

# Health in times of uncertainty in the eastern Mediterranean region, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013



Ali H Mokdad, Mohammad Hossein Forouzanfar, Farah Daoud, Charbel El Bcheraoui, Maziar Moradi-Lakeh, Ibrahim Khalil, Ashkan Afshin, Marwa Tuffaha, Raghid Charara, Ryan M Barber, Joseph Wagner, Kelly Cery, Hannah Kravitz, Matthew M Coates, Margaret Robinson, Kara Estep, Caitlyn Steiner, Sara Jaber, Ali A Mokdad, Kevin F O'Rourke, Adrienne Chew, Pauline Kim, Mohamed Magdy Abd El Razek\*, Safa Abdalla\*, Foad Abd-Allah\*, Jerry P Abraham\*, Laith J Abu-Raddad\*, Niveen M E Abu-Rmeileh\*, Abdulwahab A Al-Nehmi\*, Ali S Akanda\*, Hanan Al Ahmadi\*, Mazin J Al Khabouri\*, Faris H Al Lami\*, Zulfa A Al Rayess\*, Deena Alasfoor\*, Fadia S AlBuhairan\*, Saleh F Aldhahri\*, Suliman Alghnam\*, Samia Alhabib\*, Nawal Al-Hamad\*, Raghieb Ali\*, Syed Danish Ali\*, Mohammad Alkhateeb\*, Mohammad A AlMazroa\*, Mahmoud A Alomari\*, Rajaa Al-Raddadi\*, Ubai Alsharif\*, Nihaya Al-Sheyab\*, Shirina Alsowaidi\*, Mohamed Al-Thani\*, Khalid A Altirkawi\*, Azmeraw T Amare\*, Heresh Amini\*, Walid Ammar\*, Palwasha Anwari\*, Hamid Asayesh\*, Rana Asghar\*, Ali M Assabri\*, Reza Assadi\*, Umar Bacha\*, Alaa Badawi\*, Talal Bakfalouni\*, Mohammed O Basulaiman\*, Shahrzad Bazargan-Hejazi\*, Neeraj Bedi\*, Amit R Bhakta\*, Zulfiqar A Bhutta\*, Aref A Bin Abdulhak\*, Soufiane Boufous\*, Rupert R A Bourne\*, Hadi Danawi\*, Jai Das\*, Amare Deribew\*, Eric L Ding\*, Adnan M Durrani\*, Yousef Elshrek\*, Mohamed E Ibrahim\*, Babak Eshtrati\*, Alireza Esteghamati\*, Imad A D Faghmous\*, Farshad Farzadfar\*, Andrea B Feigl\*, Seyed-Mohammad Fereshtehnejad\*, Irina Filip\*, Florian Fischer\*, Fortuné G Gankpé\*, Ibrahim Ginawi\*, Melkamu Dedefo Gishu\*, Rahul Gupta\*, Rami M Habash\*, Nima Hafezi-Nejad\*, Randah R Hamadeh\*, Hayet Hamdouni\*, Samer Hamidi\*, Hilda L Harb\*, Mohammad Sadegh Hassanvand\*, Mohammad T Hedayati\*, Pouria Heydarpour\*, Mohamed Hsairi\*, Abdullatif Hussein\*, Nader Jahanmehr\*, Vivekanand Jha\*, Jost B Jonas\*, Nadim E Karam\*, Amir Kasaeian\*, Nega Assefa Kassa\*, Anil Kaul\*, Yousef Khader\*, Shams Eldin A Khalifa\*, Ejaz A Khan\*, Gulfaraz Khan\*, Tawfik Khoja\*, Ardesher Khosravi\*, Yohannes Kinfu\*, Barthelémy Kuate Defo\*, Arjun Lakshmana Balaji\*, Raimundas Lunevicius\*, Carla Makhlof Obermeyer\*, Reza Malekzadeh\*, Morteza Mansourian\*, Wagner Marcenes\*, Habibollah Masoudi Farid\*, Alem Mehari\*, Abba Mehio-Sibai\*, Ziad A Memish\*, George A Mensah\*, Karzan A Mohammad\*, Ziad Nahas\*, Jamal T Nasher\*, Haseeb Nawaz\*, Chakib Nejjari\*, Muhammad Imran Nisar\*, Saad B Omer\*, Mahboubeh Parsaeian\*, Emmanuel K Peprah\*, Aslam Pervaiz\*, Farshad Pourmalek\*, Dima M Qato\*, Mostafa Qorbani\*, Amir Radfar\*, Anwar Rafay\*, Kazem Rahimi\*, Vafa Rahimi-Movaghar\*, Sajjad Ur Rahman\*, Rajesh K Rai\*, Saleem M Rana\*, Sowmya R Rao\*, Amany H Refaat\*, Serge Resnikoff\*, Gholamreza Roshandel\*, Georges Saade\*, Mohammad Y Saeedi\*, Mohammad Ali Sahraian\*, Shadi Saleh\*, Lidia Sanchez-Riera\*, Maheswar Satpathy\*, Sadaf G Sepanlou\*, Tesfaye Setegn\*, Amira Shaheen\*, Saeid Shahrzad\*, Sara Sheikhbaehaei\*, Kawkab Shishani\*, Karen Sliwa\*, Mohammad Tavakkoli\*, Abdullah S Terkawi\*, Olalekan A Uthman\*, Ronny Westerman\*, Mustafa Z Younis\*, Maysaa El Sayed Zaki\*, Faiez Zannad\*, Gregory A Roth, Haidong Wang, Mohsen Naghavi, Theo Vos, Abdullah A Al Rabeeah, Alan D Lopez, Christopher J L Murray

