



MATERNAL AND NEWBORN HEALTH:
EVERY MOTHER AND CHILD COUNTS



Entre Nous

THE EUROPEAN MAGAZINE FOR SEXUAL AND REPRODUCTIVE HEALTH

No. 60 - 2005



EUROPE

Entre Nous is published by:
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Print
 Central tryk Hobro a/s

Entre Nous is funded by the United Nations Population Fund (UNFPA), New York, with the assistance of the World Health Organization Regional Office for Europe, Copenhagen, Denmark.
 It is published three times a year. Present distribution figures stand at: 3,000 English, 2,000 Spanish, 2,000 Portuguese, 1,000 Bulgarian, 1,000 Russian and 500 Hungarian.

Entre Nous is produced in:
Bulgarian by the Ministry of Health in Bulgaria as a part of a UNFPA-funded project;
Hungarian by the Department of Obstetrics and Gynaecology, University Medical School of Debrecen, PO Box 37, Debrecen, Hungary;
Portuguese by the General Directorate for Health, Alameda Afonso Henriques 45, P-1056 Lisbon, Portugal;
Russian by the WHO Information Centre for Health for the Central Asian Republics;
Spanish by the Instituto de la Mujer, Ministerio de Trabajo y Asuntos Sociales, Almagro 36, ES-28010 Madrid, Spain.

The Portuguese and Spanish issues are distributed directly through UNFPA representatives and WHO regional offices to Portuguese and Spanish speaking countries in Africa and South America.

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ISSN: 1014-8485

| | |
|---|-----------|
| Editorial <i>By Marc Danzon</i> | 3 |
| Making Pregnancy Safer in the European Region Challenges and the way forward <i>By Alberta Bacci</i> | 4 |
| Children's and adolescents' health in Europe <i>By Mikael Østergren and Vivian Barnekow Rasmussen</i> | 6 |
| Integrated Management of Childhood Illness Strategy: Improving Child Care, Health and Development in Families and Communities <i>By Aigul Kuttumuratova</i> | 8 |
| Strategic framework for the prevention of HIV infection in infants in Europe: The opportunity for virtual elimination <i>By Ruslan Malyuta</i> | 10 |
| Improving the quality of perinatal care with professional distance training <i>By Anna Berglund, Martha Garrett, Gunilla Lindmark</i> | 12 |
| Action for the global elimination of congenital syphilis <i>By George Schmid, Ulrich Laukamm-Josten, Sarah Hawkes and Nathalie Broutet</i> | 15 |
| The role of midwives in mother and newborn care <i>By Dalia Jeckaitė</i> | 18 |
| Assessment of maternity practice in the Republic of Moldova <i>By Petru Stratulat, Valentina Baltag, Ala Curteanu, Tatiana Caraush</i> | 20 |
| Promoting equity in reproductive health <i>By Giorgio Tamburlini</i> | 22 |
| Newborn health care still deficient in the European Region <i>By Gian Paolo Chiaffoni</i> | 25 |
| Perinatal care in Lithuania <i>By Gelmis Šiupšinskas and Arūnas Liubšys</i> | 28 |
| The environmental burden of disease and injury among children and adolescents in Europe | 30 |
| Resources | 31 |

Page 5 Page 9 Page 13 Page 31



Cover illustration: The tangram on the cover was designed for World Health Day 2005 by Quim Martell.

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The international community has clearly articulated its commitment to make pregnancy and childbirth safer in numerous internal conferences and documents, such as the International Conference on Population and Development (Cairo, 1994), the Fourth World Conference on Women (Beijing, 1995) and more recently within the Millennium Development Goals. Yet the problems persist, with vast differences between and within countries.

That is why this year, World Health Day – celebrated on 7 April, the day the World Health Organization’s constitution was signed in 1948 – will specifically address the health of mothers and children. We know that when a mother dies, their entire family is affected, especially the youngest children, who are at a greater risk of becoming ill. And, as described in this year’s World Health Report, entitled “make every mother and child count”, we also know what to do.

Every minute, a woman dies in the world from complications in pregnancy and childbirth, which results in more than half a million maternal deaths every year. Many millions more suffer disabilities. More than 10 million children die each year and newborn babies less than one month old are at greatest risk. And while most of these deaths take place in the poorest countries and regions of the world, the European Region of WHO is also affected. The officially reported maternal death rate in the central Asian republics in 2001 was 41 per 100 000 live births, while it was 5 per 100 000 in the European Union countries in the same year. Although child mortality is decreasing in general, several countries in the Region still have high mortality rates and the probability that a child will not reach 5 years of age varies from 3 to 50 per 1000 live births.

In 1999, a new WHO Cabinet project in the field of reproductive health, “Making Pregnancy Safer” (MPS), was launched. This initiative aims at identifying the key interventions in decreasing maternal morbidity and mortality worldwide. In 2001, the WHO Regional Office for Europe published the WHO European Regional Strategy on Sexual and Reproductive Health, which has been used by several Member States as strategic guidance in the development of policies towards improving the reproductive health of their populations. MPS is the first goal in most of these national policy documents and to meet the needs of the countries, an MPS project was launched in the European Region.

Additionally, the 2003 meeting of WHO’s European Regional Committee established child and adolescent health and development at a top priority and the Regional Office was charged with the responsibility for developing a European

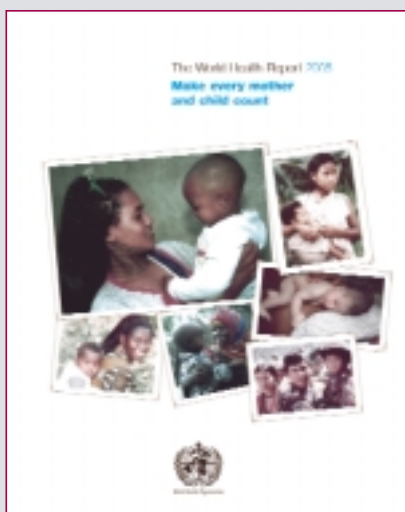
“Strategy for Child and Adolescent Health and Development” that will be presented to the 55th Session of the Regional Committee in 2005.

In May 2004, the 57th World Health Assembly adopted the global “Reproductive health strategy: to accelerate progress towards the attainment of international development goals and targets” and once more reminded the international community of the specific targets of the Millennium Development Goals to reduce by three quarters, between 1990 and 2015, the maternal mortality ratio; to reduce by two thirds, between 1990 and 2015, the under-five mortality rate; and to have halted by 2015, and begun to reverse, the spread of HIV/AIDS.

Member States have asked WHO Regional Office for Europe to provide concrete directions for the accelerated improvement of maternal and newborn quality care and the reduction of maternal and newborn morbidity and mortality. The purpose of the Making Pregnancy Safer regional strategy is to provide directions to countries for the accelerated improvement of maternal and newborn quality care and the reduction of maternal and newborn morbidity and mortality. The strategy will be discussed by the Member States this year.

All these topics and ways to reach our goals are covered in this issue of *Entre Nous*. We hope these vital public health problems affecting the lives of every mother and child will be discussed and solved by the readers. Let me conclude by expressing my wish that World Health Day 2005 act as the catalyst that will renew all of our efforts to improve the situation of women and children in need.

Marc Danzon
Regional Director
WHO Regional Office for Europe



MAKING PREGNANCY SAFER IN THE EUROPEAN REGION: CHALLENGES AND THE WAY FORWARD

By Alberta Bacci

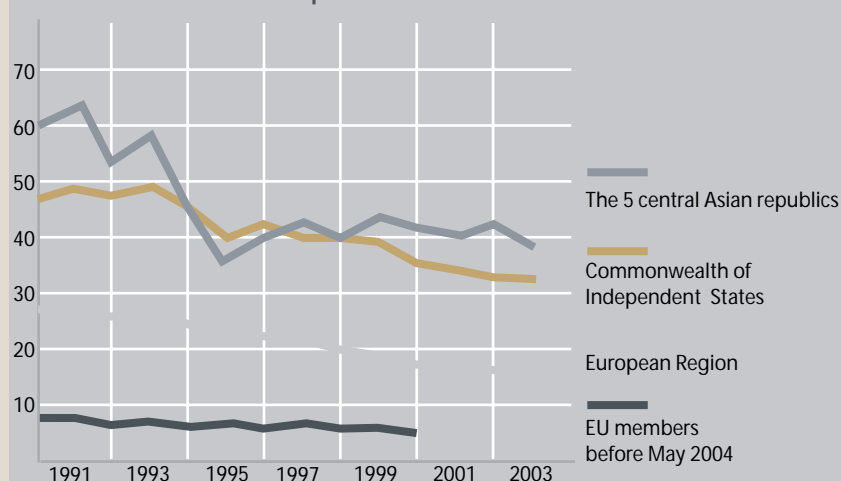
Motherhood is a positive and fulfilling experience for most women; however, pregnancy and childbirth can also be associated with suffering, ill health or even death.

In the European Region, wide differences still exist between and within countries in mothers' and newborn babies' morbidity and mortality (see Table 1), as well as in access to and the quality of care. Among the greatest challenges in maternal and child health care in Europe include over-medicalization, poor health education and insufficient inter-professional and multi-disciplinary collaboration. Furthermore, the primary health care level is often neglected and there are long hospital stays even for uncomplicated maternal and neonatal conditions that result in poor cost-effectiveness and a lack of patient satisfaction. Care is often provided by different teams of health care professionals, many highly specialized, which results in a lack of continuity of care for women and their infants before, during and after delivery, and there is an urgent need for primary health care providers (nurses, midwives and family practitioners) to be appropriately trained in ante- and postnatal care.

The United Nations Member States have accepted the reduction of maternal mortality as an issue of social justice. International meetings have also recognized the right of access to appropriate health care services that will provide couples with the best chance of having a healthy infant. Thus, the guiding principle for Making Pregnancy Safer (see Box 1) is the creation of a just and equitable global society and promotion of the rights of women and newborn to life and the highest attainable standards of health. The goal of this strategy is to accelerate the global reduction of maternal and perinatal mortality and morbidity.

The need for accelerated action to make pregnancy and childbirth safer is

Table 1. Maternal deaths per 100 000 live births



Box 1.

The Making Pregnancy Safer (MPS) global initiative was launched in 2000 and was built on over a decade's experience of the Safe Motherhood movement: in the European Region it built upon the existing Promoting Effective Perinatal Care (PEPC) initiative. Interventions that can prevent maternal and newborn mortality from major causes are known and can be made available even in resource-poor settings. Support in pregnancy and childbirth needs to focus on adequate preparation in the household, sustain the woman and her baby, early detection and appropriate management of complications, and ensuring that quality services are available and accessible close to where women live.

The mission of MPS is to ensure that governments and partner agencies receive guidance and technical support so that safe motherhood is prioritized within national policies and budgets, and that evidence-based norms and standards of care are applied. Among the main health activities of MPS are ensuring a continuum of care at all levels and in particular: (a) skilled care for all during pregnancy, childbirth and postpartum; and (b) access to referral care for mothers and babies when complications arise.

clearly articulated in internationally agreed goals and targets, such as the International Conference on Population and Development (Cairo, 1994), the Fourth World Conference on Women (Beijing, 1995) and more recently within the Millennium Development Goals (2000).

The challenges are clear and a commitment has been expressed by most in the world to address them in the context of the Millennium Development Goals (MDGs). If we look carefully, all of the eight MDGs are linked with mother and child health: some more specifically Goal 4 (reducing child mortality) and Goal 5 (improving maternal health) and the others indirectly.

Maternal and newborn deaths can be significantly reduced at a limited cost. Experience over the past decade has shown that it is possible to improve maternal and newborn health outcomes even in the most resource limited settings; however, no single intervention is by itself sufficient, as argued in the World Health Report 2005.

The health of the newborn child is bound to that of the mother. Delivery of interventions to improve maternal health can also avert the majority of neonatal deaths. Reducing child mortality (MDG 4) will be dependent on reducing neonatal deaths, which account for up to half of infant deaths in some of the countries in the Region (1).

Investment in maternal health is a powerful means of improving the lives of poor and marginalized women. The

process of improving maternal health involves the empowerment of women, giving them a voice and choices where before they had neither. Investment in the health of poor women and newborns cannot end their poverty; but it can make it easier for those born poor and for those who have become poor to escape poverty.

Improving capacity

Among the interventions promoted by MPS are to build capacity in maternal and child care through training in evidence-based medicine for the development and update of clinical guidelines, norms and regulations, and for the promotion of changes in clinical practices. In some countries, MPS has served as an entry point for evidence-based medicine into training and clinical institutions.

Specific goals of the essential obstetric care and essential newborn care and breastfeeding promotion courses are to enhance health professionals' understanding, knowledge, practices and attitude in modern principles and appropriate interventions for clinical management in pregnancy, birth and the postpartum period. A key factor is providing follow-up after training using specifically designed tools in order to identify weak points, provide skills reinforcement and technical support, identify persisting problems and find appropriate solutions and provide standard tools for supervision and monitoring of mother and newborn health activities.

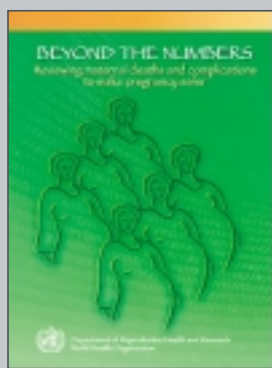
Over the last decades, the widespread introduction of expensive technology has taken place in many countries without an assessment of effectiveness, the availability of technical support, proper training of staff, a needs' assessment at different levels or alternative options. As a consequence, beneficial effects, if any, are less than expected. Moreover, the result has been increased costs, the frequent breakdown of equipment, diversion of resources from priority areas and a less human approach to health care.

Case reviews

Recently, MPS activities have begun to include the promotion of interventions at the family and community levels and supporting the introduction of case reviews of maternal morbidity and mor-

tality, based on the WHO MPS tool *Beyond the numbers* (see Box 2). Every year, many women suffer pregnancy-related complications and a number die, linked to this is the burden of perinatal mortality and morbidity. Most of these deaths and complications can be averted with basic and effective low-cost interventions. *Beyond the numbers* is aimed at helping countries introduce, at national, district or facility level, different approaches to case reviews. This allows for the acquiring of experience and the subsequent developing of recommendations and changes in clinical practices to reduce the burden of maternal mortality and morbidity.

The first regional *Beyond the Numbers*



Box 2. Beyond the numbers

To reduce maternal mortality, the right kind of information is needed upon which to base actions. Knowing the statistics on levels of maternal mortality is not enough - we need information that helps us identify what can be done to prevent such unnecessary deaths. *Beyond the numbers* presents ways of generating this kind of information. The approaches described in the book go beyond just counting deaths to developing an understanding of why they happened and how they can be averted. The publication is directed at health professionals, health care planners and managers working in the area of maternal and newborn health who are striving to improve the quality of care provided.

Beyond the numbers is freely available at:
<http://www.who.int/reproductive-health/publications/btn/index.html>

workshop was held in Kyrgyzstan, in 2004, with participants from central Asia and the Republic of Moldova, and partners including UNFPA and UNICEF and non-governmental organizations. The concepts of "Beyond the Numbers" were introduced, as well as how these can be used as a tool for improving clinical management and outcomes of care. Country teams had the opportunity to develop drafts for national action plans. A number of recommendations were made for implementing *Beyond the Numbers* in national settings.

