr, and Sumy (five people from each region). These activists will continue conducting infant-feeding trainings beyond the project.

Technical materials for providers were also part of the MIHP BCC/IEC scheme, including adoption of the Part-o-graph and “warm chain” e-learning tools. All of these materials were incorporated into regional WHO programs.


REACHING CLIENTS THROUGH MASS MEDIA

Mass media has proved to be an effective way to disseminate knowledge and practices about EPC in Ukraine. Assessment results

¹ Countries such as England, Kenya, and Japan have been downloading and using these videos in training.
pointed to mass media (television, radio, and print media) as a major source of demand for knowledge about modern birthing practices. Most mothers and their families relied on media information before, during, and after conception. Collaboration with Internews in the ARC was effective in reaching mothers and families. Trainings for journalists on EPC in Simferopol and Sevastopol evoked a deep interest in young mothers and families for effective birth approaches in the peninsula. A three-day training of journalists was organized, as well as press tours to maternity hospitals, during which time journalists interviewed mothers and their families. Subsequently, these press tours, mass-media messages, and TV spots were aired, follow-up visits to other maternity hospitals were made, and there was broad media coverage of positive results.

**STRENGTHENING CLIENT KNOWLEDGE THROUGH PRINT MATERIALS**
According to knowledge, attitude, and practice (KAP) surveys conducted by MIHP-II in 2008 and 2009, the development and dissemination of IEC materials is an important method of educating both clients and health care providers about EBM, perinatal care, and appropriate pregnancy and newborn care. Each year, MIHP-II oblasts and non-project oblasts requested more and more IEC materials, particularly for young parents.

A large number of IEC materials were developed and disseminated during MIHP-II. Topics included breastfeeding, sudden infant death syndrome (SIDS), and specific materials on small baby care, including KMC for family and HCPs. All of the remaining IEC materials have been turned over to the MOH, teaching institutions, and oblast/city health administrations. The MIHP-II website, which contains all IEC resources (prikazes, protocols, booklets, posters, and educational videos), was also handed over to the MOH.

To enhance and supplement materials, at least one specialist was trained in each MIHP-II-supported oblast on communication skills. The training focused on effective counseling skills for HCPs, and reinforced the oblast capacity to counsel mothers. Additionally, all partner facilities have hard copies of IEC materials produced during the project, and these are “open
sourced” so they can be reproduced freely by anyone.

**KANGAROO MOTHER CARE**

With support from the MOH and complementary financing from the Embassy of France, MIHP-II pioneered the Kangaroo Mother Care (KMC) method in Ukraine. Long utilized in extremely low resource settings, this method is an important innovation in the care for preterm and sick newborns in medium and high resource settings as well. Solid research analysis shows that KMC reduces infant mortality for infants under 2,000 grams by 51%.

KMC started in Ukraine in June 2011 at the OKHMATDYT Specialized Pediatric Hospital. This simple, natural method consists of three components:

- Kangaroo position—parental/infant skin-to-skin contact ideally 24 hours a day, as long as the infant needs it;
- Early and exclusive breastfeeding;
- Empowerment of parent caring for their infant; and
- Early discharge and appropriate follow up until one year of age.

**EVIDENCE TO ACTION: SUDDEN INFANT DEATH SYNDROME (SIDS)**

One successful, low cost MIHP activity, funded through a public-private partnership, was a prototype SIDS prevention campaign. An assessment was done of women’s knowledge about SIDS following a SIDS prevention campaign in Lugansk Oblast.

The MOH, local oblast authorities, and MIHP-II conducted a SIDS prevention campaign to raise the general population’s awareness. This partnership was co-funded by TNK-BP and USAID. The “Back to Sleep” campaign was designed to reduce SIDS, also known as infant crib death, through public information events. The campaign culminated on September 2007 in Lugansk Oblast, with the mass distribution of information materials.
At the beginning of the campaign, a series of trainings among pediatricians, nurses, other providers, and social services/education volunteers were conducted. Health providers and volunteers were taught key messages and how to counsel clients on SIDS prevention. Information booklets were targeted to families with children under one year of age, and campaign booklets were distributed on the street, in facilities (pediatric hospitals, polyclinics, pediatric departments, and pediatric counseling clinics), and in other community locations, such as supermarkets, market places, and main streets. A total of 61 trained volunteers distributed the booklet in their rayon centers. Five oblasts conducted similar campaigns using their own resources.

