

*Short communication*

# Networking for applied field epidemiology – Eastern Mediterranean Public Health Network (EMPHNET) Conference 2011

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## مُشَابَكَة الوبائيات الميدانية التطبيقية – مؤتمر شبكة إقليم شرق المتوسط للصحة العمومية لعام 2011

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الخلاصة: بمناسبة المؤتمر الثاني لشبكة إقليم شرق المتوسط للصحة العمومية (6-9 كانون الأول/ ديسمبر 2011 في شرم الشيخ، في مصر)، تعرّف هذه المقالة شبكة إقليم شرق المتوسط للصحة العمومية، ودورها في الربط بين برامج تدريب الوبائيات الميدانية في الإقليم. كما تصف هذه الورقة بإيجاز، التغيّر الحاصل في الوضع الراهن للوبائيات في الإقليم، وذلك لتوضيح الحاجة الملحة لتعزيز نظم الصحة العمومية وبناء القوة العاملة من اختصاصيي الوبائيات.

ABSTRACT On the occasion of the second Eastern Mediterranean Public Health Network (EMPHNET) conference that was held from 6–9 December 2011 in Sharm Al Sheikh, Egypt, this article introduces EMPHNET and its role to link Field Epidemiology Training Programs (FETP) in the region. The paper briefly describes the changing epidemiology situation in the region to illustrate the urgent need to strengthen public health systems and to build up the epidemiologist workforce.

## Nouer des liens en faveur de l'épidémiologie de terrain appliquée : le rôle de la conférence 2011 du Réseau de la Méditerranée orientale pour la santé publique

RÉSUMÉ À l'occasion de la deuxième conférence du Réseau de la Méditerranée orientale pour la santé publique qui s'est tenue du 6 au 9 décembre 2011 à Charm El Cheikh (Égypte), l'article présente ce réseau et son rôle dans l'établissement de liens entre les programmes de formation en épidémiologie de terrain au niveau régional. Il décrit brièvement l'évolution de la situation de l'épidémiologie dans la région pour illustrer la nécessité urgente de renforcer les systèmes de santé publique et de développer les ressources humaines en épidémiologie.

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## Introduction

The Eastern Mediterranean Public Health Network (EMPHNET) is a regional network that is linking Field Epidemiology Training Programs (FETPs) in the Middle East and North Africa Region (MENA) [1]. FETPs are applied epidemiology programmes that help countries to improve and strengthen their public health system and infrastructure by building up a cadre of well-trained epidemiologists. The second EMPHNET conference was held from 6–9 December 2011, in Sharm Al Sheikh, Egypt [2] and allowed FETP residents to present their work and stimulated debate about major public health issues in the region. In this communication, we discuss the importance of FETPs against the background of a changing population and health situation in the MENA region.

## The concept of Field Epidemiology Training Programs

The FETP is a 2-year, full-time training and service programme, which involves classroom instruction in a variety of epidemiology- and public health-related subjects, and field assignments including disease outbreak investigations and use of disease surveillance systems for decision-making. The programme is based on the U.S. Centers for Disease Control and Prevention's (CDC) epidemic intelligence service, which started in 1951. In 1975 the Canadians started their programme in consultation with CDC [3], and since then the number of programmes has increased dramatically. As of August 2010, there were 52 FETPs worldwide covering 66 countries (some are regional programmes) [4]. The concept of FETPs has further evolved in recent years with the development of a standard

curriculum including defined core competencies and proficiency levels [5]. In the MENA region, the first FETP was started in 1989 in Saudi Arabia, followed by Egypt (1993), Jordan (1998) and Pakistan (2006). New FETPs have recently been established in Iraq (2010), Morocco (2010) and Yemen (2011). A new FETP is also in preparation in Afghanistan (Pakistan and Afghanistan are included here because they are part of EMPHNET).

## The EMPHNET conference – facing a changing epidemiology in the region

To date, over 250 epidemiologists have graduated from the MENA FETP. However, much remains to be done if the number of trained epidemiologists is to be increased to a ratio of 1 per 200 000 population [6].

The epidemiology in the region is characterized by increasing and ageing populations, half of them now living in urban areas (Table 1). The total fertility rate per woman has decreased from 5.5 in 1990 to 3.4 in 2009 but this is not enough to limit population growth. Given that there is a strong positive correlation between birth rates and child mortality [7], the successful reduction in under-5 mortality in the region from 100 deaths per 1000 live births in 1990 to 68 per 1000 live births in 2010 will help to stabilize population growth (Table 1); however, this is less than half of the Millennium Development Goal target for 2015 of 33 per 1000 live births [8]. Noncommunicable disease mortality is more than 3 times higher now than mortality from infectious and parasitic diseases (Table 1); however, emerging or re-emerging infectious diseases such as brucellosis [9] or dengue fever [10,11] are of concern for the region. An epidemiological profile of Egyptian human H5N1 influenza virus