A regional MPS strategy

In addition to these activities, a regional strategy for Making Pregnancy Safer is now under development. This strategy will provide guidance on how to accelerate the reduction of maternal and perinatal mortality and morbidity in the European Region. It will contribute to the further development or updating of national and local strategies, and build on commitment and actions already taken by Member State, and lessons learnt. The strategic directions to be outlined in this document are also at the core of the wider global Reproductive health strategy developed by WHO and endorsed by ministers of health at the fifty-seventh World Health Assembly. The MPS European regional strategy should be seen as linked with the global and the regional child health strategies, the regional strategy for prevention of HIV in infants and the regional strategy for sexual and reproductive health (2001), and based on the principles of the regional promoting effective perinatal care initiative.

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CHILDREN'S AND ADOLESCENTS' HEALTH IN EUROPE

By Mikael Østergren and Vivian Barnekow Rasmussen

The health of children and adolescents in Europe leaves much scope for improvement and WHO is fully committed to help governments in addressing the health problems of the younger generation.

There are wide variations in young people's health in each of the 52 Member State of the European Region. The health profile of Europe would be profoundly different if only the 20% most disadvantaged in each country could attain the level of health of the 20% most fortunate.

A healthy start in life

The chances of a child being born healthy and surviving the first year of his or her life vary throughout the Region. According to the latest reported official data, 6 countries in the Region still have infant mortality rates above 20 per 1000 live births (though other sources report higher levels and in more countries), while 30 countries record rates below 10 per 1000. Perinatal conditions are a major cause of infant mortality, and among those, unwanted pregnancy and pregnancies in teenagers are some of the most important risk factors in both eastern and western Europe.

There are also major inequalities with regard to the probability of dying before five years of age. The figures range from less than 5 to more than 50 deaths per 1000 live births, with averages of 6 per 1000 in the European Union, 15 per 1000 in the countries of central and eastern Europe, and 26 per 1000 in the Commonwealth of Independent States. Children are still dying from diseases that are preventable or curable. In many countries, diarrhoeal diseases and acute respiratory infections are responsible for a large proportion of morbidity and mortality among children under five years of age.

Although the absolute numbers remain relatively small, mother-to-child transmission of HIV has increased dramatically in central and eastern Europe,

including the central Asian republics. In Ukraine, for example, infection rates in pregnant women rose from 0.005 per 10 000 in 1996 to 17 per 10 000 only four years later. There is the potential for this spread of infection to have an impact across Europe, especially neighbouring countries.

Nutrition

Sound nutrition remains a foundation stone for good health as the child progresses towards adulthood. Inadequate nutrition in the very early stages of development can frequently have an enduring impact throughout an individual's life. The current, poor nutritional status of a significant proportion of young people in all Member States will have a lasting health and economic impact for decades to come. Cardiovascular disease and certain cancers are some of the consequences, often appearing in early to middle age. Obesity and overweight are emerging problems in the Region also among children and adolescents. In many Member States, micronutrient deficiency diseases co-exist with disorders of energy excess that result from a lack of fruit and vegetable intake.

Surveys show a clear correlation between socio-economic status and diet; the higher the status, the better the diet. In the countries with plentiful provision, the cheapest form of food energy comes regrettably in the form of fats, oils, sugar and refined flour. Lower income groups consume these energy-dense foods to a much greater extent than more affluent families. It is perhaps not surprising that these differences in food consumption manifest themselves in differential growth outcomes. In the United Kingdom, for example, the children of wealthier families are on average 10 cm taller than those from poorer backgrounds. Wide variations in the prevalence of stunted growth among pre-school children are also visible in parts of the Region.

Child abuse and neglect

Child abuse and neglect manifest themselves in every European country. Sixty per cent of children in Europe and central Asia say they face violent or aggressive behaviour at home. The Forty-ninth World Health Assembly declared violence

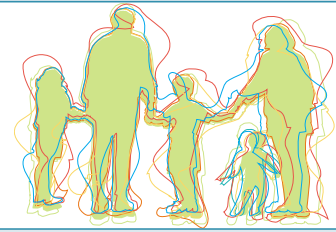
in the family and community to be a growing health problem. This remains the case. Accurate and meaningful data on child abuse are not always easy to identify. It is clear, however, that the health consequences can be either physical, sexual and reproductive, psychological and behavioural, or lead to long-term, chronic disease. There are also significant implications for the wider community. The economic costs affect not just health care but also the criminal justice system, social welfare, education and the employment sector.

Accidents and non-intentional injuries become more prevalent as the child increasingly starts to explore his or her environment, often without the necessary co-ordination or awareness of hazards. Later on in life, the leading cause of mortality among adolescents is accidents. Rates of mortality due to external causes in the age group 5–19 years have decreased in most European countries, but seem to be levelling off at around 28–29 per 100 000 population in the Commonwealth of Independent States.

Sexual health

With adolescence comes reproductive maturity. Teenage pregnancy rates in most western European countries range between 13 and 25 per 1000 young women aged 15 to 19. Some of the countries of central and eastern Europe also fall within the western European range. A number of other countries have rates that are 2 to 4 times higher, reaching a peak of over 100 per 1000 girls in Ukraine. Unwanted pregnancies can lead to serious health consequences for young women, including the risks associated with unsafe or illegal abortions. In certain countries, increases in pregnancies have been observed in girls as young as 12 and 13 years.

Not surprisingly, sexually transmitted infections rise rapidly with the onset of sexual activity. An estimated 1.56 million people are now living with HIV/AIDS in the European Region. The HIV epidemic in some parts of Europe is growing faster than anywhere else in the world. No Member State can afford to be complacent. Eighty-four per cent of new cases in the eastern half of the Region are under 30 years of age, compared to 31% in the west. Three-quarters of these cases are



injecting drug users. A lack of awareness and knowledge about HIV prevention measures, especially among young people, accompanies high rates of injecting and other sexual risk behaviour.

Risk taking

Adolescence is also a period of experimentation and rebellion against authority. This is the age when tobacco, alcohol and drugs can become established habits. Smoking among young people has increased over the past decade in Europe, according to the Health behaviour in school-aged children Survey (www.hbsc.org). Strikingly, there is an increase in tobacco experimentation across all age groups, all countries included in the survey, and both genders. Between 60% and 70% of young people have tried cigarettes by the age of 15 years.

One in four deaths among adolescents in the Region is attributed to alcohol. Alcohol is associated with the deaths of 55 000 adolescents each year in the European Region. Experimentation with alcohol seems to be occurring at an increasingly early age. Over half of 11-year-olds in most countries report having tasted alcohol, although the rates vary considerably. However, there is no clear sub-regional or geographical pattern. At age 13, more boys than girls have consumed alcohol, although the rates are virtually identical by the time they reach fifteen. The rates of reported drunkenness are worrying, with up to 67% of 15-year-olds saying that they have been drunk on at least two occasions. In the countries surveyed, boys report more frequent drunkenness at all ages than girls. Alcohol abuse can be both a symptom and a cause of mental health problems. It is frequently associated with youth violence, contributing to family and community stress.

Psychosocial development

Just as with adults, children and adolescents can often experience distressing and disabling emotions. These are sometimes part of normal development, but can also herald a mental illness. Five of the ten leading causes of disability are now mental disorders. The European Region as a whole is experiencing an unremitting increase in psychological ill-

health and mortality. Stress, depression and addiction are all taking their toll. The breakdown of traditional social and family structures, particularly in those communities experiencing significant societal, political and economic change, is leading to high levels of mental illness. Some 10% to 20% of children have one or more mental or behavioural problems. Despite this, over a quarter of Member States have no specific mental health budget.

Mental health problems in adolescence are often associated with aggression, violence or self-harm. Historically, suicide rates tend to increase with age. However, some countries have recently shown a secondary peak in the age group 15 to 24. Suicide, which is increasing among young men, is frequently associated with depression. There are also gender differences; younger age men more prone to suicide than women. European countries experience some of the highest rates of suicide in the world, although there are significant variations on a country by country comparison.

Improving the health of children and adolescents – a call for action

Although we know how to improve the health of our young people and enhance the prosperity of future generations, there is a considerable gap between our understanding of what needs to be done and our ability (or willingness) to put it into practice. Implementation has been far from satisfactory. Improving health is a multisectoral endeavour. Essential primary health care services, agriculture, housing, education (i.e. through health promoting-school programmes), manufacturing industry, the mass media and marketing sectors, transport and retailers all have a part to play. Health ministries have a pivotal role in stimulating and coordinating action across all socio-economic sectors.

Member States of the European Region have requested WHO to develop a strategy for child and adolescent health and development. The strategy will support countries in making children and adolescents health and development a priority through advocacy at the highest level, assessment for policy needs, scaling up programmes, creating partnerships and ensuring sustained political commitment.

The strategy will be presented to Member States at the WHO 55th Regional Committee, in September 2005. After this, WHO will endeavour to assist countries in implementing the strategy.

More information about the strategy can be obtained at:
<http://www.euro.who.int/childhealthdev>

This document is based on data drawn from the WHO European Health Report 2002 (www.euro.who.int/eprise/main/who/progs/ehr/home); The Atlas of Health in Europe (www.euro.who.int/document/E79876.pdf); and the WHO European Health for all database (www.euro.who.int/hfadb).

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IMPROVING CHILD CARE, HEALTH AND DEVELOPMENT

By Aigul Kuttumuratova

Globally, more than ten million children below the age of five die every year, many of them during the first year of life. Half of these deaths are due to diarrhoea, acute respiratory infections (mostly pneumonia), measles, malaria or malnutrition – often a combination of these conditions.



During the mid-1990s, the World Health Organization (WHO), in collaboration with UNICEF and many other agencies and institutions, responded to this challenge by developing a strategy known as the Integrated Management of Childhood Illness (IMCI) (1). Although the main reason for developing the IMCI strategy stemmed from the needs of curative care, the strategy also addresses aspects of nutrition, immunization, and other important elements of disease prevention and health promotion. The objectives of the strategy are to reduce death and the frequency and severity of illness and disability, and to contribute to improved growth and development in children below the age of five (2).

Infant and childhood mortality are sensitive indicators of inequity and poverty. Even within middle-income and so-called industrialized countries, there are often neglected geographical areas where childhood mortality remains high. The IMCI strategy is being adapted and applied to meet country-specific needs in the European Region.

The strategy comprises three core components:

- Improvements in the case-management skills of health staff through the provision of locally-adapted guidelines on the integrated management of childhood illness and activities to promote their use;
- Improvements in the overall health system required for effective manage-

ment of childhood illness;

- Improvements in family and community health care practices.

Child health and development depend at least as much on the care provided by families and communities as on health facility care. In the home setting, the IMCI strategy represents a great advantage in promoting appropriate care-seeking behaviours, improving nutrition, preventive care and correctly implementing the prescribed care.

As families have the major responsibility for caring for their children, success requires a partnership between health providers and families, supported by communities. Health providers need to ensure that families can provide adequate home care to support the healthy growth and development of their children. Families also need to be able to respond appropriately when their children are sick, seeking appropriate and timely assistance and implementing recommended treatments (3,4).

IMCI promotes actions within the community to support key family practices. Such actions could include working with communities to improve nutrition and child development through breastfeeding support groups or child feeding centres, and using opportunities such as community events to educate families and reach sick children. A community feeding programme, for example, could be encouraged to use locally-adapted IMCI counselling cards to assist mothers in selecting and preparing food for their

children, and to determine when children need health care. An IMCI-trained health worker could reach out to breastfeeding support groups, provide them with the latest information and assist mothers experiencing difficulties with breastfeeding. The health worker could also involve school teachers and others working in the community in finding ways to provide follow-up for malnourished or undernourished children. Community groups can help prevent illness by improving water supply and sanitation, and maintaining a clean environment. They can be encouraged to support families with children needing urgent care, through loans, transport or assistance with looking after the children who remain at home (3). Interventions at each level need to focus on the most significant child health problems, to build on existing resources and to be mutually reinforcing at each level (5).

WHO and UNICEF are providing technical support to a number of countries to implement the family and community component of IMCI and document their experiences. They also support a range of initiatives to strengthen this component. Guidelines for collecting information and planning activities are developed. Current research will identify new interventions to improve care-seeking for sick children, and will design community-based interventions to improve breastfeeding and complementary feeding and assess their feasibility in large-scale health programmes.



A WHO technical review document prepared by the London School of Hygiene and Tropical Medicine summarizes the evidence available on the potential impact on child survival, growth and development of interventions to improve each of the key family and community practices. The review confirms the importance of each of the key practices. There are major gaps between current and desired behaviours for each practice. Interventions to close these gaps have the potential to make a substantial contribution to the reduction in mortality/morbidity, and/or improvement in child development (6).

Update: Strengthening Community Interventions in Child Health in the European Region

- The Child and Adolescent Health Programme at the WHO Regional Office for Europe, in collaboration with Making Pregnancy Safer Initiative (MPS) and counterparts at WHO Headquarters developed and pre-tested a framework of the workshop on Improving Family and Community Practices in Maternal and Child Health. The workshop was facilitated by the IMCI and MPS programmes in Moldova, in September 2004. Based on the situation analysis of current practices in maternal and child health, the participants selected priority family practices, identified constraints for implementation and developed the next steps for promoting those practices within a more integrated and coordinated framework;
- A new effort to strengthen the caretakers' behaviours and community interventions in child health was launched at the meeting on "Follow-up of Community interventions in Child Health" in Kazakhstan. The participants of the workshop, including the Ministry of Health, WHO, UNICEF, USAID and other international and non-governmental organizations, defined and agreed on a plan of further activities to improve childcare knowledge and practices in families with children below the age of five;
- A number of Member States in the European Region have already developed strategies to improve child

health and development in households and communities (e.g. Armenia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Uzbekistan and Tajikistan). Experiences from different pilot projects with active community involvement were discussed and a framework for prioritizing, planning and coordinating community interventions at national level was made;

- WHO/Europe has collaborated with UNICEF on the development of a training course for home-visiting nurses based on key family practices focusing on breastfeeding, complementary feeding and care for development. The field-test of the course was carried out in Kazakhstan (Almaty, April 2004 and Semipalatinsk, October 2004);
- Adaptation of training materials and tools on IMCI with care for development for facilitators, health workers and supervisors and support for capacity-building was carried out in Kyrgyzstan, Kazakhstan, Tajikistan and the Republic of Moldova. A regional video on the topic is currently undergoing final preparation.

WHO and UNICEF identify 16 key family behaviours in child health in the framework of IMCI strategy:

1. Promote physical and mental child growth:

- Exclusive breastfeeding for six months
- Supplementary feeding from six months and breastfeeding for two years
- Micronutrients (e.g. iron and Vitamin A) through diet and supplementation
- Optimal psycho-social development

2. Disease prevention:

- Complete the full course of immunization before age one
- Evacuate children faeces and encourage hand washing
- In malaria-endemic areas, promote impregnated bed nets

3. Correct home treatment

- Give sick children appropriate treatment for infections
- Continue feeding and offer more fluids, including breastfeeding to children when sick

4. Appropriate care seeking

- Early recognition of children's need for treatment outside the home, and taking them to appropriate providers
- Following health workers' advice on treatment, follow-up and referral
- Ensuring that pregnant women receive antenatal care and seek care at the time of delivery

5. Newly promoted practices:

- Providing appropriate care for people living with HIV/AIDS (especially orphans)
- Protecting children from injury and accidents and provide treatment when necessary
- Preventing child abuse and neglect, and taking action when needed
- Involving fathers in the care of their children.