MIHP-II conducted a SIDS knowledge assessment to evaluate the effectiveness and impact of the campaign on clients in Lugansk Oblast. Vinnitsa, with its relevant randomized facilities, was selected as a control oblast. The survey showed that the SIDS campaign in Lugansk was highly successful (see Table 1).

**EVIDENCE TO ACTION:**
**PROMOTING BREASTFEEDING**
Breastfeeding is one of the most important interventions for infant welfare. New mothers often have questions and concerns about breastfeeding, and the quality of the information and counseling they are provided can encourage or discourage establishing sound breastfeeding. MIHP-II conducted a KAP

### Table 1: Comparison of sleeping positions with regard to knowledge and practice

The SIDS campaign in Lugansk made strides in promoting optimal sleeping position of infants to prevent SIDS.

<table>
<thead>
<tr>
<th>Sleeping position</th>
<th>Knowledge Project area (Lugansk Oblast) (n=177)</th>
<th>Knowledge Control area (Vinnitsa Oblast) (n=181)</th>
<th>Practice Project area (Lugansk Oblast) (n=177)</th>
<th>Practice Control area (Vinnitsa Oblast) (n=181)</th>
</tr>
</thead>
<tbody>
<tr>
<td>On side</td>
<td>11.3%</td>
<td>64.1%</td>
<td>13.0%</td>
<td>71.8%</td>
</tr>
<tr>
<td>On back</td>
<td>85.3%</td>
<td>23.2%</td>
<td>84.7%</td>
<td>25.4%</td>
</tr>
<tr>
<td>On stomach</td>
<td>0.6%</td>
<td>3.3%</td>
<td>0.0%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Other</td>
<td>0.0%</td>
<td>0.6%</td>
<td>0.0%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

MIHP-II conducted a SIDS knowledge assessment to evaluate the effectiveness and impact of the campaign on clients in Lugansk Oblast.
A survey was conducted to evaluate the knowledge of health care providers about sound breastfeeding practices. The findings were used to design project interventions to improve provider counseling about breastfeeding in Ukrainian maternity hospitals, and ultimately to improve the behavioral aspects of health care providers and postpartum women.

The study consisted of a post-test analysis of the facilities implementing EPC practices in order to assess differences in knowledge or practices by size of facility, type of provider, and level of training received. Each health care facility was placed in one of three groups: small (fewer than 50 providers), medium (50-100 providers), and large (more than 100 providers). Two-stage sampling proportionate to size resulted in 27 selected facilities in the small group, eight in the medium group, and four in the large group, for a total of 39 facilities.

The results provided quite specific detail on what each category of professional (doctors, nurse-midwives, etc.) knows or gaps in their knowledge on breastfeeding. These data were useful in designing specific in-service education on breastfeeding. For example, most professionals know that supplemental feeding is detrimental to the milk supply, that it is not necessary to restrict mothers’ fluids when the milk comes in, and that the correct treatment for infant diarrhea is exclusive breastfeeding. On the other hand, only about 40% of HCPs knew how to counsel women about mastitis. Results were incorporated into in-service training.