## Summary

**Background** The eastern Mediterranean region is comprised of 22 countries: Afghanistan, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the United Arab Emirates, and Yemen. Since our Global Burden of Disease Study 2010 (GBD 2010), the region has faced unrest as a result of revolutions, wars, and the so-called Arab uprisings. The objective of this study was to present the burden of diseases, injuries, and risk factors in the eastern Mediterranean region as of 2013.

**Methods** GBD 2013 includes an annual assessment covering 188 countries from 1990 to 2013. The study covers 306 diseases and injuries, 1233 sequelae, and 79 risk factors. Our GBD 2013 analyses included the addition of new data through updated systematic reviews and through the contribution of unpublished data sources from collaborators, an updated version of modelling software, and several improvements in our methods. In this systematic analysis, we use data from GBD 2013 to analyse the burden of disease and injuries in the eastern Mediterranean region specifically.

**Findings** The leading cause of death in the region in 2013 was ischaemic heart disease (90·3 deaths per 100 000 people), which increased by 17·2% since 1990. However, diarrhoeal diseases were the leading cause of death in Somalia (186·7 deaths per 100 000 people) in 2013, which decreased by 26·9% since 1990. The leading cause of disability-adjusted life-years (DALYs) was ischaemic heart disease for males and lower respiratory infection for females. High blood pressure was the leading risk factor for DALYs in 2013, with an increase of 83·3% since 1990. Risk factors for DALYs varied by country. In low-income countries, childhood wasting was the leading cause of DALYs in Afghanistan, Somalia, and Yemen, whereas unsafe sex was the leading cause in Djibouti. Non-communicable risk factors were the leading cause of DALYs in high-income and middle-income countries in the region. DALY risk factors varied by age, with child and maternal malnutrition affecting the younger age groups (aged 28 days to 4 years), whereas high

*Lancet Glob Health* 2016; 4: e704–13

Published Online  
August 24, 2016  
[http://dx.doi.org/10.1016/S2214-109X\(16\)30168-1](http://dx.doi.org/10.1016/S2214-109X(16)30168-1)

See [Comment](#) page e666

\*Authors listed alphabetically

Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA, USA (Prof A H Mokdad PhD, M H Forouzanfar PhD, F Daoud BS, C El Bcheraoui PhD, M Moradi-Lakeh MD, I Khalil MD, A Afshin DSc, M Tuffaha MD, R Charara MD, R M Barber BS, J Wagner BS, K Cery BS, H Kravitz BS, M M Coates BA, M Robinson BA, K Estep MPA, C Steiner MPH, S Jaber MD, K F O'Rourke MFA, A Chew ND, P Kim BA, G A Roth MD, H Wang PhD, Prof M Naghavi PhD, Prof T Vos PhD, Prof A D Lopez PhD,

Prof C J L Murray DPhil); Department of Community Medicine, Preventive Medicine and Public Health Research Center (M Moradi-Lakeh), Department of Health Education and Promotion, School of Health (M Mansourian PhD), Iran University of Medical Sciences, Tehran, Iran; Department of Surgery, Division of Surgical Oncology, University of Texas Southwestern Medical Center, Dallas, TX, USA (A A Mokdad MD); Aswan University Hospital, Aswan Faculty of Medicine, Aswan, Egypt (M Magdy Abd El Razek MBBCh); Sudanese Public Health Consultancy Group, Solihull, UK (S Abdalla MD); Department of Neurology, Cairo University, Cairo, Egypt (Prof F Abd-Allah MD); Family Medicine Residency Program at California Hospital, University of Southern California, Los Angeles, CA, USA (J P Abraham MD); Institute for Global Health (J P Abraham), Department of Global Health and Population (A B Feigl ScD), Harvard T H Chan School of Public Health (E L Ding ScD), Harvard University, Boston, MA, USA; Infectious Disease Epidemiology Group, Weill Cornell Medical College in Qatar, Doha, Qatar (L J Abu-Raddad PhD); Institute of Community and Public Health, Birzeit University, Ramallah, Palestine (N M E Abu-Rmeileh PhD); Ministry of Health, Sana'a, Yemen (A A Al-Nehmi MD); University of Rhode Island, Kingston, RI, USA (A S Akanda PhD); Majlis Al Shura, Riyadh, Saudi Arabia (H Al Ahmadi DrPH); Ministry of Health, Muscat, Oman (M J Al Khabouri PhD, D Alasfoor MSc); College of Medicine, University of Baghdad, Baghdad, Iraq (F H Al Lami PhD); The Saudi Center for Evidence Based Healthcare (Z A Al Rayess ABFM), Cardiovascular Diseases Control and Prevention Program (M E Ibrahim MPhil), Kingdom of Saudi Arabia Ministry of Health, Riyadh, Saudi Arabia (M A AlMazroa MD, R Al-Raddadi PhD, M O Basulaiman PhD,