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THE OPPORTUNITY FOR VIRTUAL ELIMINATION

By Ruslan Malyuta

Vertical transmission of HIV is the main source of HIV infection in children, with an estimated 2000 vertically-acquired HIV infections occurring every day around the world, mostly in sub-Saharan Africa. However, the countries of eastern Europe and central Asia are currently experiencing the fastest increase in new cases in the world with a reported 1300% increase between 1996 and 2001 (1).

Fig. 1. Newly reported HIV infections through mother-to-child transmission in western, central and eastern Europe 1997-2003.



Source: European Centre for the Epidemiological Monitoring of AIDS (EuroHIV) (2004)

Effective interventions for prevention of mother-to-child transmission (MTCT) of HIV infection now exist and where these are freely available, MTCT rates of 1-2% are achievable (2-4). The challenge is to provide available, accessible and affordable interventions to overcome the rapid increase in new HIV cases among children in countries with limited resources. To do this, the WHO Regional Office for Europe together with other UNAIDS co-sponsors developed a Regional Strategic Framework for Prevention of HIV Infection in Infants (5). The goal set for the European Region is virtual elimination of new HIV paediatric cases by 2010 (see Box 1).

Box 1. The virtual elimination of new HIV paediatric cases

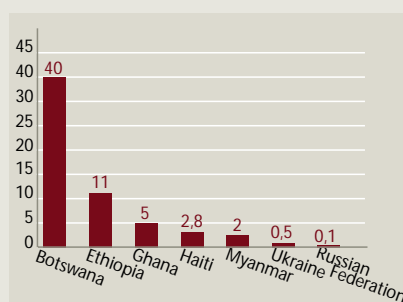
The virtual elimination of new HIV paediatric cases is achieved when there is less than one HIV-infected infant per 100 000 live births and less than 2% of infants born to HIV-infected women acquiring HIV infection.

The Strategic Framework (adopted by UNICEF, UNAIDS, UNFPA and WHO in 2004) recommends a comprehensive approach comprising four interrelated elements:

- primary prevention of HIV infection;
- prevention of unintended pregnancies among HIV-infected women;
- prevention of HIV transmission from HIV-infected women to their children;
- provision of care and support to HIV-infected women, their infants and families.

This approach helps to address both the needs of pregnant women, their infants and the entire family.

Fig 2. Prevalence of HIV infections among pregnant women in select countries



Source: AIDS epidemic update, December 2004. Geneva, UNAIDS/World Health Organization, 2004

The common feature of the HIV epidemic in Europe is relatively low prevalence of HIV among pregnant women as compared to Africa and South-East Asia. Even in those countries most affected by the epidemic, like Ukraine and the Russian Federation, the prevalence is below 1%. This situation dictates the necessity of specific advocacy efforts to emphasize the need to integrate primary HIV prevention into mother and child health services, pay increased attention to women, especially young women and their partners, highlighting the strong and direct relationship between primary prevention activities (or the lack of them) and the number of infections among infants. Voluntary HIV testing and counselling in general, and particularly during pregnancy, provides an excellent opportunity to address HIV prevention.

Many countries - many options

The challenges of the heterogeneity of the epidemiological situation in Europe,

both between and within the countries, have an impact on the design of interventions and priorities and ways to implement the interventions for the prevention of HIV infection in infants.

Regardless of the size of the country or of the current extent of the epidemic among women and children, clear patterns of local sub-epidemics can be identified. In western Europe, this is predominantly women from ethnic minorities who have arrived from high HIV-prevalence countries in Africa. In central Europe, the main route of transmission is heterosexual and primarily affects commercial sex workers and ethnic minorities. The most striking and rapid spread of HIV among women of reproductive age and their children in eastern Europe and central Asia is due to injecting drug use or having a partner who injects drugs, or being a commercial sex worker.

Ignorance of the high rate of syringe sharing practices among drug injectors and insufficient preventive measures resulted, for example, in an outbreak of HIV among injecting drug users in Poland in the mid-1980s. After the broad implementation of harm reduction programs and substitution treatment with methadone, an increase in HIV among injecting drug users and the general population was prevented. Thus, among the priority actions is the need to establish linkages with other primary HIV-prevention services and intensify efforts to reach the most vulnerable women and those who "missed" antenatal care services. More generally, preventive services need to be available to hard-to-reach groups such as injecting drug users, female sex workers, trafficked women, ethnic minorities and legal and illegal immigrants as these groups often experience difficulties in accessing health services.

Wider access to HIV testing and counselling within family planning services would enable more HIV-negative women to receive counselling to learn how to remain negative, and more HIV-positive women would have the opportunity to learn about their status in time to decide whether they wish to bear a child. HIV-infected women in many western European countries benefit from the provision of a family planning service as shared care with local clinics with regard to the management of paediatric HIV infection, particularly with regard to

antiretroviral treatments (6). This approach was implemented in order to provide flexible, accessible and up-to-date care for families living with HIV.

Reproductive health services

In the eastern European context, reproductive health services for drug-using women are of particular importance. Female injecting drug users are difficult to reach through the usual reproductive health services and may mistakenly perceive themselves as infertile because of drug-related amenorrhoea. This could be improved by making reproductive health services more client-friendly, especially towards marginalized and young women. Linkages should be created between HIV/AIDS services, reproductive health services and harm reduction programmes, including the use of peer counsellors. All harm reduction projects should establish linkages with reproductive health services.

The package of specific interventions to prevent HIV transmission from an infected mother to her child includes antiretroviral drug use, safer delivery practices and infant feeding counselling and support. In western Europe, the wide implementation of highly active antiretroviral prophylaxis or treatment, elective Caesarean section and replacement feeding has reduced to very low levels the transmission of HIV from HIV-positive women to their infants.

In Ukraine and the Russian Federation, substantial progress in the provision of antiretroviral treatment (ARV) for the prevention of vertical transmission was achieved during 2003-2004. The coverage of women with ARV was about 90% in both Ukraine and the Russian Federation in 2004. It was possible due to universal HIV testing policies during pregnancy, which reached almost 100% coverage of all women. It should be noted that quality counselling is still a major problem in these countries.

The choice of ARV regimens in eastern European countries is determined by its feasibility, efficacy, acceptability and cost. It was identified that up to one third of women in eastern European countries missed the opportunity to benefit from the advantages of long-term potent ARV prophylaxis during pregnancy because of late presentation to health care services. Often, their HIV status was identified

during labour or soon after delivery, reducing the opportunity for prophylaxis to prevent HIV transmission to the infant. Most of these women were from marginalized populations and reported risk behaviour. Injecting drug use, for example, was widespread.

The limited availability of needed resources (e.g. health care infrastructure, human resources and drug availability) prevents many eastern European countries from broadly introducing highly active antiretroviral treatment for the prevention of vertical transmission. More resources need to be allocated for the procurement of combination antiretroviral therapy, availability and acceptability of supportive care services.

An elective Caesarean section delivery substantially reduces the risk of mother-to-child transmission of HIV, even in women with a low viral load or those receiving combination antiretroviral therapy. It remains the main method of delivery in western European countries. Delivery practices are different in eastern European countries, where the majority of HIV-infected women deliver naturally. The well developed infrastructure of mother and child health services in eastern European countries could consider an elective Caesarean section as an additional tool to reduce the rate of HIV transmission.

Another important aspect of preventing mother-to-child transmission of HIV is the protection of children's rights. Recent reviews of prevention of mother-to-child transmission programmes in Ukraine and the Russian Federation identified that about 10% of children born to HIV-infected mothers are abandoned. Almost all of them are institutionalized. There is a need to develop services for the prevention of the abandonment of infants and their institutionalization.

Next steps

Without acting on all four prongs of the United Nations Strategic Framework for the Prevention of HIV Infection in Europe, the goal of virtual elimination of HIV in infants in the Region by 2010 is not realistic.

WHO's role focuses on primary prevention (especially among vulnerable groups), the integration of key interventions for the prevention of mother-to-

child transmission of HIV within mother and child health services, and the provision of care, treatment and support to HIV-infected mothers, their children and families. WHO has a particular role to play in:

- setting norms and standards for implementing programmes to prevent HIV infection in infants;
- providing technical support to countries in specific areas, such as surveillance, strategic planning, programme implementation and monitoring and evaluation; and
- institutional and human capacity building, including the training of maternal and child health professionals.

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IMPROVING THE QUALITY OF PERINATAL CARE WITH PROFESSIONAL DISTANCE TRAINING

By Anna Berglund, Martha Garrett, Gunilla Lindmark

Inadequate perinatal care practice is an important contributing factor to high perinatal mortality rates. Many procedures employed during pregnancy and childbirth do not adhere to international recommendations and lack firm scientific evidence.

Reliance on established and traditional routines is the result of limited knowledge, as well as a lack of critical analysis of information. Isolation from other medical professionals and from information resources contributes to the problem. Thanks to the internet, this isolation is being broken, but the resulting access to almost unlimited information of mixed validity means that critical reading skills are increasingly important.

The WHO Collaborating Centre for Research and Training in Human Reproduction at Uppsala University, in Sweden, was designed with the special mandate of increasing collaboration in training and research with centres in eastern European countries. The centre has more than ten years of experience in running seminars and workshops in perinatal health. Recent collaboration has also included a WHO-supported study regarding the introduction of perinatal audit as a tool to improve quality of care. This project has concluded that gaps exist in knowledge and awareness of best practice and evidence-based procedures in perinatal medicine (1-3).

Training on these topics is needed, but traditionally designed courses for clinicians are costly to run. Furthermore, they may fail to provide knowledge that is directly relevant to everyday practice in the clinical settings where the course participants are working. Experience also shows that it can be difficult for an individual clinician, especially if junior, to come back from a training course and implement a change in practices. A far more effective approach is to provide training that can be conducted

as part of everyday clinical work and in continuous discussion with colleagues.

The QUIIP programme

QUIIP (Quality Improvement in Perinatal Care), a web-based distance-learning programme in perinatology, was designed with all these points in mind. The objective is to establish a sustainable platform that will support learning - about information seeking and evidence based medicine, as well as clinical issues in perinatal care - for a core group of young doctors working in perinatal care. The programme also supports dissemination beyond the core participants by involving staff at different levels in discussions about the teaching material and promoting communication among all the interested parties. It is hoped that even further dissemination can be achieved in future by incorporating other training sites.

The programme originates from International Mother and Child Health (IMCH) and the WHO Collaborating Centre at the Department for Women's and Children's Health, Uppsala University, and is supported by Sida. The management team includes co-director Gunilla Lindmark (Professor in International Reproductive and Maternal Health, and Uwe Ewald (Professor in Neonatology, Uppsala University), medical coordinator Anna Berglund (Supervisor of Antenatal Care, Central Hospital, Västerås), and general coordinator Martha Garrett (a teacher at IMCH).

Participation

Centres in Estonia, Latvia, Lithuania, the Russian Federation, Ukraine and Sweden have participated in the programme. In each country, responsibility for implementation has been taken by a national team leader who is a senior specialist. Participating sites and team leaders are Tallinn and Tartu, Estonia (Aivar Eherenberg), Riga and Liepaja, Latvia (Maira Jansone), Vilnius and Kaunas, Lithuania (Ruta Nadisauskiene), St Petersburg, Russia (Anton Michailov), Donetsk, Ukraine (Iryna Mogilevkina), and Västerås and Sundsvall, Sweden (Birger Malmström). Initially, 43 doctors, mostly obstetricians/gynaecologists, expressed interest in the programme. Of

these, 24 participants have now completed the first year's training. Another eight delayed their start and joined a second group of 22 participants who entered the programme in January 2004.

Components of the programme

Participants in QUIIP are involved in four different activities:

1. using a web-based-learning platform, they go through a two-year distance course about information seeking, evidence-based medicine and clinical issues within perinatology;
2. during the two years, they carry out "practical application works" (PAWs), small projects implementing evidence-based changes in clinical practice. Each project is carried out under the supervision of senior staff at their home clinics;
3. the participants and their senior supervisors, are encouraged to report experiences from QUIIP at national and international meetings;
4. the participants use new knowledge to change guidelines and practices at local and national levels, again in collaboration with senior staff.

Online learning

Ping Pong is an online learning platform for courses at Uppsala University. The platform has a training section, where the curriculum are published, a reference section, where documents can be loaded and an interactive section called "contact", where topics can be discussed and questions sent to teachers. Course participants reach Ping Pong through the internet, where they enter various sections to carry out their work. The platform also has special support functions for the teachers.

Curriculum and pedagogic approach

The curriculum was constructed to identify important issues within a topic, rather than present prescriptive "answers" to these issues. Experts on each topic within the curriculum have been recruited as teachers, to prepare course materials, check assignments and answer questions from participants. Each course unit includes links to online resources such as clinical guidelines and research articles and participants are given a writ-

ten assignment. They may be asked, for example, to write an evidence-based guideline for the clinical problem in question, taking into account local facilities and conditions.

The first and second year courses

The first year course (Table 1) includes one teaching unit on information seeking, one on concepts and tools in evidence-based medicine, and six on the handling of normal pregnancy and the healthy newborn. During the first year, the participants also work with their PAWs. They must devote an estimated four hours per week to complete the work.

Table 1. The first year course curriculum in detail.

- Information seeking
- Evidence-based medicine: concepts and tools
- Surveillance of normal birth
- Handling of the health newborn infant
- Risk assessment in pregnancy
- Micronutrient supplementation need during pregnancy
- Twin pregnancy and delivery
- Handling asphyxia in the newborn infant
- Collecting data for the practical application work

The second year course is still in progress. The first unit addressed infections in pregnancy, and others are dealing with pregnancy complications and their impact on the care of the pregnant woman and her infant. Specific topics include intrauterine growth restriction, preterm birth and the handling of the preterm or growth-restricted baby.

Participants in the initial QUIIP group have now completed and written reports about their PAWs. The estimated time involved in completing each PAW was one full week. The PAWs were presented and discussed at a seminar that took place at Pühajärve, Estonia, in December 2004 (Fig. 1). The seminar also included sessions on the critical reading of scientific reports and on the application of ethical principles to perinatal care.



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Fig. 1. Group photo from the seminar in Pühajärve

Preliminary evaluation: participant feedback and team experiences

Participant feedback

QUIIP has been well accepted by the participants and their advisors, as reported in a written evaluation. The majority of respondents have also indicated that doing a PAW was very relevant to their efforts to improve quality of perinatal care. The two most common suggestions about how QUIIP could be improved are: 1) more conferences where the participants and teachers could discuss perinatal problems; and 2) more training about online information retrieval.

Communication channels and learning platform

E-mail communication has functioned very well within QUIIP. Teleconferences have also been held but proved less useful. In every case, one or more participating centres could not be reached or had problems with transmission or reception of picture or sound. Furthermore, teleconferences continue to be costly and technically complicated. The medium is best used for formal meetings with strict agendas, but this framework inhibits spontaneous interaction.

Ping Pong provides various contact services, such as sending emails to selected groups. These communication functions have worked well. The platform

also includes functions such as chat rooms and bulletin boards, and it was intended that these would be used for informal interactions. However, despite much encouragement, most participants did not use these functions, in part due to time constraints and/or their lack of familiarity with online interactions.

Ping Pong itself is easy to handle, and some initial problems have been corrected in the updated version. One especially useful feature is the statistical function, which records the activity of each participant. Teachers, who have access to this information, can follow participants' work and then send email queries when relevant.