![Chart 2](image1)

**Chart 2**

Proportion of providers by facility size who know correct signs of the baby's attachment to the breast (p<.033)

<table>
<thead>
<tr>
<th>Facility Size</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>19.00%</td>
</tr>
<tr>
<td>Medium</td>
<td>48.50%</td>
</tr>
<tr>
<td>Large</td>
<td>18.80%</td>
</tr>
</tbody>
</table>

![Chart 3](image2)

**Chart 3**

Proportion of providers who know correct signs of the baby's attachment to the breast (p<.016)

<table>
<thead>
<tr>
<th>Professional Group</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwife/nurse</td>
<td>33.2%</td>
</tr>
<tr>
<td>Neon/Ped/Ob/gyn</td>
<td>24.3%</td>
</tr>
</tbody>
</table>

Breastfeeding research provided specific information for in-service training of service providers. Although knowledgeable about many topics related to breastfeeding, one area providers were not was correct signs of attachment to the breast.
SNAPSHOT OF BCC RESULTS

- 30 HCPs trained as master-trainers on breastfeeding.
- More than 90% of clients initiate breastfeeding in MIHP-II maternities as soon as possible after birth.
- The WHO/EE Region adopted and implemented “warm chain” and Part-o-gram e-learning tools in EPC and ICCAT, which were developed by the MOH and the project.
- A training module on breastfeeding was finalized and is under approval by the MOH.
- More than 20 articles and TV/radio spots were published and produced after each press-tour.
- Training for journalists and other media specialists included the following topics: companion delivery, free delivery positions, breastfeeding, non-medical delivery, early skin-to-skin contact and prevention of hypothermia, KMC in NICU, fathers’ role in pregnancy, delivery and baby care, and postpartum family planning.
- MIHP-II videos and printed IEC materials are widely used throughout Ukraine.
- 20 master communicators were trained.
- 280,000 printed IEC materials and job aides were distributed among women, men, and HCPs in 2011. Materials distributed included: a maternal surveillance format, breastfeeding and post-partum family planning booklets, and five posters.
- Approximately half a million women a year receive counseling and information as a result of training and materials production.
- Electronic copies of all IEC materials and job aides have been given to the MOH, teaching institutions, and oblast/city authorities. Materials include: PMTCT, postpartum FB, breastfeeding, and fathers- and mothers-to-be booklets; posters on breastfeeding, PMTCT, home clothes for maternity, and companion deliveries; Delivering Together and Planned Choice videos; and warm chain, partogram, active management of the third stage of labor (AMTSL), and breastfeeding e-learning tools. The full set of IEC materials is available at www.mihp.com.ua.
- The MIHP web site remains active.
FFACILITY-BASED MONITORING OF EPC PRACTICES

Between 2006 and 2011, MIHP-II extended its support rapidly. By mid-2011, it was assisting 186 maternities. These maternities adopted and utilized the monitoring and reporting system MIHP-II developed for the MOH. MIHP-II assisted in monitoring by facilitating clinical audits during follow-up supervision visits. As a result, MIHP-II has access to detailed information on every delivery which occurred in maternities the project assisted. This facilitated analysis of perinatal care and the rapid identification and localization of challenges. In effect, MIHP-II staff was another check on MOH monitoring, and an extra resource for the government in maintaining quality.

At the end of 2008, the MIHP-II team and a group of MOH experts (OB/GYNs, neonatologists, and statisticians), developed comprehensive sets of delivery and newborn indicators that allowed the implementation of new national protocols and prikazes to be monitored. At that time, national official statistics did not routinely monitor compliance with new EPC practices and MOH protocols. Thus, the new indicators and data collection systems helped improve quality and encouraged continuous quality improvement.

In 2009, the MOH and MIHP-II finalized the new monitoring system based on those process indicators. The format of national existing logs for deliveries and newborns was made more user-friendly, simple to complete, and appropriate for regular and immediate data analysis. These newly-developed logs also paralleled the recommended EPC practices and technologies, which are being rolled out and are now required under national guidelines.

To further assist in implementation, a software package was developed that allows monthly accumulation of statistics from each oblast-level maternity and further analysis for decision-making. The software was installed in the centers of statistics in each oblast, and the people responsible for gathering and entering the data received necessary instructions and trainings. In particular, 678 health care providers from 20 administrative regions of Ukraine (19 MIHP-II regions and UNICEF Vinita oblast) were trained. As of September 2009, the new M&E mechanism to trace the EPC implementation has been working in all 186 of the MIHP-II-assisted maternities.

