WHO EMRO | Strategies to avert preventable mortality among mothers and children in the Eastern Medit

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Invited review

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استراتيجيات تجنُّب وفيات الأمهات والأطفال التي يمكن الوقاية منها في إقليم شرق المتوسط: مبادرات جديدة، وآمل جديد

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الخلاصة: أجرَينا تقييما لصحة الأمهات والأطفال وحديثي الولادة والتقدُّم المحرَز صَوْب تحقيق المرمى الرابع والمرمى الخامس من المرامي الإنمائية للألفية في إقليم شرق المتوسط. ونقدِّم توصيات للحفاظ على المكاسب والارتقاء بمستواها لما بعد عام 2015. لقد تم الحصول على البيانات من مستودعات البيانات العالمية. وقد أعددنا الاتجاهات الزمنية من عام 1990 إلى عام 2013، وقيَّمنا أوجه عدم المساواة عبر الإقليم. وقد انخفضَت معدّلات وفيات المواليد والأمهات بمقدار 46% و35% و50% على التوالي من عام 1990 إلى عام 2013. وشكل الالتهاب الرئوي والإسهال 50% من جميع وفيات الفترة التالية لحديثي الولادة؛ وكانت المضاعفات المتصلة بالحمل والولادة من الأسباب الرئيسية لوفيات الأمهات والأطفال حديثي الولادة. إن مدى تغطية صحة الأم والوليد والطفل بالتدخلات الصحية مازالت دون المستوى الأمثل، ومازال الفقر وانعدام الأمن الغذائي، والصراعات من الأمور المنتشرة عبر الإقليم. ومع أن إقليم شرق المتوسط قد أحرَز تقدُّماً، لكن من غير المرجح بلوغ المرمى الرابع والمرمى الخامس من المرامي الإنمائية للألفية. وللاستمرار في تحقيق المكاسب وزيادة وتيرتها، على الإقليم الحدّ من عدم المساواة، وتوسيع نطاق التوصيات التي قدّمها الفريق المستقل للخبراء المعنيين بالمراجعة.

ABSTRACT We conducted an assessment of maternal, newborn and child health and progress towards achieving Millennium Development Goals (MDG) 4 and 5 in the Eastern Mediterranean Region (EMR). We provide recommendations for scaling up and sustaining gains post-2015. Data were obtained from global data repositories. We constructed time trends from 1990 to 2013 and evaluated inequities across the Region. Under-5, neonatal and maternal mortality rates decreased 46%, 35%, and 50% respectively from 1990 to 2013. Pneumonia and diarrhoea accounted for 50% of all post-neonatal deaths; pregnancy- and delivery-related

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complications were the leading causes of neonatal and maternal deaths. Coverage of maternal, newborn and child health interventions is suboptimal, and poverty, food insecurity and conflict are pervasive across the Region. The EMR has made progress but is unlikely to attain MDG 4 and 5 targets. To sustain and further accelerate gains, the Region must reduce inequities and scale up implementation of recommendations made by the independent Expert Review Group.

Stratégies permettant de prévenir la mortalité évitable chez les mères et les enfants dans la Région de la Méditerranée orientale : nouvelles initiatives, nouvel espoir

RÉSUMÉ Nous avons mené une évaluation de la santé de la mère, du nouveau-né et de l'enfant et des progrès effectués sur la voie de la réalisation des objectifs du Millénaire pour le développement (OMD) 4 et 5 dans la Région de la Méditerranée orientale. Nous fournissons des recommandations afin de renforcer et de prolonger les acquis pour la période de l'après-2015. Les données ont été obtenues des systèmes mondiaux d'archivage de données. Nous avons établi des tendances temporelles pour la période allant de 1990 à 2013 et avons évalué les inégalités dans l'ensemble de la Région. Les taux de mortalité des enfants de moins de cinq ans, des nourrissons et des mères ont diminué respectivement de 46 %, 35 % et 50 % de 1990 à 2013. La pneumonie et la diarrhée représentaient 50 % de tous les décès post-néonatals ; les complications associées à la grossesse et l'accouchement constituaient les principales causes de décès néonatals et maternels. La couverture des interventions de santé maternelle, néonatale et infantile est sous-optimale, et la pauvreté, l'insécurité alimentaire et les conflits sont très répandus dans l'ensemble de la Région. La Région de la Méditerranée orientale a fait des progrès mais ne devrait probablement pas atteindre les cibles des OMD 4 et 5. Pour pérenniser et accélérer davantage les acquis obtenus, la Région doit réduire les inégalités et intensifier la mise en œuvre des recommandations effectuées par le Groupe d'examen composé d'experts indépendants.