Teaching component

All experts who agreed to be teachers were given detailed information about how teaching materials should be formulated. Lessons should encourage participants to carry out critical assessments of their own clinical practices and to investigate the scientific evidence for them, rather than instructing them on the "right" way to do something. This pedagogic approach - defining problems within a specific aspect of perinatal care, rather than providing readymade answers - has sometimes been difficult for both teachers and participants to accept, but it has been an essential aspect of QUIIP.

All participants have received individual responses to their assignments and have sometimes been asked to revise their



work. This individual feedback has been important for learning, and some participants have indicated that they would have appreciated even more personal guidance from the teachers.

The course has experienced several delays including due to the late submission of assignments, including after the period for which teachers had been contracted. Also, some teachers took longer than anticipated to prepare course materials. These problems may be unavoidable in a programme such as QUIIP, in which almost everyone is actively involved in clinical duties, and participants are not given any time off for the course. As one doctor put it in a written evaluation: "The materials you have prepared are very interesting ... but we lack the time to study them. We can read them after work or during night duties ... it takes a lot of time." Conflict with clinical duties was also a problem for some QUIIP teachers and made it difficult to recruit yet other clinicians as teachers.

PAWs

Both participants and teachers have experienced the PAWs as being very important for the learning process and establishment of evidence-based thinking, and they have been an especially appreciated component of QUIIP. Team leaders have been very important in legitimizing the PAWs and in supporting the participants in their implementation.

Most PAWs included local staff training, but two have already been presented to wider audiences, and one of these has been published in a national scientific journal. Another PAW has been published on the homepage of a professional society, and material from yet another has been incorporated into a postgraduate training curriculum.

Factors affecting successful completion

Having colleagues at the same clinic involved in QUIIP has been a positive factor for participants' chances of successful completion. Experience from the different centres indicates too that the national team leader plays a major role in this regard. Team leaders can make a difference by keeping in touch with participants and arranging periodic meetings with them.

Most participants who have dropped out of QUIIP have had personal reasons such as childbirth, new professional positions or moves abroad. Interestingly, of the four Swedish participants in the first group, all of whom were doing their specialization, three dropped out because they found it difficult to combine training in practical skills with the theoretical work in QUIIP. The only one who stayed was at the end of specialist training. All entering participants from other countries have already finished their postgraduate training.

Conclusions and implications for further work

QUIIP - its curriculum, pedagogic approach and web-based learning techniques - has been a positive experience for the participating group of young specialists. As one of them has written to the management team, "We are very thankful for your making it possible for us to [carry out] our everyday work in a more evidence-based mode."

However, personal encounters enhance learning. In their written evaluations, most participants have indicated that onsite teaching provided on information seeking contributed significantly to their understanding of the unit.

Comprehension of the most theoretical units, such as those on evidence-based medicine, probably would have been greater also if the responsible teachers had lectured in person.

Given continued financial and personal resources for development of teaching materials and pedagogic tools, a distance learning programme of this type could be a continuous activity. It would also be possible to adapt the material for use by national professional societies, as well as in local professional training projects for quality improvement.

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General information about the Ping Pong platform can be found at www.pingpong.se/a/pingpong.en.html.

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ACTION FOR THE GLOBAL ELIMINATION OF CONGENITAL SYPHILIS

By George Schmid, Ulrich Laukamm-Josten, Sarah Hawkes and Nathalie Broutet

Controlling the enormous health impact caused by HIV/AIDS and sexually transmitted infections (STIs) is a global health priority, but is more widely pursued for HIV/AIDS than for STIs. This is unfortunate, because reproductive tract infections (RTIs), including STIs, constitute an important health threat, both directly and through their potentiating effect on HIV transmission.

Congenital syphilis is an important and preventable outcome of syphilis in pregnant women, and it results in large emotional and economically costly consequences to women and unborn children: miscarriage, stillbirth and infection in newborns. Testing pregnant women for syphilis, particularly using newly developed rapid, point-of-care tests, is inexpensive, highly cost-effective and valued by both pregnant women and antenatal care (ANC) staff. To bring attention to the importance of congenital syphilis, and as a first step towards a global initiative to eliminate congenital syphilis, WHO plans to reduce the rate of congenital syphilis by 90% in four countries by 2009, and is developing plans to assist other countries in an effort to eliminate congenital syphilis in Europe by 2015.

Congenital syphilis

The deleterious effects of syphilis during pregnancy on both maternal and infant health are caused by *Treponema pallidum*, the bacterium that causes syphilis. Syphilis is an acute infectious disease that can involve virtually all organs in the body. Without therapy, syphilis can become a chronic infectious disease with damage to the cardiovascular and nervous systems that are irreversible, even with successful treatment of *T. pallidum*.

During pregnancy, *T. pallidum* infects and then harms the developing foetus. Not all pregnant women with untreated syphilis will have an affected infant, because the longer a woman has syphilis, the less likely she is to infect her foetus. Pregnancy during early syphilis (during the first year following infection), however, is particularly hazardous for the foetus and almost all infants will become infected (1). Although estimates are inconsistent, adverse events occur in as high as 80% of the infants among women with early syphilis, including stillbirth (40%),

perinatal death (20%) and serious neonatal infection (20%) (2).

Congenital syphilis is still a major public health problem

The global burden of congenital syphilis is difficult to determine because few countries have statistics on the numbers of infected infants, or even on the proportion of women with positive syphilis serology. Further, even knowing these statistics will underestimate the effects of maternal syphilis because many affected infants are stillborn in the first or second trimester of pregnancy, and these outcomes may not be adequately recorded by the health system. Since, globally, only 68% of women in the developing world attend ANC and, of those, about half attend after the first trimester, many foetuses affected by congenital syphilis will escape detection (3).

We do know, however, that in many countries congenital syphilis remains a common cause of foetal loss and perinatal mortality of children (4, 5). The syphilis epidemic in recent years in Eastern Europe has drawn the attention to this issue in our region as well (6, 7).

Globally, the numbers of foetal deaths from syphilis are imprecise. In Africa alone there are at least 500,000 foetal deaths per year from congenital syphilis (8), and perhaps as many as one million (9), figures easily rivalling the loss from mother to child transmission of HIV, which receives far greater attention and for which prevention is considerably less effective. Inexplicably, the prevention of deaths of infants due to syphilis does not receive the priority that prevention of deaths due to HIV infection does.

Congenital syphilis is preventable

Testing pregnant women for syphilis, treating those who are seropositive, and preventing reinfection will prevent congenital syphilis if testing is performed early in pregnancy. Treatment of the mother with a single dose of 2.4 million units of benzathine penicillin is effective in preventing or treating infection in the foetus (10), although the infection in the mother may benefit by more prolonged or intensive therapy.

Congenital syphilis elimination programmes make public health sense

The elimination of congenital syphilis requires three easily understood steps: 1) universal attendance at ANC by pregnant women; 2) early attendance at ANC; 3) universal testing of pregnant women at their first prenatal visit, and effective treatment of those who are found to be positive. Enhanced early access of ANC by pregnant women will benefit pregnant women in ways other than prevention of congenital syphilis. Thus, partnerships with programmes that seek to stimulate enhanced attendance at ANC, e.g. the Making Pregnancy Safer Initiative, and other programmes that also seek to deliver enhanced health care services, such as Prevention of Mother to Child Transmission of HIV (PMTCT), can act synergistically to enhance universal early access to ANC and delivery of improved ANC services in cost-saving and cost-sharing ways. The resultant enhanced quality of ANC services can improve health care seeking behaviour, as women realize the benefits of early attendance at ANC.

Congenital syphilis prevention also offers an opportunity to broaden the scope of ANC for the control of additional STIs, including HIV by introducing STI and HIV testing and care into maternal and child health services. Furthermore, the testing of women provides a demonstrated, effective opportunity to access men with STIs or HIV through partner notification.

Conversely, lessons learned in integrating syphilis into ANC services can help "pave the way" for HIV programmes in terms of building capacity of health systems and health care workers for inter alia risk assessment, counselling, prevention, testing, treatment, dealing with sex partners, clinical referrals, drug/lab logistics, training curricula and national policies.

Screening and treatment for congenital syphilis are cost-effective

Screening of pregnant women for syphilis, followed by treatment for positive women, is highly cost-effective, inexpensive and a feasible intervention for the prevention of congenital syphilis. Using newly-developed point of care tests, economic analysis shows a cost of

only US \$89 to avert a case of congenital syphilis (11). And, converting costs into DALYs (disability-adjusted life years), congenital syphilis prevention costs US \$4-19 per DALY. This is highly cost-effective when compared to, for example, the World Bank standard of less than US \$193 per DALY for cost-effective interventions in resource-poor countries (8). In fact, the World Bank lists congenital syphilis as a highly cost-effective intervention (12). Moreover, the screening of pregnant women is affordable, at US \$0.93-1.44 per woman screened (13), and treatment is affordable since syphilis responds to penicillin - a drug which is readily available, off patent, on the essential medicines lists of most countries, and, to date, there is no evidence of drug resistance.

Elimination of congenital syphilis is an achievable goal

Congenital syphilis can be eliminated or reduced to a very low level by enhancements to ANC programmes - a very focused intervention. The knowledge and appropriate technology are available for the prevention of congenital syphilis, and it is now a matter of using them. Policies of universal screening for syphilis in pregnant women exist in most countries, but are often not implemented. The most important contributing factor to the occurrence of congenital syphilis is poor prenatal care, a lack of access to and use of ANC and a lack of testing. Problems with accessing ANC include a lack of readily accessible services, lack of motivation of women to attend prenatal care, a perceived lack of value of prenatal care services and a failure of women who do attend ANC to attend early in pregnancy. The perception of public health policy-makers and health care providers that ANC attendance and congenital syphilis are major health care problems needs to be enhanced.

Furthermore, simple and effective screening tests for syphilis that can be utilized even at the lowest levels of health care service delivery now exist. These improved "points of care" diagnostics are accurate, affordable and require minimal technical capability. The new tests work on whole blood samples and do not require laboratory equipment or an electricity supply, which are required for standard syphilis serology. The tests offer

an attractive and practical alternative to older technology which, while theoretically possible to use in a point of care situation, have proven difficult to use. They can also markedly change the approach to syphilis testing even in isolated health clinics, with women being universally offered testing and, if needed, treatment at the same time. Nurses and patients value the service; it is effective in preventing congenital syphilis and treating maternal syphilis; and it is cost-effective (11, 14).

Shortcomings in strategies to enhance ANC attendance and test for syphilis

The World Health Organization recommends the routine testing of pregnant women for syphilis, and the routine testing of pregnant women for syphilis is a reproductive health policy in most countries. However, in many countries, the existence of a health policy does not automatically translate into an effective health programme. While the concept of screening pregnant women for syphilis is simple, the implementation and sustained conduct of these programmes in many parts of the world are not, for a variety of reasons:

- a) routine testing has not been stressed by international health organizations;
- b) there is little incentive or capacity for countries to include antenatal testing for syphilis;
- c) perception of risk for infectious syphilis in the given country or clinic is low due to a lack of surveillance data, sentinel studies or obvious maternal and child mortality (much of the burden of congenital syphilis relates to perinatal mortality, which is hidden, e.g. a mother has a miscarriage but no attempt is made to determine the cause);
- d) women do not access ANC until the second or third trimesters, after the time in pregnancy when many congenital syphilis infections have already occurred;
- e) mother and child health programmes have competing priorities, including preventing maternal mortality related to obstetric complications, family planning and HIV prevention and treatment, including PMTCT of HIV;
- f) there is little patient or community demand for services due to a lack of awareness of the disease or, if there is

awareness, stigma and concerns about confidentiality violations exist in some communities;

- g) testing, in particular rapid testing, is not available - use of non-rapid tests means that infected women who do not return for treatment will develop more advanced disease or transmit the infection to the foetus, while the absence of testing ensures that infection can occur;
- h) ANC providers are not trained in or are uncomfortable with risk reduction counselling, condom instruction and sex partner services.

For programme success, an analysis of the current national policy/clinical/laboratory situation, understanding ANC coverage (e.g. knowing the proportion of women receiving ANC, and investigating why women do not receive early ANC), planning, and concerted and coordinated efforts are necessary. A national or sub-national plan to eliminate congenital syphilis is not difficult to design or even conduct - and is not expensive. What is required is attention to the practical aspects of conducting the programme. In reality, a congenital syphilis elimination programme mainly requires that women access ANC early and, when they do, that they get tested and treated (if needed).

Why act now?

Tools: We have had the tests to detect infection in pregnant women for years, the reaginic and treponemal antigen tests. These tests are inexpensive, but technically complex and require the use of serum (necessitating the drawing of blood) and a laboratory. In the past few years, however, two developments have made widespread implementation of syphilis screening in ANC clinics more feasible.

Firstly, investigations have shown that performing syphilis testing within ANC clinics while women are present leads to far greater numbers of women being tested and treated than when testing is performed at a geographically separated laboratory, requiring women to return for test results and, if needed, treatment (10).

Secondly, new diagnostic tests have made testing at ANC clinics far easier. The new tests offer two great advantages over the reaginic tests: they do not require the use of serum, and they are so simple that nursing personnel feel com-

fortable using them. These tests, using a simple strip of paper impregnated with treponemal antigen, can be performed on whole blood obtained by finger prick, and the results are read within minutes. As a result, women accessing ANC services can be tested and, if needed, treated promptly during any visit. Although the new tests are more costly than the current standard tests, they have been shown to be cost-effective when compared with standard tests because many more women are tested and treated, and cases of congenital syphilis treated or prevented (11). Scaling up congenital syphilis elimination will lead to lower prices of the tests and enhanced cost-effectiveness.

Partnerships: New partnerships are now possible within an initiative for the elimination of congenital syphilis. In particular, the widespread scale-up of PMTCT programmes for HIV in ANC clinics will bring new emphasis on ANC attendance and routine testing in countries with significant HIV prevalence. Resources put into PMTCT programmes can provide health care infrastructure that will assist testing efforts for syphilis and likely lead to greater coverage of serologic testing on the part of women. The increasing availability of HIV and syphilis testing may enhance interest in delivering an integrated package of ANC interventions, which has proven to be effective and cost-effective.

Fewer prenatal visits: Recent WHO studies have shown that pregnancy outcome is not dependent upon having many ANC visits (15). Rather, the quality of the visits is more important than the number of visits. As countries adopt new ANC visitation strategies and a congenital syphilis elimination initiative partners with the Making Pregnancy Safer Initiative, health resources saved from unneeded visits can be used to enhance needed visits.

United Nations Millennium Development Goals

These goals, endorsed by all Member States and meant to be achieved by 2015, include three goals that address maternal and child health; programmes to eliminate congenital syphilis can contribute to all three:

- 1) Reduce child mortality: reduce by two thirds the mortality rate in children under 5;

- 2) Improve maternal health: reduce by three quarters the maternal mortality rate;
- 3) Combat HIV/AIDS and other diseases: halt and begin to reverse the spread of HIV/AIDS; halt and begin to reverse the incidence of malaria and other major diseases (16).

Eliminating congenital syphilis

We know how to prevent congenital syphilis and, indeed, to eliminate congenital syphilis. We largely have the tools needed and know what to do. Most countries in the world have a policy for, or at least encourage, the testing of pregnant women for syphilis. We now need to broadly implement these policies using newly developed, cost-effective, testing strategies.