Oblast health authorities were quick to appreciate and recognize the advantages of this
new monitoring system. In fact, in order to collect data on and compare outcomes in MIHP-II assisted and non-assisted sites, MIHP-II was asked to help implement the system for all oblast maternities, regardless of whether they are supported by MIHP-II. In 2010, MIHP-II monitored more than 400 MIHP-II and non-MIHP-II maternities in Ukraine, covering more than half of deliveries nationwide.

The MIHP-II M&E team has been maintaining the central electronic database where the data results from MIHP-II oblasts are accumulated. Monthly data reports were generated and provided to clinical specialists for analysis and recommendations for oblasts. This analysis proved to be critical for identifying positive and negative trends and taking corrective actions. In addition, a culture of analysis and utilization of data for monitoring has evolved through use of these improved M&E tools and systems.

The system will function beyond the life of the project, delegating the monitoring responsibilities at oblast level. Furthermore, the resulting M&E data has enabled oblast health authorities as well as MIHP-trained specialists to better understand progress, challenges, and lessons learned.

NATIONAL ADAPTATION OF PERINATAL CARE M&E SYSTEM

The current national system for monitoring of perinatal care is complex. It could benefit from simplification, making it more user-friendly, and allowing for adjustments to log
formats and files if prikazes change protocols.

MIHP-II supported the MOH to develop new delivery and newborn medical records, currently known as Delivery File Format #96 and Newborn File Format #97. Five working groups made up of leading Ukrainian experts developed these documents. MIHP-II assists with pre-testing in Volyn, ARC, and Donetsk oblasts. They are currently pending MOH official endorsement.

A special monitoring format has been developed that enables doctors to trace the results of KMC implementation. The French Embassy in Ukraine provided support for this specific activity. This tool was pre-tested in Kiev, Lugansk, and Zhytomir perinatal centers and is also being transferred to the MCH Department of the MOH for nationwide use.

HOW PROJECT-GENERATED DATA ARE USED FOR STUDIES, RESEARCH, AND ANALYSIS

The data collected by the project has been useful for analysis by a variety of stakeholders, including the government. MIHP-II data results also were widely used for various research and studies conducted by national and international experts on MIHP-II activities impact. Among those are:

- **Successful implementation of evidence-based practices in Ukrainian maternities.** This study was supported by MIHP-II and conducted by the WHO and Uppsala University (Sweden) expert Anna Berglund. The study was published in the *Acta Obstetricia et Gynecologica Scandinavica* Journal, Sweden.

- **Evaluation of the impact of the Mother and Infant Health Project in Ukraine.** This research was conducted by Ukrainian scholars Olena Nizalova (from the Kiev Economics Institute and Kiev School of Economics) and Maria Vyshnya (from the National University Kyiv Mohyla Academy).
• **MIHP-II impact on Maternal and Neonatal Mortality Issues in Ukraine.** This analysis was conducted by international expert (USA) Mariella Tefft, funded directly by USAID (see results in the next section).

• **Comparative analysis of the implementation of EPC in MIHP-II and non-MIHP-II maternities.** This analysis was conducted by national expert Elena Dudina.

• **Ukraine national implementation of clinical protocols: Impact on perinatal care outcomes.** This comparative analysis of MIHP-II and non-MIHP-II outcomes was conducted by the MIHP-II monitoring and clinical units with the support from M&E expert Deirdre Rogers from JSI/Boston.

**IMPACT OF MIHP-II ON MATERNAL AND NEONATAL MORTALITY**

MIHP-II had impressive results as judged from both internal data analysis (of MOH and MIHP-II data) and those of an external reviewer. A review of the monitoring results shows that for three consecutive years there has been a steady, dynamic reduction of MMR and ENM rates in MIHP-II-assisted sites as compared to the national level and non-MIHP-II facilities. Data is shown in charts that follow.

