Chapter 5: WHO Eastern Mediterranean Region

Twenty-two Member States make up the World Health Organization (WHO) Eastern Mediterranean Region, which has a total population of 605 million.[1] More than two thirds of the Region's age-standardized mortality in 2008 was attributable to noncommunicable diseases,[2] and deaths from noncommunicable diseases are expected to increase by more than 20% by 2020.[3] Although the overall HIV prevalence in the Region is only an estimated 0.2%, the estimated annual number of new HIV infections increased from 2001 to 2010, and almost 90 000 children and adults were newly infected in 2010.[4,5] Almost half of the population of the Eastern Mediterranean Region lives in malaria risk areas; health system capacity for responding to malaria is limited.[5] Tuberculosis caused 17% of all deaths from infectious and parasitic diseases in 2008.[6] Five of the Region's countries are among the ten countries in the world that host the largest proportions of internally displaced persons per population, which places an additional strain on their health systems.[7]

Responses to the WHO/Alliance survey were received from 17 of the 22 Member States in the region (77.3%).

Box 1. Responses to the 2012 Global Hepatitis Survey: WHO Eastern Mediterranean Region

Member States that submitted surveys:

- Afghanistan
- Bahrain
- Djibouti
- Egypt
- Iran (Islamic Republic of)
- Iraq
- Jordan
- Kuwait
- Lebanon
- Oman
- Pakistan
- Qatar
- Somalia
- South Sudan
- Sudan
- Syrian Arab Republic
- Yemen

Member States that did not submit surveys:

- Libya
- Morocco
- Saudi Arabia
- Tunisia
- United Arab Emirates

Viral hepatitis in the WHO Eastern Mediterranean Region

The prevalence of hepatitis A in the Region has decreased in recent decades; where studies from the 1980s reported 100% exposure rate by the age of 10 years, more recent studies indicate a modest decrease to 50% of children exposed by the age of 15 years.[a]

The prevalence of hepatitis E infection is high (>15%) in Sudan, South Sudan, Pakistan and Somalia; however, the burden is highly uncertain.[b]

It is estimated that approximately 4.3 million people are infected with hepatitis B and 800 000 people are infected with hepatitis C annually in the Region.[c] In North Africa and the Middle Eastern region, low–intermediate (2%–4%) prevalence of hepatitis B was reported across all age groups in 2005.[d]

The prevalence of hepatitis C is estimated to be 1%–4.6%, with levels as high as 15% and higher than 20% in parts of Egypt and Pakistan, respectively. Overall, an estimated 17 million people in the Region suffer from chronic hepatitis C infection.[c]

[a] Jacobsen KH, Wiersma ST. Hepatitis A virus seroprevalence by age and world region, 1990 and 2005. *Vaccine*, 2010, 28:6653–6657.

[b] Rein DB et al. The global burden of hepatitis E virus genotypes 1 and 2 in 2005. *Hepatology*, 2012, 55:988–997.

[c] WHO Regional Office for the Eastern Mediterranean. *The growing threats of hepatitis B and hepatitis C in the Eastern Mediterranean Region: a call for action*. Presented at the Fifty-sixth session of the WHO Regional Committee for the Eastern Mediterranean. Fez, Morocco, 5–8 October 2009 [Document no: EM/ RC/56/3]. Available at: http://applications.emro.who.int/docs/EM_RC56_3_en.pdf (accessed on 07 June 2013).

[d] Ott JJ, Stevens GA, Groeger J, Wiersma ST. Global epidemiology of hepatitis B virus infection: new estimates of age-specific HBsAg seroprevalence and endemicity. *Vaccine*, 2012, 30:2212–2219.

[1] *World population prospects: the 2010 revision*. New York, United Nations, Department of Economic and Social Affairs, Population Division, 2011.

[2] *World health statistics 2012*. Geneva, WHO, 2012. Available at: http://apps.who.int/iris/bitstream/10665/44844/1/9789241564441_eng.pdf (accessed on 11 May 2013).

[3] *Global status report on noncommunicable diseases 2010*. Geneva, WHO, 2011. Available at: http://whqlibdoc.who.int/publications/2011/9789240686458_eng.pdf (accessed on 11 May 2013).

[4] *UNAIDS report on the global AIDS epidemic 2012*. Geneva, UNAIDS, 2012. Available at: http://www.unaids.org/en/media/unaids/contentassets/documents/ epidemiology/2012/gr2012/20121120_UNAIDS_Global_Report_2012_en.pdf (accessed on 11 May 2013).

[5] *The work of WHO in the Eastern Mediterranean Region: annual report of the Regional Director, 1 January–31 December 2011*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2012. Available at: http://applications.emro.who.int/docs/RD_Annual_Report_2012_en_14587.pdf (accessed on 11 May 2013).

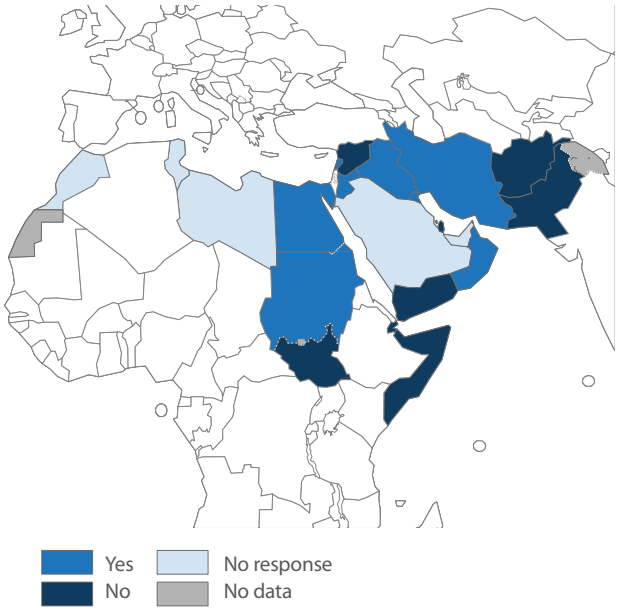
[6] *Causes of death 2008 summary tables*. Geneva, Health Statistics and Informatics Department, World Health Organization, May 2011. Available at: http://www.who.int/entity/gho/mortality_burden_disease/global_burden_disease_DTH6_2008.xls (accessed on 11 May 2013).