In every society, congenital syphilis has significant emotional, social and financial costs. Compared to the prevention of mother-to-child transmission of HIV, the prevention of congenital syphilis is inexpensive, simple, and highly cost-effective. We should not fail to carry out these programmes in our countries.

Acknowledgement

This text was adopted from an advocacy document drafted for a technical consultation on the elimination of congenital syphilis, WHO, Geneva, 1-2 December 2004.

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THE ROLE OF MIDWIVES IN MOTHER AND NEWBORN

By Dalia Jeckaitė

Midwifery is probably the oldest profession known to humankind. The more the scientific method is used to analyze birth and the use of technology, the more the midwifery model stands out at a model for normal pregnancy and birth.

Many published works support non-intervention and midwifery care as being safe and cost-effective. One of these is *A Guide to Effective Care in Pregnancy and Childbirth*, which is a collaborative, international effort to prepare, maintain and disseminate reviews of randomized trials of health care using the Cochrane Database. The Cochrane Database is based on a decade-long study of controlled trials in obstetric care concerning different aspects of care and treatment. It also describes the approaches and decisions that have been demonstrated as being effective and those for which the evidence is inconclusive or negative. One important finding is that:

“As technical advances became more complex, care has come to be increasingly controlled by, if not carried out by, specialist obstetricians. The benefits of this trend can be seriously challenged. It is inherently unwise, and perhaps unsafe, for women with normal pregnancies to be cared for by obstetric specialists, even if required personnel were available. Because of time constraints, obstetricians caring for women with both normal and abnormal pregnancies have to make an impossible choice: to neglect the normal pregnancies in order to concentrate their care on those with pathology, or to spend most of their time supervising biologically normal processes. Midwives and general practitioners, on the other hand, are primarily oriented to the care of women with normal pregnancies, and are likely to have more detailed knowledge of the particular circumstances of individual women.” (1)

The midwifery care model

The midwifery care model is an attitude about women and how pregnancy and birth occur, with the view that pregnancy

and birth are normal events. It is an attitude of giving and sharing information, respecting the right of a woman and her family to determine their own care. This perspective can be contrasted with the medical care model, which believes that there is a potential pathology in any given situation, and that medicine can improve the situation. Medicine is of course also about teaching, informing and preventing, but the power seems to be more with the provider than with the woman and her family.

Historically, midwives have always existed to help women give birth and are as diverse as the populations they serve. They were the medicine women of their cultures, and assisted families and women throughout their lives. In the Old Testament they were described as examples of strength and faith in God.

As the first holistic practitioners, midwives were always available to help the poor or women without access to medical care. Today, midwives take care of anyone who wishes to see them, but practise within the constraints of their country's medical and legal systems (see Box 1). Over 70% of births in the world are attended by midwives. In Estonia, the Netherlands and the United Kingdom, for example, midwives deliver a majority of the babies. Other countries, however, do not utilize midwives to their fullest potential. Ultimately, each country has a different view of midwifery, and of how midwives work within their communities

Ten to fifteen years ago, midwives from most eastern European countries were largely officially removed from direct contact with pregnant women. They were made technical workers, part of the medical care model, expected to mechanically follow the obstetrician's orders. Now, the situation is changing. In Lithuania, for example, a statement was published in 1997 which allowed midwives to take care of normal pregnancies during the prenatal, birth and postpartum periods.

The World Health Organization (WHO) and the International Confederation of Midwives (ICM) define a midwife as follows:

“Persons who, having been regularly admitted to an educational programme duly recognized in the country in which it is located, have successfully completed the prescribed course of studies in midwifery and have acquired the requisite qualifications to be registered and/or legally licensed to practise midwifery” (2).

The two organizations go on to state that a midwife must be able to give the necessary supervision, care and advice to women during pregnancy, labour and the postpartum period, to be in charge of conducting deliveries and to care for the newborn and the infant. This care includes preventative measures, the detection of abnormal conditions in mother and child, the procurement of medical assistance and the execution of emergency measures in the absence of medical help. She has an important task in health counselling and education, not only for the women, but also within the family and the community. The work should involve antenatal education and preparation for parenthood, and extends to certain areas of gynaecology, family planning and child care. She may practise in hospitals, clinics, health units, domiciliary conditions or in any other service.

Most midwives encourage and monitor women throughout their labour with techniques to improve the labour and birth. Reassurance, positive imaging and suggestions to change positions and walk helps labour progress. In many European countries (e.g. the Netherlands, Sweden and the United Kingdom) midwives provide family planning services and routine women's health examinations such as pap smears and physical examinations. Midwives teach women about sexually transmitted infections, and focus on the prevention of the spread of infections.

Individual midwives' tasks depend on their training, license and what is allowed in the country in which they practise (see Fig. 1).

The scope of midwifery practice is the range of roles, functions, responsibilities and activities that a registered midwife is educated, competent and has authority to perform. The modern scope of midwifery practice is draws on a European Economic Community Directive of 1980 (80/155/EEC) (see Box 2).

In conclusion, this article has argued that according to WHO, the International Confederation of Midwives, the International Federation of Gynecology and Obstetrics and scientific evidence, women with normal pregnancies should be cared for by midwives, as they are primarily oriented towards normal pregnancy and are likely to have a more detailed knowledge of the individual women.

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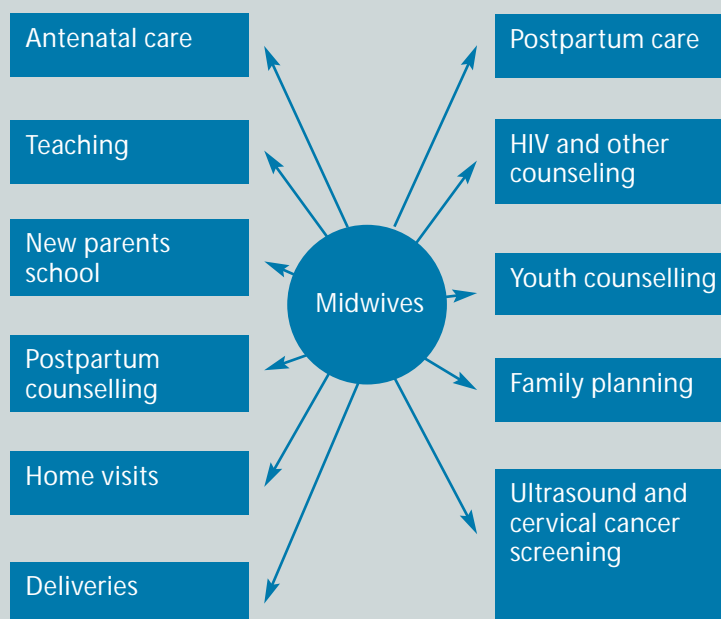
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Box 2. "Member states shall ensure that midwives are at least entitled to take up and pursue the following activities:

1. to provide sound family planning information and advice;
2. to diagnose pregnancies and monitor normal pregnancies; to carry out examinations necessary for the monitoring of the development of normal pregnancies;
3. to prescribe or advise on the examinations necessary for earliest possible diagnosis of pregnancies at risk;
4. to provide a programme of parenthood preparation and a complete preparation for childbirth including advice on hygiene and nutrition;
5. to care for and assist the mother during labour and to monitor the condition of the foetus in utero by the appropriate clinical and technical means;
6. to conduct spontaneous deliveries including, where required, an episiotomy and in urgent cases a breech delivery;
7. to recognise the warning signs of abnormality in the mother or infant which necessitate referral to a doctor and to assist the latter where appropriate; to take the necessary emergency measure in the doctor's absence, in particular the manual removal of placenta, possibly followed by manual examination of the uterus;
8. to examine and care for the newborn infant; to take all initiatives which are necessary in case of need and to carry out where necessary immediate resuscitation;
9. to care for and monitor the progress of the mother in the postnatal period and to give all necessary advice to the mother on infant care to enable her to ensure the optimum progress of the newborn infant;
10. to carry out the treatment prescribed by a doctor;
11. to maintain all necessary records."

Fig. 1 Midwife responsibilities in various parts of the world



Source: Lazarus JV, Nadisauskiene RJ, Liljestrand J. "Observations on reproductive health programs in the Baltic States". *International Journal of Obstetrics and Gynaecology*, 2004 Dec;87(3):277-80.

ASSESSMENT OF MATERNITY PRACTICE IN THE REPUBLIC OF MOLDOVA

By Petru Stratulat, Valentina Baltag, Ala Curteanu, Tatiana Caraush

The Republic of Moldova is the pilot country for the Making Pregnancy Safer (MPS) Initiative in the European Region, where the Initiative was launched in 2001 (1).

As part of the MPS activities and with the objective of strengthening midwifery in the country, a number of activities were carried out to change maternity practices, such as the WHO training course on essential obstetric care, organized at the Perinatal Centre in Orhei, from 12 to 23 May 2003. In addition, two cascade essential obstetric care courses were organized in the Balti rayon, in December 2003, and in the Cahul rayon the following month (2, 3). The courses set out to enhance health professionals' understanding, knowledge and attitudes concerning modern principles and practices in pregnancy, birth and the postpartum period, through better case management and more appropriate interventions.

Based on the content and principles of the courses on essential obstetric care and essential newborn care/breastfeeding promotion, the WHO Regional Office for Europe has prepared a set of ten questionnaires to be used as a multi-option tool for follow-up, supervision and monitoring of activities in maternal and child health at the district level and as a pre-course assessment tool. These questionnaires enable local health professionals to assess their own performance before and after training, helping providers to identify problems in transferring skills to clinical management and to find appropriate solutions. The tools may also become standards for the supervision and monitoring of mother and newborn health activities. Some questionnaires (such as the observations on clinical practices and interviews of health workers) are directly related to the content of the courses and are intended to be used specifically for follow-up after training. Others (e.g. facilities and supplies, essential drugs and vaccines and standard pro-

ocols) deal with the availability of material and organizational conditions in a given health facility, and should be used for broader follow-up, monitoring and supervision. During the implementation of the MPS Initiative, the WHO questionnaires were locally adapted and officially endorsed as tools for assessing maternity practice. Some results of an assessment performed in November 2003 will be presented below.

The assessment was carried out to investigate the quality of the implementation of appropriate technologies promoted through the National Perinatal Programme/Making Pregnancy Safer Initiative in mother and newborn care. Specific objectives were to assess: (a) health providers' knowledge concerning appropriate technologies in perinatal care promoted through the Initiative; (b) the level of those technologies' implementation; (c) mothers' knowledge concerning postpartum care and appropriate feeding of newborn infants; and (d) the quality of emergency care provided in maternities. The assessment was carried out in 11 maternity hospitals with the highest perinatal and early neonatal mortality rates in the country (Fig. 1). Those included various referral levels and, in total, 113 medical specialists (33 obstetricians, 17 neonatologists, 35 midwives, 28 nurses) and 72 mothers were interviewed, and 16 deliveries were observed.

Beneficial practices during pregnancy were assessed, such as early registration

for antenatal care, prophylactic use of iron and folic acid; appropriate practices during labour and the postpartum period, such as support during labour, partograph use, rooming, early and exclusive breastfeeding in maternity, skin-to-skin contact, as well as harmful practices such as enema and tight swaddling. An assessment was also made of the use of the perinatal card, that is a home based medical record for ante, intra and postpartum care aimed to enhance women's participation and empowerment, and to help family doctors provide appropriate care.

Results

Summarizing the assessment of the knowledge of health personnel, satisfactory results were found for almost all practices. With regard to maternity practice, the results were less reassuring, with major differences among practices and maternities. For example, there is a clear difference among rayons concerning the implementation of early registration and prophylactic use of iron and folic acid (Table 1). Generally, there is a greater implementation rate of iron supplementation than folic acid, because the prophylactic use of iron existed previously, while folic acid administration is a new practice, promoted through the perinatal programme/MPS Initiative. The proportion of women registering before 12 weeks of pregnancy remains stable compared with the Soviet period.

Fig. 1. Perinatal and early neonatal mortality rates in select maternities.

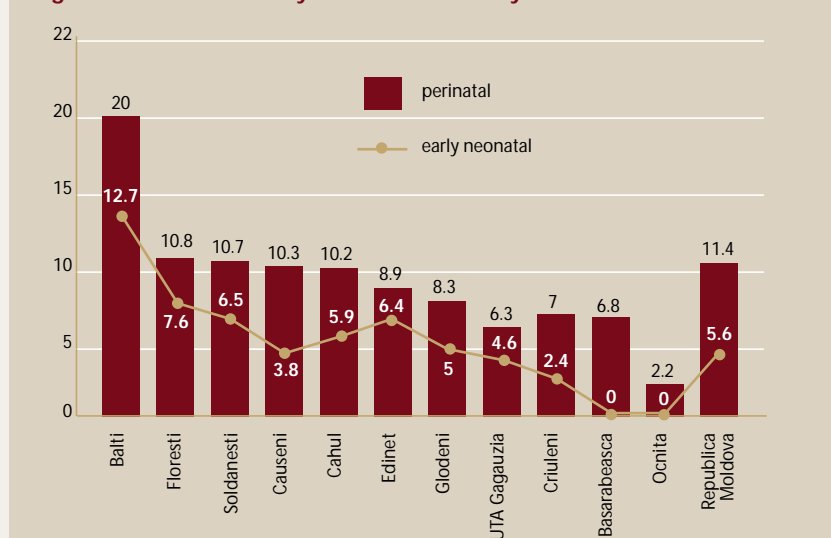


Table 1. Early registration, prophylactic use of iron and folic acid

| | Early registration for antenatal care, % | Prophylactic use of iron, % | Prophylactic use of folic acid, % |
|--------------|--|-----------------------------|-----------------------------------|
| Balti | 46.6 | 53.3 | 47.7 |
| Basarabasca | 100 | 100 | 0 |
| Cahul | 70 | 33.3 | 0 |
| Ciadar Lunga | 60 | 22.2 | 11.1 |
| Criuleni | 100 | 20 | 0 |
| Causeni | 85.7 | 44 | 11.1 |
| Edinet | 33.3 | 55.5 | 0 |
| Floresti | 60 | 40 | 20 |
| Glodeni | 50 | 50 | 0 |
| Ocnita | 0 | 50 | 0 |
| Soldanesti | 0 | 0 | 0 |

Only every second woman is given a perinatal card despite the fact that it is available to each family doctor, and actively promoted through the perinatal programme. Half of the available Cards are not filled in appropriately, and are therefore not used appropriately.

There was a high level of implementation, although lower than desired for rooming-in, early and exclusive breastfeeding and skin-to-skin contact (Table 2). There is exclusive breastfeeding in all maternities, and three quarters of the women appropriately practise early breastfeeding and skin-to-skin contact. Still, some maternities do not implement these practices at all.

Harmful practices, such as enema and tight swaddling, continue to be practised (Table 3). Tight swaddling is practised in a half of assessed maternities, and enema in a large majority.

The partogram is actively promoted through the perinatal programme/MPS Initiative. Forms are available, and posters to be filled on the wall were provided for each maternity. Our assessment showed that except for one maternity, the partogram is filled for every delivery, probably due to the effect of having an observer nearby. The partogram was not used as an instrument for decision-making in all cases.