**Chart 7: MMR (Per 100,000 live births), %**

Maternal mortality is increasing in Ukraine (2009 represents increased mortality due to a flu epidemic); but MIHP-assisted sites are doing better. Reasons for increasing MMR are of active concern to the entire Ukrainian medical community.

**Chart 8: ENM (Per 1,000 live births), %**

Early neonatal mortality is steadily declining in Ukraine, although declines in MIHP sites are more dramatic. The Presidential Initiative is designed to decrease ENM even more.
EXTERNAL REVIEW OF MIHP RESULTS

As noted above, Mariella C. Tefft, a Biostatistical Consultant for USAID/Ukraine conducted an external analysis of MIHP-II’s results as compared to national data between 2003-2011, using both MIHP and national data. She compared a wide range of variables, including urban-rural, age of mother, gross regional per capita income, etc. SAS GENMODE was used to statistically estimate the overall impact of utilizing MIHP EPC practices throughout the 19 oblasts on mortality of mothers and infants. She also completed an analysis of other factors that may influence maternal and infant mortality in the first decade of the 21st century.

Based on her analysis, she made the following important conclusions:

- The proportional level of MIHP coverage had a statistically significant effect (p=0.0001) on reducing the average annual percentage increase of early neonatal mortality (ENM) rate by 66%, from 7.10% for non-MIHP facilities to 2.34% for MIHP facilities during the period 2003 to 2010. Similarly, the proportional level of MIHP coverage has a statistically significant effect (P=0.0414) on the overall ENM rate, which had an annual percentage increase of 2.7% during the period 2003-2010.

- The proportional level of MIHP coverage had a statistically significant effect (p<0.0001) on reducing the average annual percentage increase in the MMR, by 66%, from 12.14% for non-MIHP facilities to 4.00% for MIHP facilities during the period 2003 to 2009. However, the proportional level of MIHP coverage did not have a statistically significant effect on the overall MMR, which had an average annual percentage increase of 6.97% during the period.

- The proportional level of MIHP coverage did not have any statistically significant effect on other rates, such as stillbirths, perinatal mortality, and infant mortality.

- Other statistically significant factors affecting the following rates are year and region (affects ENM); proportion of urban live births and year (affects maternal mortality); proportional level of mothers under 19-years-old, number of live births, year and region (effects stillbirth rates), and proportional level of mothers under 19 (effects infant mortality).

Two illustrative charts follow. The results of this study were of keen interest to the entire medical community. Increasing mortality...
rates is a grave concern, and one that the Presidential Initiative is designed to address. Causes of mortality are many and varied. Nevertheless, the overall result of this study points to the positive—and demonstrable—contributions that MIHP-II assistance has made. Moreover, with ongoing attention to use and interpretation of data, and redoubled efforts to improve quality of care and regionalize perinatal care, further impact can be expected in the future.

**Chart 9: Early Neonatal Mortality Rates from Regression Analysis* in Ukraine: 2003-2010**

The solid lines show the statistically significant (p<0.0001) reduction in the average annual percentage increase in ENM in areas of MIHP coverage, in comparison to the dotted lines which show the predicted rate of ENM mortality in areas without MIHP coverage.

**Chart 10: Maternal Mortality Ratios from Regression Analysis* in Ukraine: 2003-2009**

The solid lines show the statistically significant (p<0.0001) reduction in the average annual percentage increase in maternal mortality in areas of MIHP coverage, in comparison to the dotted lines which show the predicted rate of maternal mortality in areas without MIHP coverage.
5. LESSONS LEARNED & THE WAY FORWARD

This project experienced significant success, and has many outstanding results to show for efforts to date. This is the result of a large number of people in the government, in local oblasts and communities, donors, and the dedicated staff of MIHP. Everyone worked together with one goal in mind—to improve care for Ukrainian mothers and babies. Yet as can be seen in the previous section, although much has been accomplished, a lot remains to be done. Ukraine has a clear and strong desire to improve perinatal care, as evidenced by the Presidential Initiative and ongoing efforts in partner oblasts. USAID has signaled its commitment by extending MIHP-II for one more year. This section therefore looks forward to what can be done. It analyzes some of the constraints which still exist, summarizes some lessons learned, looks at what sustainable gains have been made, and explores where external assistance can still play a useful role.