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Introduction

It has been almost 15 years since the United Nations summit convened to build a roadmap for global policies related to the needs of developing countries (1). The Millennium Development Goals (MDGs) encompassed 8 goals focused primarily on eradicating poverty, achieving universal primary education, environmental sustainability, promoting gender equality, fighting diseases and developing global partnerships (2).

Improving maternal and child health and survival was at the forefront of the agenda, and MDGs 4 and 5 were specifically prioritized to reduce mortality rates in children under 5 years old by two-thirds and maternal mortality rates by three-quarters respectively from 1990 base figures, by 2015. With only a few months remaining, remarkable global progress has been made in a little over a decade. Globally, the number of under-5 deaths have declined by approximately 50% (from 12.7 million to 6.3 million from 1990 to 2013) (3,4) and the number of maternal deaths has dropped from 523 000 to 289 000 (45% reduction) (5). These gains, however, fall short of meeting the MDG targets, and achievements vary dramatically across regions and nations (6).

The World Health Organization (WHO) Eastern Mediterranean Region (EMR) comprises 22 diverse nations which collectively account for almost 15% of the total global burden of newborn and child mortality (7). Over the last few decades, the EMR has shown a nearly 12-year increase in life expectancy; immunization coverage has increased to more than 85% and the prevalence of communicable disease has dropped substantially (8). However, progress is localized to select countries, and pervasive inequities have contributed to variable success in attaining MDGs 4 and 5 in the Region (6,9,10). As the end of the MDG period quickly approaches and as global efforts transition to the post-2015 Sustainable Development Goals, the EMR must hasten to accelerate gains by reducing inequities and addressing key bottlenecks.

We conducted an updated analysis of maternal, newborn and child health (MNCH) and survival in the EMR, and reviewed recommendations and the way forward for scaling up and maintaining MNCH successes post-2015.

Methods

For this review, national estimates of neonatal mortality rates (NMR) and under-5 mortality rates (U5MR) for EMR countries were obtained from the United Nations Inter-agency for Mortality Estimation Group (3), and national estimates of maternal mortality ratios (MMRs) were obtained from the Maternal Mortality Estimation Inter-agency Group (5) serially from 1990 to 2013

inclusive. The annual rate of reduction in U5MR and MMR was used to track progress in achieving MDGs 4 and 5 respectively. We also examined NMR as a component of U5MR, as the issue of neonatal deaths were virtually missing from the MDGs.

It has been estimated that an annual rate of reduction in U5MR of around 4.4% should be sufficient to achieve MDG 4 targets (3). We classified the Region and countries as: having met the MDG goal if they were currently at or exceeded the MDG 4 target level; as being on-track if the annual rate of reduction was ≥ 4.0%; as making progress but unlikely to reach the MDG target if the reduction was 2.6–3.9%; and as off-track if the reduction was ≤ 2.5%. Countries with an U5MR

Similarly, to attain MDG 5 targets, the global decline in MMR should exceed a minimum of 5.5% (5). We classified the Region and countries as: having met the MDG 5 goal if they were currently at or exceeded the MDG target level; as on-track if the annual rate of reduction was ≥ 5.0%; as making progress but unlikely to reach the MDG target if the reduction was 2.5–4.9%; and off-track if the reduction was

The Child Health Epidemiology Reference Group (7) and the Institute for Health Metrics and Evaluation (4) provided child and maternal cause of death data for each nation in the EMR for 2013. We pooled cause-specific deaths across all countries and calculated the proportion due to each cause for neonates (aged

National estimates for maternal and child health interventions across the continuum of care were obtained from the WHO Global Health Observatory database (11), World Bank (12), United Nations Children's Fund (UNICEF) (13), representative national demographic and health surveys, multiple indicator cluster surveys, and other nationally-representative household surveys. The essential interventions examined included indicators of family planning, immunization, health-care service utilization, illness- and care-seeking behaviour, improved water and sanitation facilities (14), and neonatal and child nutrition, including stunting, wasting and overweight (15). The most recent available estimate in the 2000 to 2013 time period was used, and regional medians were calculated. Social determinants, including data on poverty, food insecurity, battle-related deaths, internally-displaced populations, age at marriage and female literacy, were also obtained for the most recent year available.