Only a few maternities encourage having a support person from among relatives or friends during labour; the same is true for open access to relatives during

Table 2. Rooming-in, early and exclusive breastfeeding and skin-to-skin contact

| | Rooming, % | Early breast feeding, % | Exclusive breast-feeding in maternity, % | Skin-to-skin contact, % |
|--------------|------------|-------------------------|--|-------------------------|
| Balti | 100 | 80 | 100 | 100 |
| Basarabasca | 77.7 | 100 | 100 | 0 |
| Cahul | 77.7 | 100 | 100 | 100 |
| Ciadar Lunga | 100 | 0 | 100 | 0 |
| Criuleni | 77.7 | No data | No data | No data |
| Causeni | 100 | 0 | 100 | 0 |
| Edinet | 100 | 100 | 100 | 100 |
| Floresti | 100 | 100 | 100 | 100 |
| Glodeni | 100 | 100 | 100 | 100 |
| Ocnita | 100 | 100 | 100 | 100 |
| Soldanesti | 100 | 100 | 100 | 0 |

the time of delivery and post-partum. Free movement during labour is practised by all but two maternities.

Conclusions

During the implementation of the perinatal programme/MPS Initiative, progress was made on updating health providers' knowledge about appropriate technologies. It was a result of many interventions at the policy and health service delivery levels, such as updating policy, norms and regulations, and human resources development. However, although practices have changed, variations in practices and among institutions are great. Systematic evaluative research is needed to assess the factors for the successful implementation of appropriate practices and technologies in the Republic of Moldova.

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Table 3. Enema and tight swaddling

| | Tight swaddling, % | Enema, % |
|--------------|--------------------|----------|
| Balti | 0 | 86.6 |
| Basarabasca | 100 | 100 |
| Cahul | 100 | 0 |
| Ciadar Lunga | 100 | 20 |
| Criuleni | | 25 |
| Causeni | 100 | 28.5 |
| Edinet | 100 | 100 |
| Floresti | 0 | 100 |
| Glodeni | 100 | 100 |
| Ocnita | 0 | 100 |
| Soldanesti | 0 | 0 |

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PROMOTING EQUITY IN REPRODUCTIVE HEALTH

By Giorgio Tamburlini

Inequity in health reflects inequity in society. The distribution of health outcomes across population groups is determined by macroeconomic trends; governmental policies in sectors such as education, the environment, housing, labour and infrastructure; and other factors such as women's status, democracy and participation.

Countries with the highest degree of socio-economic inequality are invariably those with the greatest differences in health outcomes between the rich and the poor (1). As a consequence, effective action to fight inequities in health requires a combination of policies in all sectors of society. Health sector policies, however, can play an important role and determine whether progressive (i.e. leading towards a more equitable distribution of health outcomes) or regressive effects are produced on the health status of populations.

The cycle of human reproduction presents, particularly during pregnancy and childbirth, unique windows of vulnerability, and this is why the disproportion in health outcomes between the rich and the poor, the privileged and the marginalised is greatest during this period (1). For this reason, fighting inequity in health should give priority to reproductive health with a special focus on pregnancy and childbirth. Too little attention has been paid to the distribution of the benefits of reproductive health programmes across population groups. A road to equity in eight distinct steps is proposed to encourage policy-makers and health professionals to incorporate the equity issue in planning and evaluating reproductive health programmes (Table 1).

Table 1. Eight steps to promote equity in reproductive health

1. Analyse the distribution of reproductive health outcomes across population groups;
2. Act on the main determinants of inequity;
3. Invest in equitable provision but also on demand for health services;
4. Invest in the periods of greatest vulnerability;
5. Invest in the diseases that most affect the poor;
6. Invest in the most vulnerable;
7. Ensure quality of care;
8. Identify appropriate reproductive health equity indicators and objectives.

Table 2. Examples of interventions aimed at reducing exposure and vulnerability to health hazards

- | | |
|---|--|
| a) Interventions to reduce exposure: | b) Interventions to reduce vulnerability: |
| <ul style="list-style-type: none">• improved access to clean water, sanitation and housing;• improved protection of women in fertile age from hazardous working conditions;• improved education and information on health, particularly for girls, women and young couples. | <ul style="list-style-type: none">• rural development, fair agricultural prices and micro-credit;• food fortification and supplements at crucial ages (pregnant women and infants);• safety nets (community insurance and others). |

1. Analyse the distribution of reproductive health outcomes across population groups

The analysis of disparities in reproductive health outcomes can be made by different social dimensions such as: income level (rich/poor), location (urban/rural), gender (women/men), ethno-linguistic groups, etc. In most analyses carried out by international agencies, indicators of health status and access to health services are broken down by levels (quintiles) of household wealth. Household wealth is approximated by an "asset index" based on the presence in the household of certain durable goods (such as a radio or a car), the quality of the dwelling (e.g. roof and floor materials) and access to different types of water and sanitation (2). This information makes it possible to assess the gap in health status, access and utilization of health services between the richest and the poorest, whether and to which extent the gap changes across types of service (e.g. inequities are usually more common for secondary care, such as access to and quality of care for obstetric complications, than for primary care) (3).

2. Act on the upstream determinants of inequity in health

Once sufficient data are available to quantify differences and identify trends, the analysis should be able to capture the main determinants of inequity. Given that poverty is the primary cause of ill health, efforts should be made to identify the means by which it influences health outcomes. In most instances, poverty implies greater exposure to risk factors such as lack of safe water and sanitation, inadequate shelter, poor indoor air, hazardous working conditions and unsafe and insecure environments. It also determines, through poor nutrition and poor care, greater vulnerability to infections, stress and violence. Action to reduce inequity should primarily include interventions aimed at reducing exposure and vulnerability (Table 2) to health hazards, since these factors cause a substantial proportion of the differences in health outcomes between the rich and the poor. While some of these interventions are within the scope of comprehensive health services, others need cross-sectorial collaboration, as well as efforts to give voice to the less privileged groups.



Photo: Jeff Lazarus

3. Invest in equitable provision but also on demand for health services

Addressing existing disparities in access to health services is the next step on the road to equity. Ensuring an equitable provision of health services, however, is a difficult task. The inverse care law states that “the availability of good health care tends to vary inversely with the need for it in the population served” (4) and applies, although to a different extent, to all countries. We also know that the extension to the poor people of new health technologies, such as contraceptives or modern therapies, is usually delayed by a matter of several years, sometimes decades (5). This seems to imply that the problem lies in the inequitable provision of services, and that if this is improved for the poor, their health will also improve. But differences in the supply of services are not sufficient to explain inequities in access. What may be actually lacking is demand of services by poor people, especially ethnic minorities. To illustrate this point, let us take the case of delivery care, one of the areas of care where differences between the poorest and the richest are greatest. There are several reasons on the demand side that might explain why poor women may not have access to quality delivery care: the household may not have the financial resources to cover the direct or indirect cost of the service or transportation to it, or information may not be available in the woman’s native language. Thus, assets, direct costs and opportunity costs, information, education, culture and women’s status may all affect access for the poorest, even if the service is in theory provided for all. Particularly in contexts characterized by extreme poverty, widespread social exclusion and poor women’s capacity to seek their own care, the demand for reproductive health services may be critically limited. In these contexts, pro-poor policies cannot be restricted to better supply of services but should include measures to remove the obstacles to demand.

4. Invest in the periods of greater vulnerability along the lifecycle

As mentioned above, risk differentials across population groups are maximal during pregnancy, delivery and the first months of life. Globally, children in the

poorest quintile have about ten times higher risk of dying than those in the richest quintile (1). What is true for the risk of death is also true for the risk of non-lethal effects, including some irreversible ones, such as sterility for the woman and neurological sequelae for the baby, which are far more frequent among the poor. Thus, investments in health during pregnancy, delivery and the neonatal periods are more cost-effective than investments in other periods of life, and have the greatest potential to reduce inequalities in health outcomes and break the cycle of disease and poverty (6).

5. Invest in the diseases of poverty

Poor people not only have a higher risk of ill health, but, due to the combination of exposures which are more common among poor populations and in poor households, they more frequently incur certain specific diseases or conditions. Consequently, targeting these diseases with specific programmes is included among the strategies to improve the health of the poor. The term “diseases of poverty” is currently adopted to indicate HIV/AIDS, tuberculosis and malaria, which clearly represent globally some of the biggest killers of poor people. However, we should not forget that perinatal problems, infectious diseases and malnutrition still contribute greatly to the burden of disease among poor people. Thus, it is necessary to identify the biggest contributors to ill health among the poor in each specific area. Moreover, the opportunity of concentrating resources on single disease-programms should be carefully evaluated taking into account the risk of compromising the capacity of health systems, and particularly of primary care services, of providing comprehensive preventive and curative care for all major diseases.

6. Invest in the most vulnerable

Targeting poor people is probably the most direct way of reducing disparities. Providing better infrastructure and services in urban slums and poor rural areas, to households which bear the burden of disabled people or critically vulnerable children, or to marginalised ethnic minorities, may all contribute to counteract the inverse care law. In general, due to the high prevalence of diseases

that can be prevented or cured at low cost, investment in prevention and treatment of the poor is more efficient in terms of avoidable burden of disease (6).

There are several reasons why this kind of ethically and economically sound investments are rarely made. Firstly, the distribution of services and infrastructure is usually a function of political voice and power, which, by definition, is absent among marginalised population groups. Secondly, there is little doubt that providing services in poorer areas entails a number of logistical difficulties, for example, the recruitment of personnel. Although the ultimate impact on health may be important, costs may be higher. Area-based programmes should be preferred when vulnerable groups are geographically concentrated, and these services should strive to make some interpreting support available if needed, or hire health workers who can speak local languages (7). To protect the most vulnerable, safety nets should also be provided to those households and individuals who, due to serious disability or chronic disease, may accumulate catastrophic expenses. There are several types of insurance schemes which can help prevent the vicious cycle of ill health among poor people.

7. Ensure fair financing systems, adequate access and quality of care

A fair financing system and an adequate provision of health services are necessary but not sufficient conditions for equitable reproductive health services. All too often, the mere provision of services is considered synonymous with access to care and coverage, implying effective health protection, forgetting that what ultimately makes the difference is quality of care. Since there are no health gains without delivery of effective interventions, striking disparities in access to quality care are the most important proximal determinants of disparities in health outcomes. Unfortunately, in many health services, including hospital services, quality of care is so low that little or no health gain is to be expected from access to the service (8), and it may well be that patients incur costs – including informal payments – without getting any real benefits, sometimes in fact getting into further trouble due to hospital-acquired

infections or hazardous treatments and procedures (9). Antenatal care and delivery care offer several opportunities for making poor and ill informed women believe that they are getting something which will be helpful for their health (e.g. several low quality ultrasound screenings), while adequate history and physical examination are not carried out (10). This, however, is what occurs in many countries particularly – but not exclusively – in the unregulated private sector. Once more, quality of care is a function of informed demand of services. Educated and well-informed users will be able to get more quality from the service or to choose those services which offer better quality.

8. Identify equity indicators and objectives

As briefly discussed above, achieving more equity in reproductive health is not an easy task and will never be accomplished unless an explicit clear commitment is made and specific objectives are set. Specific targets should be identified by policy makers in terms of reduction of the poor to rich gap and not only overall improvement of reproductive health outcomes. Some of the key indicators are provided in Table 3, which offers some interesting examples of the kind of information which may be available on the rich/poor divide in reproductive health within the European region (11). This information should be complemented by

other key data, e.g. on the distribution of maternal mortality ratio across population groups (unfortunately rarely available), by tracers of quality in antenatal care or delivery care, and be systematically included in the current, periodical surveys such as the Demographic and Health Surveys or household surveys.

Conclusions

Efforts to promote equity in health should focus on reproductive health services, with a special focus on pregnancy and delivery care, particularly in countries where maternal and perinatal mortality and morbidity are high and with large risk differentials among population groups. Policy-makers and health professionals should call for investments in sectors such as education, nutrition, environment and community development to reduce the impact of poverty on reproductive health. More equitable health financing and provision systems can alleviate the effects of societal inequity, but quality of health services must be ensured in order to achieve real health gains. The best combination of strategies to improve equity may vary depending on the administrative, political and epidemiological context, but it will invariably require a better knowledge of the distribution of health outcomes across population groups and the identification of appropriate indicators and targets. Equity issues must be included in the evaluation of reproductive health services.

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Table 3. Distribution of some key indicators of reproductive health in the poorest and richest population quintiles in Armenia, Kazakhstan and Turkey

| Key indicators | Armenia (2000) | | Kazakhstan (1999) | | Turkey (1998) | |
|---|----------------|-------------|-------------------|------------|---------------|-------------|
| | Poorest 20% | Richest 20% | Poorest 20% | Richest20% | Poorest 20% | Richest 20% |
| Total fertility rate (births per woman, age 15–49) | 2.5 | 1.6 | 3.4 | 1.2 | 3.9 | 1.7 |
| Adolescent fertility rate (births per 1000, age 15–19) | 107 | 32 | 81 | 280 | 46 | 21 |
| Prevalence of anaemia (mild to severe) | 17 | 6.9 | 48 | 35 | nd* | nd* |
| Antenatal care (1+ visits) by medically trained personnel | 78 | 85 | 90 | 97 | 38.3 | 96.2 |
| Delivery not attended by trained personnel | 7 | 0 | 46.6 | 1.8 | 1 | 1 |
| Delivery attended by a doctor | 70 | 95 | 67.6 | 89.5 | 16.3 | 76.3 |
| Delivery at home | 18.5 | 0.2 | 3.2 | 0.7 | 52.9 | 3.4 |
| % of married women 15–49 using modern contraception | 15.5 | 29.2 | 48.9 | 55.1 | 23.6 | 48 |
| % women with hand-washing facilities in the household | 11.4 | 96.7 | 76.3 | 99.3 | nd* | nd* |
| % women knowing about HIV/AIDS transmission | 41.6 | 72.5 | 65.7 | 91.1 | 27.0 | 76.7 |
| % women seeking their own health care | 26.0 | 41.7 | 52.7 | 77.4 | nd* | nd* |
| % women justifying domestic violence | 56.8 | 15.2 | 51.6 | 13.9 | 72.8 | 16.1 |

* No data available

Source: Author's tabulation of data from HNP Stats - the World Bank's Health, Nutrition and Population data platform, <http://devdata.worldbank.org/hnpstats> (accessed 2 January 2005).

NEWBORN HEALTH CARE STILL DEFICIENT IN THE EUROPEAN REGION

By Gian Paolo Chiaffoni

Neonatal health care needs improving. Despite progress made over the past decade globally, newborn mortality and long and short-term morbidity remain surprisingly high in the European Region.

With an increasing gap between the western and the eastern countries, among which the Commonwealth of Independent States (12 former USSR countries) are still affected by perinatal and neonatal mortality rates up to five times higher than in western Europe (1) (see Table 1). Although there is often a paucity of information about the causes of neonatal deaths in developing and “transition” countries, it has been estimated that 29% are caused by birth asphyxia, 24% by infections and 24% by complications of prematurity (2). Most of these causes are preventable by means of simple, cost-effective health interventions, which should be made available in each country and at each level of care. Implementing effective antenatal, perinatal and neonatal care is expected to decrease not only neonatal mortality and morbidity but also child disability, which otherwise severely affects individual and familial quality of life.