CONSTRAINTS

Many constraints and challenges remain. Some are built into a still evolving and resource-constrained health care system; others might be mitigated by planned or hoped for investments. Some main constraints include:

Ministry of Health and National Health Care System:

- Lengthy approval and dissemination times for prikaze (up to six months).
- Frequent turnover in the MOH. Few and overloaded MCH staff at the central MOH level.
- Perinatal care is not yet regionalized (but this will soon be in process).
- Ongoing need to strengthen monitoring and implementation of the new health information system. Monitoring tools need to be aligned with prikazes and EPC.
- The role of professional associations can be strengthened, and there is a need to organize a professional association for midwives.
- Effective perinatal care should be included in certification and recertification processes.

Oblast Level Constraints:

- Funding is still inadequate for equipment, some facilities, and specialized activities, such as staff training; the process of regionalization needs to be implemented.
- A fully-functioning training center is needed at each oblast and in-service training needs to become routine.
- Monitoring and supportive supervision needs to be institutionalized at the oblast level, including support for oblast level statisticians.
• Systems need to be in place to renew IEC materials and support ongoing client education.

• The community needs to be better informed about the benefits of modern maternity care.

SOME LESSONS LEARNED DURING MIHP-II

• Effective perinatal care evokes vital interest among health care providers and community.

• EPC implementation in Ukraine has improved outcomes for both mothers and infants.

• The community can play an active role using social networks, demonstrating that parents are able to select the best maternity implementing effective perinatal care.

• Due to the community interest in EPC, the majority of municipalities support important improvements in the infrastructure and equipment of maternity and women’s clinics.

• In well-functioning EPC facilities, parents are accepted as team players during pregnancy, birth, and the postpartum period and the choice and confidentiality of the mother is respected during labor and delivery.

• The role of parents in caring for infants, including small infants, is better recognized and accepted by health care providers.

• Effective perinatal care allows important savings both for the health system and for clients.

• The Ministry of Health is a supportive partner that can benefit from technical assistance in developing, disseminating, and monitoring implementation of national protocols and prikazes.

• It takes approximately 18 months for an oblast to develop a high-quality care facility with training capacity and trainers, and disseminate effective perinatal practices throughout the oblast.

• To achieve sound and appropriate EPC, implementation should be integrated in all mother and child care facilities including antenatal clinics, maternity, pediatric polyclinics, primary health care facilities such as FAP (feldsher-obstetric points), family doctor settings, etc.

• The M&E system developed and supported under the project is an effective resource to monitor EPC implementation and identify barriers and achievements efficiently at each facility. This system
needs to be incorporated at both oblast and country levels.

- Regular follow-up, supportive supervision, and problem solving visits optimize perinatal care.
- Awareness campaigns on SIDS (and possibly other issues) are effective and should be conducted at national and oblast levels. Moreover, evidence suggests oblasts are willing to assume the cost of such campaigns.

SELF SUFFICIENCY IN PARTNER OBLASTS
MIHP-II provided greater or lesser levels of technical support (depending on when an oblast came “on line” as an MIHP partner) to 20 of 27 oblasts in Ukraine. Since emphasis was placed on sustainable gains and capacity-building, there are many areas which oblasts can take charge of EPC implementation, including:

- All MIHP partner oblasts can continue to collect M&E data using the new monitoring system from all maternities in the oblast. Special software is already installed in Oblast Statistical Departments for collection and analysis of indicators. The MIHP system has the advantage compared to the previous state system, in that indicators are collected monthly instead of quarterly, which gives more possibility to make operational improvements in a timely way.