To explore within-Region equity, trends were disaggregated by World Bank income groups (16), and into high-burden and non-high-burden (other) EMR countries. EMR high-burden countries include Afghanistan, Djibouti, Egypt, Morocco, Pakistan, Somalia, Sudan and Yemen (17). We also contrasted our analysis with the global trends and with data from developed and developing country regions.

Results

Child mortality rates

From the years 1990 to 2013 U5MR in the EMR declined from 101 to 55 deaths per 1000 live births, a 46% reduction (Figure 1). While progress has been made, the annual rate of reduction of 2.6% forecasts that the Region will fall short of meeting the MDG 4 target (U5MR of 34 per 1000). U5MR trends are consistently higher in the EMR when compared with global averages, and are on a par with developing countries (Figure 1).

Of the countries in the Region with U5MR > 25 deaths per 1000 live births in 1990, 5 countries reduced U5MR by at least 70% and have already achieved their MDG 4 targets (Egypt, Islamic Republic of Iran, Tunisia, Oman and Lebanon) (Figure 2). Four countries are on-track (Syrian Arab Republic, Morocco, Saudi Arabia and Libya), while 4 more are making progress but are unlikely to reach their MDG targets (Yemen, Palestine, Jordan and Afghanistan). Five nations are off-track, namely Djibouti, Sudan, Pakistan, Iraq and Somalia (Figure 2). High-income countries, including Bahrain, Qatar, United Arab Emirates and Kuwait, have also reduced U5MR from base values and currently have rates

Seven countries accounted for more than 90% of the 848 072 deaths in under 5-year-olds in the Region in 2013 (Somalia, Afghanistan, Pakistan, Sudan, Yemen, Iraq and Egypt) (3). The highest burden countries included Afghanistan, Pakistan and Sudan, which have U5MR among the highest worldwide (3).

More than 45% of all under-5 deaths in 2013 occurred within the first month of birth (3). NMR in the Region have declined much slower than U5MR (approximately 35% reduction) and progress is similar to global and developing regional trends. Afghanistan, Pakistan, Somalia, Sudan and Djibouti made the least progress in reducing NMR between 1990 and 2013 (

The major causes of child deaths are pneumonia and diarrhoea, together accounting for approximately 50% of post-neonatal mortality in the high-burden countries, and 40% in other EMR countries in 2013 (Figure 3a). Pre-term birth complications and intrapartum-related events represented about one-third and one-fifth respectively of all neonatal deaths in the Region in 2013 (Figure 3b). Newborn death from congenital abnormalities was higher in high-burden EMR countries (~ 20%) when compared with others (~ 10%). Neonatal infections accounted for another 17% and 13% of deaths in high-burden and non-high-burden countries respectively (Figure 3b).

Maternal mortality ratios

MMRs declined 50% in the EMR between 1990 and 2013, from 340 to 170 maternal deaths per

100 000 live births, which is similar to global (45%) and developing region (47%) reductions across the same time period (5). While substantial, the reduction is far from the MDG 5 target of a 75% reduction, and the Region's annual rate of reduction of 3.0% suggests that the EMR is not likely to reach its goal (5).

Two countries, Oman (77% reduction) and Lebanon (75% reduction), have already met their MDG 5 reduction target and the Islamic Republic of Iran is on-track (72% reduction). Notwithstanding the evident gaps, many high-burden countries in the Region, including Pakistan, Afghanistan, Egypt, Syrian Arab Republic and Morocco, have decreased their MMRs around 60% or more, despite challenging contexts. Sudan, Palestine and Libya decreased MMR by approximately 50%, and in the case of Sudan, the rate fell substantially from 720 maternal deaths per 100 000 live births in 1990 to 360 per 100 000 in 2013. MMR in Tunisia, Djibouti, Jordan, Yemen, Iraq and Somalia dropped less than 50% and these countries are unlikely to meet their targets (5). Many high-income countries have relatively low MMR (