Challenges and advantages in perinatal and neonatal health care

The main challenge is still the gap in equity in terms of health between Member States and within each country, particularly with respect to vulnerable groups. More specific challenges include barriers to access to available services, including lack of information and health awareness; a steadily increasing number of HIV-infected women and mother-to-newborn transmission of HIV; lack of an integrated network between different levels of care; inappropriate allocation of resources; lack of a multidisciplinary approach to care; inadequate professional updating for health professionals; and legislative constraints leading to the over-medicalization of care. Nevertheless, some important advantages are specific to the European Region, such as the high level of antenatal care coverage, the availability of an extensive health care infrastructure and of trained health professionals; and high levels of literacy. All of these advantages, the aforementioned challenges notwithstanding, facilitate efforts to successfully develop initiatives to improve perinatal and neonatal health care.

Implementing perinatal and neonatal health care

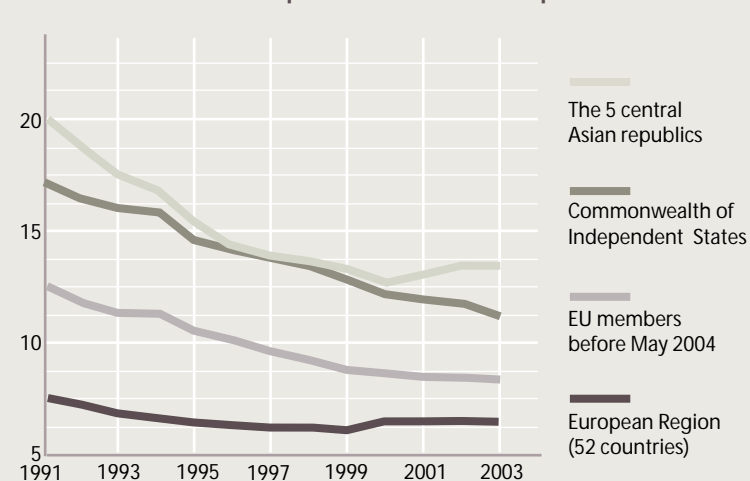
In most of the Commonwealth of Independent States, improving perinatal care has only recently become a priority, mainly because the problem has been underestimated due to the under-reporting of perinatal mortality and the mis-

conception that only expensive high-level technology is effective. It has, however, been demonstrated that improving perinatal and neonatal health outcomes by promoting the use of simple, effective, low-cost, appropriate technologies is a major investment for any health system. Therefore, WHO has designed initiatives to assist Member States in this process even where only limited resources are available. Appropriate interventions in these sectors, however, are only effective when they are framed in a global strategy of improvement of general conditions of life, especially for women, literacy, health awareness and access to health care.

In 2000, WHO/Europe launched the “Promoting Effective Perinatal Care” (PEPC) programme (3), which was aimed at promoting appropriate technology for birth, neonatal care and breastfeeding through a holistic approach. In the European Region PEPC has now been integrated within the Making Pregnancy Safer Initiative (4), which implements the MPS global IMPAC manuals (Integrated Management of Pregnancy and Childbirth) along with specific manuals prepared for the region. MPS/PEPC focuses on pregnancy, birth and the crucial perinatal period (from 22 weeks of gestation to 7 days after birth) and on the role that primary health care can play. To do this, MPS/PEPC places special emphasis on promoting improvements in three areas: quality of care, health service development and community and family involvement. MPS/PEPC promotes the use of appropriate evidenced-based technologies; it is aimed at making perinatal care safely demedicalized, multidisciplinary, regionalized and based on an effective referral system. Furthermore, it is holistic, family-centred, involves women and families in decision-making, and is aimed at being culturally appropriate.

The objectives of MPS/PEPC are to reduce maternal and perinatal mortality and morbidity and to promote safe motherhood. These goals are pursued through disseminating knowledge in the field of antenatal, perinatal and neonatal care, improving the skills and attitudes of health providers, enhancing inter-professional collaboration, enabling health providers to plan for effective improvements, increasing health system performance and disseminating widely among

Table 1. Perinatal deaths per 1000 births in Europe



the population the awareness of the holistic needs of mothers and newborns.

Methods, experiences and lessons learned, 1997-2004

Training, but not only training

MPS/PEPC works through country and inter-country interventions, piloting approaches and the provision of essential packages of training, monitoring and impact evaluation. In particular, the following interventions for promoting effective perinatal and neonatal care are recommended:

- Identification, appropriate referral and management of high-risk pregnancies, including treatments aimed at preventing neonatal problems (e.g. antenatal steroids to prevent neonatal respiratory distress syndrome);
- appropriate holistic labour/delivery attendance;
- preventing neonatal hypothermia, asphyxia and perinatal infections;
- appropriate management of preterm, small, asphyxiated or sick neonates through evidence-based policies of care;
- promoting early and ad libitum breastfeeding;
- providing appropriate treatment and feeding options for the neonate to prevent mother-to-child transmission of HIV;
- improving the recording of clinical data, data collection and implementing post-discharge care through improving multidisciplinary communication and collaboration.

Both pre-service and in-service training need to be provided to improve knowledge and skills in neonatal care. Training is aimed at elaborating guidelines and plans for action, specifically addressing multidisciplinary teamwork, communication and counselling. In-service training provided by MPS/PEPC in the field of newborn health care consists of a 6-day course in essential newborn care and breastfeeding promotion, offering theoretical and practical updating of health professionals involved in the care of newborns. Activities include exercises in self-evaluation and group work, visits to maternity wards, delivery rooms, neonatal wards, role-playing sessions focused on communication and counselling

skills, autonomous planning for implementation, case studies, formal presentations, evaluation by participants and suggestions for improvement.

The main areas of training include disseminating the use of international definitions of diseases; introducing the concepts of efficacy, cost-effectiveness, risk factors, case management, holistic single patient approach; promoting evidence-based policies of care and cost-effective interventions, multidisciplinary collaboration, communication and counselling; discussing public health issues relevant to neonatal care and how to strengthen the health-system, and family and community practices.

The main clinical and organizational problems of newborn care that should be managed at primary and secondary levels of care are discussed as the indications for referral to tertiary care centres. The contents of training are continuously tested and updated to ensure that they are based on scientific evidence provided from randomised control trials and addressing real needs. Fig. 1 shows the main topics have been modified over time following participants' suggestions.

Apart from training, the implementation of neonatal care through MPS/PEPC includes follow-up activities of monitoring and impact evaluation; promoting the use of appropriate technologies; establishing and disseminating quality standards of care for newborns through providing continuously updated evidence on neonatal care; adequate organization of the health system at the three levels of care (essential, intermediate and highly specialized); ensuring that essential drugs, equipment and supplies are available; and promoting general advocacy and support. Appropriate technologies, one of the key issues in MPS/PEPC programme, are defined as methods, procedures, techniques and equipment that are scientifically valid, adapted to local needs, acceptable both to health professionals and to patients, and which can be maintained by the community, with resources affordable by the community (see Fig. 2).

Experiences in implementing neonatal care, 1997-2004

Since 1997, activities on essential newborn care and breastfeeding promotion have been carried out in most of the

Commonwealth of Independent States and in select eastern European countries at national, sub-national and local levels, and model sites have been identified and supported by the governments. Locally trained health providers are now disseminating knowledge and skills through cascade training events; changes are taking place not only in attitudes and practice but also in health systems and legislation. To give just a few examples, rooming-in and exclusive breastfeeding upon discharge from the hospital are now largely widespread; appropriate resuscitation of the asphyxiated newborn is replacing outdated non-evidence-based protocols; and the international definition of live birth has been incorporated into the health legislation of different countries.

Lessons learned

WHO/Europe has continuously updated and adapted its training materials and working methodologies to suit specific country needs. Flexibility and adaptation of contents and methodology while maintaining consistency have been demonstrated to be a guarantee of compliance and sustainability over time. The skills and performance of trained health providers have been shown to have improved substantially. The regionalization of obstetric and neonatal care and the need for functional integration between the different levels of care have been demonstrated to be of great importance. Strong commitment and continuous participation on the part of ministries of health to endorse the initiatives, support the necessary legislative changes, make available necessary human resources and to release the necessary funds are prerequisites for success. The provision of essential supplies, drugs and equipment is of primary concern, as is regular supervision and monitoring of activities. The experiences gained in the community and family area show that firm links need to be established between the health system and the community and family to ensure regular access to health care and health education. In addition the support of different partners international partners needs to be further expanded in order to make these initiatives effective and successful.

Meeting holistic needs in delivering neonatal care

Evidence-based principles of care, safe demedicalization and parental participation are the cornerstones of holistic neonatal care, aiming at meeting both physical, and psychosocial needs of newborns, mothers, fathers and families. During the last 20 years, the interest in this area has continuously increased in both the population and among health providers, leading to substantial changes in policies of care. The innovations often initially met resistance, as they were, in some contexts, in strong contrast with traditional policies of care based on the separation of mothers and newborns. On the other hand, meeting the holistic needs in delivering neonatal care has been demonstrated to be effective in improving neonatal wellbeing and outcomes. Parental satisfaction, compliance with health staff recommendations and the ability to take care of the newborn at home have also significantly increased.

Therefore, appropriate technologies aimed at enhancing parental participation and decreasing over-medicalization of care have also been incorporated into WHO/Europe recommendations. They are aimed at providing effective, safe and holistic perinatal/neonatal care for each newborn cared for by each health professional at each level of care and are now being implemented throughout the countries.

Promoting family and community awareness and participation

Support from the family and community in the process of building national and local capacity for effective perinatal and neonatal care is a key factor for success. Information and awareness has to be disseminated with the message that promoting women's and infants' health is a way of promoting the fundamental human rights to life, dignity, health, liberty, equity, solidarity and family life. Traditional policies of care, if not harmful, should be regarded as a way of increasing family and community compliance. Strong support must be obtained from opinion leaders, women's associations and other stakeholders through wide coverage of issues related to maternal and neonatal health promotion in the mass media, together with other initiatives aimed at promoting advocacy.

Fig. 1: Contents of essential newborn care/breastfeeding course

| | |
|---|---|
| Understanding the determinants of perinatal and neonatal deaths and how to reduce perinatal and neonatal deaths | Discharge from hospital |
| Care of the healthy newborn | Making the hospital baby-friendly |
| Breastfeeding management in the healthy newborn | How to improve the organization of care (New sessions added following participants' suggestions): |
| Breastfeeding difficulties | Prevention of mother-to-child transmission of HIV |
| Care of the low birth weight newborn | Problem-oriented clinical assessment of the newborn |
| Methods of feeding the low birth weight newborn | Neuro-behavioural assessment of the newborn |
| Care of the newborn with asphyxia; with infections; with jaundice | How to meet holistic needs in delivering neonatal care |
| Feeding the sick baby | |

Fig. 2: Appropriate technologies for childbirth and neonatal care

| | |
|--|--|
| Enhanced support for women | Early mother-to-infant contact |
| Companion allowed to stay in the delivery room | Early breastfeeding and rooming-in |
| Effective neonatal resuscitation | Preventing neonatal discomfort and pain |
| Preventing neonatal hypothermia | Parental participation in care and good communication with parents |
| Appropriate hand washing by health providers | Shortening hospital stay and providing counselling at discharge |

Planning for the future

Experiences gained from the Making Pregnancy Safer/Promoting Effective Perinatal Care initiative within the European Region show that positive changes in planning for and delivering perinatal and neonatal care are taking place even in challenging contexts. Therefore, this model of intervention should be further implemented in the Region. Planning for its expansion will require carefully balancing of the need to increase coverage with the need to maintain quality and effective management. Building local capacity and ownership, incorporating MPS/PEPC principles in ongoing health sector reforms, and demonstrating cost-effectiveness of these initiatives are the targets to be achieved.

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PERINATAL CARE IN LITHUANIA (1991–2004)

By *Gelmius Šiupšinskas and Arūnas Liubšys*

The birth rate in Lithuania has declined dramatically over the last years from 15.2 per 1000 population in 1990 to 8.9 in 2003 (Fig. 1).

In 1990, after Lithuania regained the independence, areas that needed substantial improvement in medical care were identified. However, the perinatal care system faced a number of discrepancies that were raised by neonatologists and paediatricians. Firstly, perinatal mortality and the live birth definition did not meet WHO criteria. Secondly, medical care standards were outdated and did not correspond to modern evidence-based practices. And, thirdly, statistical methods did not meet international standards.

The reorganization of former Soviet perinatal care system began in 1991. The Lithuanian Ministry of Health invited a group of experts in obstetrics, neonatology and medical genetics to set up a new system of the national perinatal care based on modern standards.

Firstly, the WHO criteria for the registration of premature infants (from 22 weeks of gestation and a birth weight of 500 grams) was initiated as was the WHO definition of live birth. All maternal and perinatal care facilities were organized into a three-tiered system. This was carried out according to the potential of the facilities and geographic distribution. Level I was outpatient maternity centres and obstetric departments of district hospitals (total number 45); level II was outpatient clinics and obstetric and neonatal departments of the regional multidisciplinary hospitals (total – 6); and level III was two perinatal centres: the Vilnius University women's and neonatology departments and the Kaunas Medical University departments of obstetrics and neonatology.

From 1991, the referral of pregnant women or babies to relevant levels of care was based on either pregnant women's perinatal risk score (low, medium or high) or the condition of the newborn. In 1998, the risk-oriented approach was changed to a problem-oriented approach according to newly updated criteria. The perinatal programme was evaluated and supported by external experts from the United States, Sweden and Switzerland.

Healthy pregnant woman in Lithuania can choose an obstetrician, family doctor or midwife for their antenatal care provision. Should pregnancy-related problems be identified or complications develop, referral to a higher level of care is consid-

ered according to national criteria. Women also have a possibility to choose a maternity ward from the relevant level.

Maternal indications for referral from level I are previous Caesarean section, grand parity, pre-term labour, foetal malposition, bleeding during the second or third trimester, placenta previa, hypertension and some other pregnancy related and non-related (medical) problems. In case of very unfavourable anamnestic data (e.g. stillborn, newborn central nervous system injury, habitual abortion), expected very low birth weight (<32 weeks), severe pregnancy-related complications (e.g. Rh isoimmunisation, fetal intrauterine growth restriction or late foetal death, congenital anomaly and pre-eclampsia) or serious medical problems (e.g. diabetes, cardiovascular and other disorders), women are transferred for delivery and care to level III.

Each maternity ward is equipped to perform assessments of the woman in labour and to resuscitate a newborn. There are criteria for when a neonatologist should be present at the delivery and perform the initial physical examination of the newborn. Delivery ward staff are trained in neonatal resuscitation.

All healthy newborns are kept in the same room with their mothers (rooming-in). Companionship in labour is strongly encouraged. Exclusive breastfeeding is a regular practice and five maternity hospitals in Lithuania have to date been nominated as baby-friendly hospitals.

Neonatal wards in each facility are equipped to stabilize ill and/or premature newborns prior to transfer to a higher level of care. Strong emphasis is put on thermal control ("warm chain") to prevent newborn hypothermia. A transportation system with five neonatal transport teams in five regional centres (Vilnius, Kaunas, Klaipėda, Šiauliai and Panevėžys) has also been established. These teams are well trained and equipped to transport ill newborns from lower level care to a higher level centre. Currently, the teams are expected to reach any district hospital within 1.5–2 hours after the initial contact from the referring hospital.

Criteria for transferring the newborn to a higher level of care facility are: a life threatening condition, not responding to conventional treatment, suspected/confirmed congenital anomaly, very low birth weight (<1500 g), life threatening iatrogenic complications, prolonged ventilation (>5 days) or persistent parental request

for transfer to higher care.