cases was found that differs from other countries and raised the urgent need for prospective studies [12]. In face of the increasing relative importance of chronic diseases, behavioural changes demand our attention. In adults aged  $\geq 20$  years, the prevalence of obesity (body mass index  $\geq 30$  kg/m<sup>2</sup>) in 2008 was highest in the region for men in Kuwait [37.2%, 95% confidence interval (CI): 32.4%–42.3%] and Qatar (30.8%, 95% CI: 26.6%–35.6%), and in women in Kuwait (52.4%, 95% CI: 46.7%–58.0%) and Egypt (46.3%, 95% CI: 42.7%–49.9%) [13], indicating rapid changes in diets and lifestyles in the region [14]. One-third of men smoke and mortality from traffic accidents has not declined over time (Table 1). The proportion of the population with access to improved drinking-water sources and sanitation remains low in rural areas (Table 1). Environmental changes, including declining per capita water resources, loss of arable land, pollution-related problems, deteriorating coastal zones and vulnerable marine resources [15], will have an impact on health in the region. For example, annual renewable water resources per capita are expected to fall from 1997 levels of 1045 m<sup>3</sup> per year to 740 m<sup>3</sup> per year by 2015 [15]. Finally, recent political changes in the region have been accompanied by health impacts such as attacks against civilians and health facilities [16].

## Conclusion

FETPs play an important role for health systems strengthening and workforce development and are more than ever needed to respond effectively to today's public health challenges. The recent EMPHNET conference of 2011 brought together epidemiologists and public health experts for scientific exchange and to improve networking and collaboration across the MENA region [17]. Workshops were held

Table 1 Selected population and health indicators in the World Health Organization's (WHO) Eastern Mediterranean Region

Indicator	Year					
	1990	2000	2004	2006	2008	2010
<b>Population</b>						
Total population <sup>a</sup> (no.)		481 654 729	519 687 692		580 208 120	
Population ≥ 60 years <sup>a</sup> (no.)		26 619 855 <sup>e</sup>	30 040 580 <sup>e</sup>		34 880 980 <sup>e</sup>	
Life expectancy at birth (years) <sup>b</sup>	63	65				67
Population living in urban areas (%) <sup>b</sup>	44	47				49
Total fertility rate (no. of children per woman) <sup>b</sup>	5.5	4.0				3.4
<b>Mortality</b>						
All cause mortality (no. of deaths per 100 000 population) <sup>a</sup>		838	829		724	
Noncommunicable disease mortality (no. of deaths per 100 000 population) <sup>a</sup>		413	415		384	
Infectious and parasitic disease mortality (no. of deaths per 100 000 population) <sup>a</sup>		191	138		114	
Road traffic accident mortality (no. of deaths per 100 000 population) <sup>a</sup>		19	28		21	
Under-5 mortality (no. of deaths per 1000 live births) <sup>c</sup>	100					68
Other						
<b>Prevalence of smoking any tobacco product among adults ≥ 15 years (%)<sup>b</sup></b>						
Men				32.0		
Women				4.4		
<b>Population using improved drinking-water sources (%)<sup>d</sup></b>						
Urban	95				93	
Rural	76				76	
<b>Population using improved sanitation (%)<sup>d</sup></b>						
Urban	85				83	
Rural	32				45	

<sup>a</sup>Source: WHO Disease and Injury Country Estimates: [http://www.who.int/healthinfo/global\\_burden\\_disease/estimates\\_country/en/index.html](http://www.who.int/healthinfo/global_burden_disease/estimates_country/en/index.html)

<sup>b</sup>Source: WHO Global Health Observatory Data Repository: <http://apps.who.int/ghodata/>

<sup>c</sup>Source: Levels and Trends in Child Mortality Report 2011: [http://www.childinfo.org/files/Child\\_Mortality\\_Report\\_2011.pdf](http://www.childinfo.org/files/Child_Mortality_Report_2011.pdf)

<sup>d</sup>Source: World Health Statistics Report 2010: [http://www.who.int/whosis/whostat/EN\\_WHS10\\_Full.pdf](http://www.who.int/whosis/whostat/EN_WHS10_Full.pdf)

<sup>e</sup>5.5% (2000), 5.8% (2004) and 6.0% (2008) of the total population.

about noncommunicable diseases, epidemiological methods in emergencies, and ethics issues for the planning of and response to pandemics and other emergencies. Presentations included a variety of topics such as hepatitis B in pregnant women in Egypt, a

Chikungunya outbreak in Yemen, breast cancer in Jordan, and a Crimean Congo haemorrhagic fever outbreak in Afghanistan. The *Eastern Mediterranean Health Journal* will report on highlights and conclusions of the conference in an early issue of 2012.

### Author disclaimer

The findings and conclusions in this manuscript are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention.

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