- Trained local oblast teams can provide regular follow-up, support, supervision, and problem-solving visits to all maternities at least once a year. Such follow-up visits are useful for timely planning, needed interventions, tutorial training, and involving the mass media.

- Training centers have been developed and equipped in all MIHP partner oblasts, and training teams are in place. Moreover, training guides and materials are available on various topics, so short training can be done at every training center.

- All MIHP oblasts can print needed IE-C/BCC materials on different topics at their own cost. Free downloading is available for all of many materials (posters, pamphlets, training materials, videos, etc.) produced over the last eight years at www.mihp.com.ua.

WHERE TIMELY HELP GOES A LONG WAY
Although EPC has made dramatic gains in Ukraine, more can and needs to be done. Specifically, more information needs to be gathered on the causes of maternal, newborn,
and infant mortality, and how these causes can be addressed. There are also specific areas where outside technical support will still go a long way to helping the oblasts and the badly overstretched MOH. Some areas which are particularly important include:

- **Regionalization of perinatal care, and specifically development of prikazes/guidelines/regulations, including women and newborn transportation.** Regionalization is a government priority under the Presidential Initiative. Oblasts, however, have no experience and have not been trained. All oblasts need technical support from international consultants or organizations. JSI/MIHP is already helping through its scope of work with the PI and MOH.

- **Support is still needed for the continuation of development/revision of national clinical protocols by the MOH, training of oblasts, dissemination and technical support in using newly-endorsed maternal and neonatal medical files.** Much of the heavy lifting has been done on development of prikaz and implementation of new M&E formats, data for decision-making, etc. However, more time and support is likely needed before these can become institutionalized and, specifically, used for making decisions.

- **Oblasts have little experience in continuous quality improvement.** Some provisions have been made for monitoring and supportive supervision, but by and large this still remains an area where a lot needs to be done. Oblast staff lack training in continuous quality improvement models, quality teams, and supportive supervision. This is an important area where a project such as MIHP could make a useful contribution.

- **Oblasts are not regularly informing the community about the benefits of EPC.** Despite IEC/BCC efforts during MIHP, outreach to the community has still not become part and parcel of the approaches of oblast-level HCPs. Moreover, the potential of using journalists, mass media and social networks to carry health messages has not been fully exploited.
END NOTE & ACKNOWLEDGEMENTS

Every project is an adventure, with highs and lows, successes, and things that could have been done differently or better. In sum, this project has been an exciting one, with many successes. How often does a development project achieve actual impact on mortality rates? Or change the way maternity care is given to over half the mothers and infants in a country? MIHP did not achieve this alone. On the contrary, from the start this has been a collaboration between many parties and partners.

Those contributing to this project are too many to name personally, but each knows who he or she is. We want to thank the Ministry of Health for unfailing support, despite overstretched resources. We thank the leadership and health care providers in oblasts, cities, and towns. We thank all the political and social leaders, journalists, and decision-makers who supported this effort along the way. We also thank the universities and the Ministry of Education staff who worked tirelessly on curriculum revision. We thank our esteemed donor colleagues and partners at UNICEF, WHO, UNFPA, Swiss Cooperation, and other agencies. We thank the Embassy of France and our private partner TNK-BP. We thank all the consultants, from Ukraine and abroad, who helped along the way with their wisdom and knowledge.

A particular note of thanks goes to our colleagues and friends at the United States Agency for International Development (USAID) and through them, the American people. You have supported MIHP technically and financially all along the way.

A final word of thanks goes to all the Ukrainian mothers and infants. You have embraced the changes in maternity and infant care. You have informed yourselves and joined enthusiastically in taking responsibility for your own care. If we have made your birthing experience easier, safer, or more fulfilling, then our work is not in vain.

We look forward with enthusiasm to the next year of work in MIHP. Any mistakes were ours; the success so far is yours.

The MIHP Team and
Dr. Helene Lefevre-Cholay, Chief of Party, 2003-2011