Since 1995, perinatologists, supported by the Lithuanian Association of Obstetricians-Gynaecologists, have been reviewing outdated practices and elaborating national evidence-based standards. The first protocols issued were on normal delivery, preterm labour, newborn resuscitation and perinatal infections. Currently, all medical institutions in Lithuania are obliged to set up their own local protocols in line with national and international recommendations and the best available scientific evidence.

Data registration

In an effort to assess the benefits of the new perinatal programme, hospitals are required to provide data on their perinatal and neonatal outcomes. Monthly, all hospitals must analyze the morbidity and mortality of pregnant and delivering women, and newborns. Also, premature deliveries and stillborns must be reported. The head of the obstetric department presents a review of the high-risk deliveries to the perinatal centres every three months. Every six months the regional chief specialists (obstetrical/neonatal) present a compilation of the work indices to the chief specialist of the perinatal centre and to the head obstetrician and neonatologist of the country. These data are then submitted to the permanent committee for analysis of perinatal mortality in the perinatal centres.

The perinatal centres are responsible for the practical and methodological support to audit and analyze causes of maternal and perinatal/neonatal deaths and severe morbidity. In 1993, the Medical Birth Register was started. The data collected through this register are fed back to all hospitals in the perinatal network on a regular basis.

The initial goals set by the perinatal programme have been achieved. Hospitals and neonatal/obstetrical departments provide perinatal care according to the principals of an effective referral system. An illustration of this is clearly shown by the fact that the vast majority of births involving premature infants, 22–31 weeks gestation take place at level III facilities.

Another example of the benefits is decline in mortality – both maternal and perinatal. The maternal mortality ratio has decreased from 44:100,000 live births in 1992 to 9.1:100,000 in 2004. Perinatal mortality rate (including all stillborns from 22 weeks and 500 g) has declined from 17.3:1000 live births in 1992, to

Fig. 1 Demography

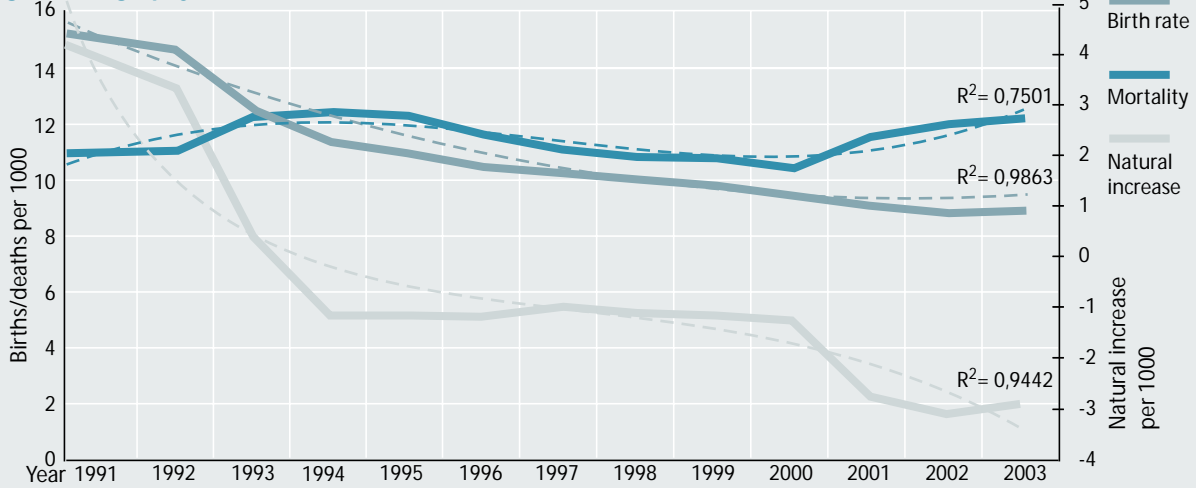
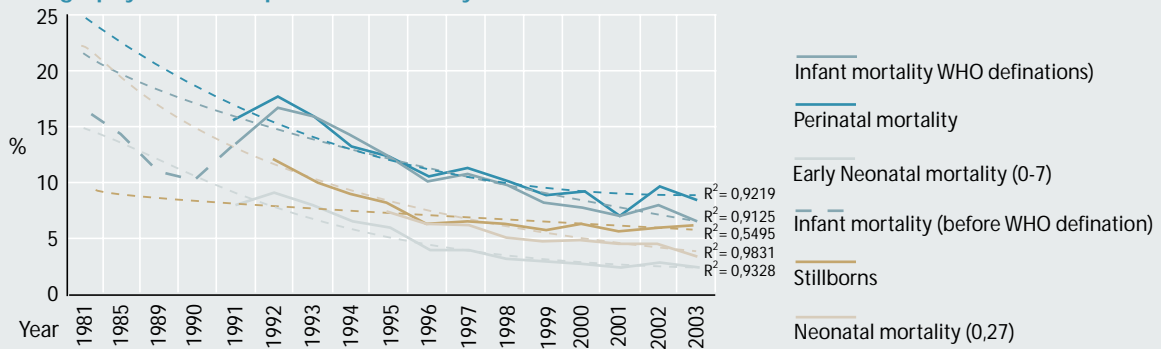


Fig. 2 Demography Infant and perinatal mortality



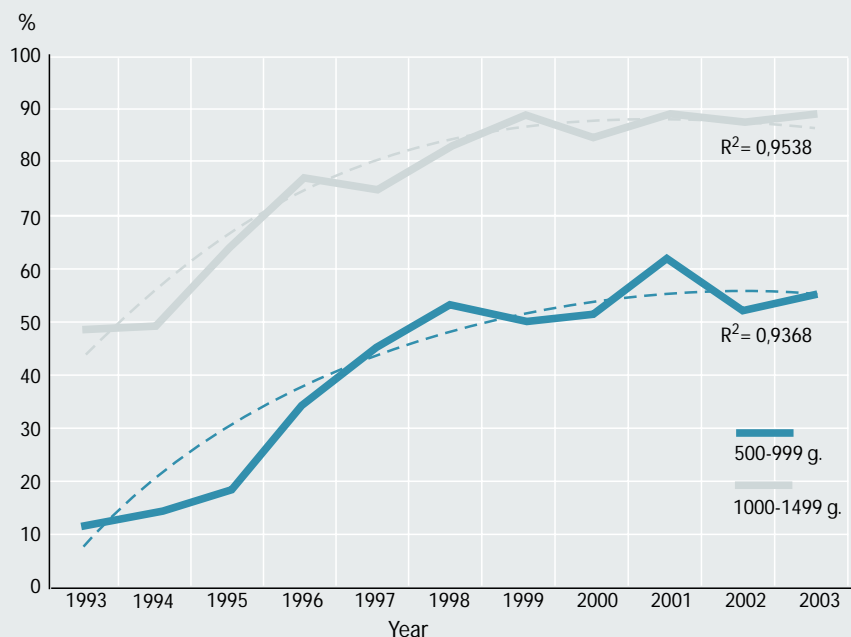
8.3:1000 in 2003, neonatal mortality – from 11.8:1000 to 3.7:1000 respectively (Fig. 2). The survival of very low birth weight newborns has reached almost 90% (see Fig. 3).

The development of a perinatal system that incorporate effective referral, adequate funding, implementing evidence-based practices and appropriate distribution and utilization of the resources can achieve dramatic improvements. Lithuania's goals for health care now seek to meet the highest international standards.

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Fig. 3 Survival of very low birth weight newborns



THE ENVIRONMENTAL BURDEN OF DISEASE AND INJURY AMONG CHILDREN AND ADOLESCENTS IN EUROPE



How much is our polluted environment affecting the health of children and future generations?

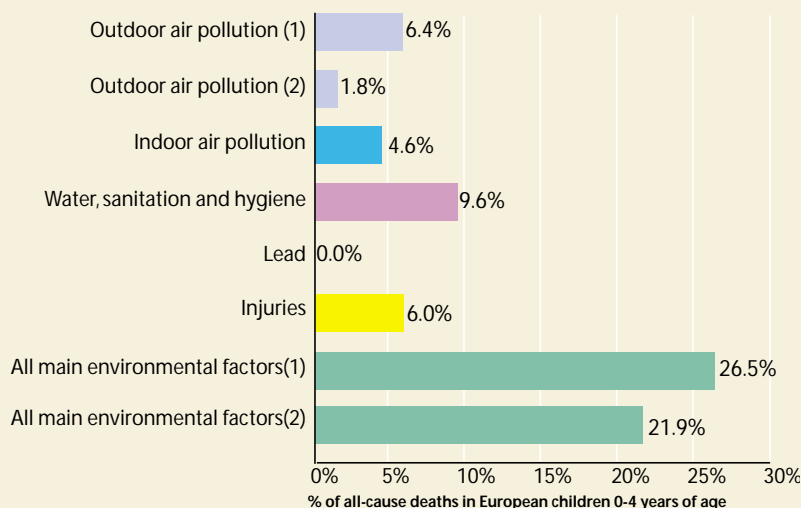
Environmental exposures are important contributors to the burden of disease among children and adolescents. However, there are still major gaps in our knowledge on the magnitude and distribution of the environmental burden of disease among the young. Moreover, there is concern about preconceptional and prenatal exposures, based on knowledge of critical periods during development when the foetus is more vulnerable to exposures.

In 2004, the WHO Regional Office for Europe Children's Health and Environment programme carried out an environmental burden of disease study, the first attempt to assess the impact of the environment on child health in the European Region. The study concentrated on hazards with well documented health effects and did not tackle areas such as chemicals, where there are still many uncertainties, albeit a high degree of concern. Its findings showed that indoor and outdoor air pollution, unsafe water conditions, lead exposure and injuries account for one-third of the total burden of disease in 0-19 year olds. It also estimated the number of lives (and disabilities) that could be saved from reducing the exposure of the child population to these hazards in the region.

The study aimed to estimate the burden of childhood disease and injury attributable to various environmental risks in Europe and health gains achievable from reducing the exposure of the child population to these hazards in the region. It focused on four major environmental risk factors (outdoor air pollution, indoor air pollution, unsafe water, sanitation, and hygiene, and lead) and injuries.

Ultimately, the study showed that children's exposure to environmental factors

Proportion of all-cause deaths attributable to environmental factors among European children 0-4 years of age



(1) Applying relative risk to all-cause deaths for outdoor air pollution.

(2) Applying relative risk to respiratory infections for outdoor air pollution.

is not uniform across the European Region due to the variable combination of poor housing conditions, polluted environment and unequal access to prevention and health care programmes. Children in particularly adverse conditions, such as poor and abandoned children, street children, children who are exploited or trafficked and those suffering from the consequences of armed conflict, are at highest risk of injuries, psychological trauma, acute and chronic infections and non-communicable diseases, impaired growth and development, disability and death. Even though our understanding of the nature and the amount of health effects produced on children is still incomplete, there is already evidence that action aimed at reducing the exposure to environmental risk factors and at preventing injuries can result in substantial public health gains.

This article was adapted by Leda Nemer and Jeffrey Lazarus, based on: Valent F, Little DA, Tamburlini G, Barbone F. Burden of disease attributable to selected environmental factors and injuries among Europe's children and adolescents, WHO Environmental Burden of Disease Series, No. 8. World Health Organization Regional Office for Europe European Centre for Environment and Health, Rome, and Protection of the Human Environment, Geneva 2004.

The full report is available at: http://www.euro.who.int/eprise/main/WHO/Progs/CHE/Monitoring/20040519_1



Sexually transmitted infections: breaking the cycle of transmission



UNFPA 2004 www.unfpa.org/upload/lib_pub_file/362_filename_sti_complete.pdf

Sexually transmitted and other reproductive tract infections (STI/RTI) continue to be a serious health problem, particularly among women. Where access to timely treatment is not available, STIs may result in pelvic inflammatory disease, infertility, cancer, neonatal complications or even death. Moreover, mounting evidence suggests that people who have sexually transmitted infections are much more likely than others to contract and transmit the HIV virus. Thus, though prevention and treatment should be pursued for their own sake, the role of STI/RTI in fuelling the HIV pandemic has made this an even more pressing issue. Because ample literature is already available on the subject, this publication does not specifically address HIV/AIDS. Emphasis is given instead to the most common and treatable infections.

World Health Day auction

Every year, on 7 April, the World Health Organization marks World Health Day, which draws attention to health issues of major importance.

This year, the focus will be on mothers and children and their health. Among the events planned by the WHO Regional Office for Europe to highlight the day will be an online auction organized in collaboration with the Danish auction house Lauritz.com, from 23 March to 13 April 2005. Artists have donated different effects and all proceeds and profits from the auction will be donated to the WHO Regional Office for Europe to support the activities to better the health of mothers and children.

MEASURE DHS: Demographic and Health Surveys

MEASURE (Monitoring and Evaluation to ASsess and Use REsults) activities support family planning, reproductive health, maternal health, child survival, and HIV/AIDS/STI control/prevention through data collection, analysis and evaluation designed to improve programme performance and better understand programme impact in these areas. Numerous reports focus on central and eastern Europe and all available free of charge online at: <http://www.measuredhs.com/>. Several of the latest reports are presented below.

- Westoff, Charles F., Jeremiah M. Sullivan, Holly A. Newby and Albert R. Themme. 2002. *Contraception–Abortion Connections in Armenia*. DHS Analytical Studies No. 6. Calverton, Maryland: ORC Macro. In Armenia, as in other countries of the former Soviet Union, induced abortion is an important method of birth control. The total abortion rate is high in Armenia, estimated at 2.6 abortions per woman for the 1998-2000 period, although there is evidence of a decline over the past 15 years. The high abortion rate notwithstanding, most Armenian women disapprove of abortion and prefer contraception; however, at least half report that they would seek an abortion if they were to become pregnant unintentionally.
- Centers for Disease Control and Prevention and ORC Macro. 2003. *Reproductive, Maternal and Child Health in Eastern Europe and Eurasia: A Comparative Report*. Atlanta, GA (USA) and Calverton, MD (USA). This comparative report, which summarizes the major findings from 16 surveys conducted during the period 1993-2001 in 12 countries in eastern Europe (the Czech Republic, the Republic of Moldova, Romania, the Russian Federation and Ukraine), the Caucasus (Armenia, Azerbaijan and Georgia), and central Asia (Kazakhstan, Kyrgyzstan, Turkmenistan and Uzbekistan). These surveys represent the first systematic efforts to gather data on population and reproductive health issues in the region.
- Westoff, Charles F. 2005. *Recent Trends in Abortion and Contraception in 12 Countries*. DHS Analytical Studies No. 8. Calverton, Maryland: ORC Macro. This report is an analysis of recent trends in abortion and contraception in 12 countries of central Asia and eastern Europe - Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyzstan, the Republic of Moldova, Romania, Russia, Turkey, Turkmenistan, Ukraine, and Uzbekistan - where abortion had long been a major if not the principal method of birth control. All of these countries have experienced sharp declines in the number of children desired and in fertility rates.
- Westoff, Charles F. 2000. *The Substitution of Contraception for Abortion in Kazakhstan in the 1990s*. DHS Analytical Studies No. 1. Calverton, Maryland: ORC Macro. The evidence that the increase in contraceptive practice and the decline in abortion have continued in the country is unmistakable and strong. Contraceptive prevalence has increased by 50 per cent since the beginning of the decade and abortion has decreased by the same amount. The continuation of these trends is particularly impressive in light of the evidence of an increasing desire for smaller families in Kazakhstan.



Entre Nous

*The European Magazine
for Sexual and Reproductive Health*

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