bodyweight and systolic blood pressure affected older people (aged 60–80 years). The proportion of DALYs attributed to high body-mass index increased from 3·7% to 7·5% between 1990 and 2013. Burden of mental health problems and drug use increased. Most increases in DALYs, especially from non-communicable diseases, were due to population growth. The crises in Egypt, Yemen, Libya, and Syria have resulted in a reduction in life expectancy; life expectancy in Syria would have been 5 years higher than that recorded for females and 6 years higher for males had the crisis not occurred.

**Interpretation** Our study shows that the eastern Mediterranean region is going through a crucial health phase. The Arab uprisings and the wars that followed, coupled with ageing and population growth, will have a major impact on the region's health and resources. The region has historically seen improvements in life expectancy and other health indicators, even under stress. However, the current situation will cause deteriorating health conditions for many countries and for many years and will have an impact on the region and the rest of the world. Based on our findings, we call for increased investment in health in the region in addition to reducing the conflicts.

**Funding** Bill & Melinda Gates Foundation.

**Copyright** © The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY license.

## Introduction

The eastern Mediterranean region is comprised of 22 countries: Afghanistan, Egypt, Bahrain, Djibouti, Iraq, Iran, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the United Arab Emirates, and Yemen. The region has a population of about 583 million people.<sup>1</sup> Countries in the eastern Mediterranean region vary substantially in their gross domestic product, sociodemographic profiles, health indicators, and health system capacities and coverage.<sup>2,3</sup>

The political and economic situation in the region since 2010 has suffered from continued unrest and the Arab uprisings. Revolutions and changes in government occurred in Egypt, Libya, Tunisia, and Yemen. A civil war

is devastating Syria, and disturbances are common in Afghanistan, Bahrain, Iraq, Palestine, and Somalia. As a result, hundreds of thousands of civilians have been forced to flee and seek refuge.

In this Article, we present the burden of diseases, injuries, and risk factors in the eastern Mediterranean region from 1990 to 2013, with the aim to show the impact of war and unrest on the health of people in the region as of the end of 2013.

## Methods

### Study overview

The Global Burden of Disease Study 2013 (GBD 2013) includes an annual assessment covering 188 countries from 1990 to 2013. It covers 306 diseases and injuries, 1233 sequelae, and 79 risk factors. Detailed descriptions

### Research in context

#### Evidence before this study

The Global Burden of Disease Study 2010 (GBD 2010) became available in 2012. GBD 2010 reported on disability-adjusted life-years (DALYs), health-adjusted life expectancy, and 67 risks and risk clusters by 21 world regions and 188 countries. GBD 2010 covered 20 age and sex groups.

#### Added value of this study

GBD 2013 includes an annual assessment covering 188 countries, from 1990 to 2013. It covers 306 diseases and injuries, 1233 sequelae, and 79 risk factors. GBD 2013 included key methodological differences from GBD 2010, which were inclusion of new data through updated systematic reviews and through the contribution of unpublished data sources from many collaborators; use of a counterfactual approach for estimating diarrhoea and pneumonia causes; elaboration of the sequelae list to include asymptomatic states; use of more detailed nature of injury codes (N-codes); improvements to the Bayesian meta-regression method; increased simulation size for comorbidity; estimation of the

prevalence of injuries by cohort; and use of a new method to estimate the distribution of mild, moderate, and severe anaemia by cause. This study provides an overview of the comprehensive burden of diseases and risk factors for the eastern Mediterranean region.

#### Implications of all the available evidence

The eastern Mediterranean region is facing numerous health challenges, as a result of previous wars, revolutions, the wars that followed, and ageing and population growth. These challenges will have a major impact on health outcomes and available resources. The region has historically seen improvements in life expectancy and other health indicators even under stress. However, according to our study, the current situation has resulted in deteriorating health conditions for many countries that are threatening these gains and will have an impact on the region and the rest of the world. On the basis of our data, we call for increased investment in health in the region and the end of ongoing conflicts.

Download English Version:

<https://daneshyari.com/en/article/3408690>

Download Persian Version:

<https://daneshyari.com/article/3408690>

[Daneshyari.com](https://daneshyari.com)