Seven countries in the Region continue to have MMR > 100 maternal deaths per 100 000 live births in 2013—Morocco (120), Pakistan (170), Djibouti (230), Yemen (270), Sudan (360), Afghanistan (400) and Somalia (850)—and approximately 80% of maternal deaths continue to occur in only 4 of these nations (Somalia, Afghanistan, Pakistan and Sudan). Together with Yemen, Morocco and Egypt, these high-burden countries accounted for nearly 95% of the 26 000 maternal deaths in the Region in 2013 (5)

Maternal causes of death in the EMR mirror global trends, and are similar between high-burden and other EMR countries (Figure 3c). Pregnancy and delivery-related complications, such as haemorrhage, maternal infections, hypertensive disorders, obstructive labour and abortive outcomes, are the leading causes of maternal mortality, collectively accounting for about two-thirds of all maternal deaths in 2013 (Figure 3c).

Box 1 Recommendations from the independent Expert Review Group for accelerating progress in maternal and child health and survival. Source: Independent Expert Review Group on Information and Accountability for Women's and Children's Health, 2014 (38)

1. Strengthen the global governance framework for women's and children's health. Such plans will synergize efforts in interdisciplinary initiatives to ensure coordination and unity in implementing this governance gap.
2. Develop a global investment to take national investments and contributions into consideration to help guide a more targeted and strategic approach to women's and children's health.

3. Establish clear country-specific strategic priorities for implementing the Global Strategy for Women's, Children's and Adolescents' Health while also testing innovative mechanisms for delivering those priorities.

4. Accelerate the compliance and evaluation of eHealth and mHealth technologies. Assistance is advised by partners with the development and implementation of national eHealth plans, encouraging coordination between providers, and to support evaluation.

5. Strengthen human rights tools and frameworks to achieve better health and accountability for women and children. Human rights groups that address health are requested to include women and children into their work.

6. Expand the commitment and capacity to evaluate initiatives for women's and children's health. Evaluation is vital in addressing accountability, and partners are requested to establish a global research network to support the Global Strategy.

7. Strengthen country accountability. Ministers of health, with the help of partners, are asked to clearly prioritize and evaluate country-led, inclusive, transparent and participatory national oversight mechanisms to advance women's and children's health.

8. Demand global accountability for women and children. Promote and implement an independent accountability mechanism to monitor, review and continuously improve actions to deliver the post-2015 sustainable development agenda.

9. Take adolescents seriously. Comprise an adolescent indicator in all monitoring mechanisms for women's and children's health, and involve young people on all policy-making bodies affecting women and children in a meaningful manner.

10. Prioritize quality to reinforce the value of a human-rights-based approaches to women's and children's health. Quality of care should be the path to equity and dignity for women and children.

11. Make health professionals count. Deliver an expanded and skilled health workforce, which serves women and children with measureable impact.

12. Launch a new movement for better data. Make universal and effective civil registration and vital statistics systems a target post-2015.

13. Develop, secure wide political support for and begin to implement a global plan during 2014–2015 to end all preventable reproductive, maternal, newborn, child and adolescent mortality for the period 2016–2030: a more inclusive Global Strategy for Women's and Children's health. Long-term strategies that focus on important needs for women and children are needed instead of waiting for governments to agree on Sustainable Development Goals. These needs include: to accelerate the delivery of life-saving interventions such as vaccines to women and children; to focus on the sexual and reproductive health, rights and well-being of the adolescent girl, delivering universal health coverage now; to protect health by investing in education for girls; and to address the unmet need for safe abortion practices. The post-2015 Global Strategy requires attention to the multisectoral nature of women's and children's health, not solely health-sector investments but also non-health-sector investments.

14. In 2015, devise a results-based financing facility to support and sustain this new Global Strategy. An investment framework for predictable performance-based financing systems, both globally and domestically, has been established but not fully implemented. Involvement of funders is necessary for the investment framework to be fully active. The independent Expert Review Group recommends that those involved in reproductive, maternal, newborn and child health join together with other partners such as nongovernmental organizations and donors to generate long-term investments to improve women and children's health.

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