[7] *Global overview 2011: people internally displaced by conflict and violence*. Geneva, Internal Displacement Monitoring Centre, April 2012. Available at: http://www.internal-displacement.org/publications/global-overview-2011.pdf (accessed on 11 May 2013).

National coordination

Nine responding Member States (52.9%) reported the existence of a written national strategy or plan that focuses exclusively or primarily on the prevention and control of viral hepatitis (Figure 1). Six of the nine Member States with a strategy or plan (Bahrain, Egypt, Iraq, Jordan, Kuwait and Lebanon) reported that it focuses exclusively on viral hepatitis, and two (Oman and Sudan) reported that it addresses other diseases as well. One country (Iran) reported that the strategy or plan addresses only hepatitis B and hepatitis C.

Figure 1. Responses to the question, "Is there a written national strategy or plan that focuses exclusively or primarily on the prevention and control of viral hepatitis?"



The nine Member States that reported the existence of a strategy or plan were asked about its specific components. All nine reported the inclusion of components for surveillance and general prevention. Eight reported the inclusion of components for vaccination, prevention of transmission in health-care settings and prevention of transmission via injecting drug use. Seven reported the inclusion of a component for raising awareness, six reported the inclusion of a component for treatment and care, and three reported the inclusion of a component for coinfection with HIV.

Ten responding Member States (58.8%) reported that they have a governmental unit or department responsible solely for viral hepatitis-related activities. Member States that did so were asked to indicate the number of staff members in the unit or department. Responses (*N*=9) ranged from 2 to 44 (median, 4), with Iraq reporting the largest number.

Member States were asked to report the number of people working full-time on hepatitis-related activities in all government agencies or bodies. Among the six Member States that provided data for this question, the number ranged from 0 to 47 (median, 3), with Iran reporting the largest number.

Ten responding Member States (58.8%) reported that they have a viral hepatitis prevention and control programme that includes activities targeting specific populations. The populations most commonly targeted are health-care workers, including health-care waste handlers (100% of responding Member States within this subset) and prisoners (80.0% of responding Member States within this subset). Six responding Member States reported the inclusion of activities targeting people who inject drugs and five reported the inclusion of activities targeting people living with HIV. Groups identified less frequently included migrants, indigenous populations, low-income populations, those who are uninsured and those who are homeless.

Awareness-raising and partnerships

Eight responding Member States (47.1%) reported that they had held events for World Hepatitis Day 2012 (28 July). Since January 2011, seven responding Member States (41.2%) had funded some type of viral hepatitis public awareness campaign other than World Hepatitis Day (Table 1).

Table 1. Topics of public awareness campaigns on viral hepatitis held in Member States since January 2011 (*N*=7)

	Egypt	Iran	Iraq	Jordan	Oman	Pakistan	Qatar
General information about hepatitis and its transmission	X	X	X	X		X	X
Vaccination for hepatitis A and hepatitis B	X		X	X		X	X
Importance of knowing one's hepatitis B and hepatitis C status	X			X		X	X
Safe water and good sanitation			X	X			
Safer sex practices				X			
Harm reduction for people who inject drugs				X			
Safe workplace practices	X	X	X	X		X	X
Other [a]					X		X

[a] Details can be found in the summaries of country findings later in this chapter.

Five responding Member States (29.4%) reported that they collaborated with civil society groups within their countries to develop and implement the governmental viral hepatitis prevention and control programme. For example, Lebanon reported collaborating with the Lebanese Red Cross and Lebanese Scouts, while Qatar reported collaborating with the Qatar Red Crescent Society. (Further examples can be found in the summaries of country findings later in this chapter.)

Evidence-based policy and data for action

Fifteen responding Member States (88.2%) reported that they have routine surveillance for viral hepatitis; details appear in Table 2.

Table 2. Types of surveillance in Member States that reported the existence of routine surveillance for viral hepatitis (*N*=15)

	Yes (%)	No (%)	Do not know (%)	No response (%)
There is a national surveillance system for **acute** hepatitis infection for the following forms of hepatitis:				
hepatitis A	86.7	0	0	13.3
hepatitis B	86.3	13.3	0	0
hepatitis C	86.3	13.7	0	0
hepatitis D	40.0	33.3	0	26.7
hepatitis E	53.3	26.7	0	20.0
There is a national surveillance system for **chronic** hepatitis infection for the following forms of hepatitis:				
hepatitis B	46.7	53.3	0	0
hepatitis C	46.7	53.3	0	0
hepatitis D	26.7	60.0	0	13.3

Sixteen responding Member States (94.1%) indicated that their countries have standard case definitions for hepatitis infection and 11 (64.7%) indicated that their countries have a central registry for the reporting of deaths, including hepatitis deaths.

Nine Member States reported on the proportion of hepatitis cases and deaths registered as "undifferentiated" or "unclassified" hepatitis. The reported proportions ranged from 0% to 100% (median, 7.0%). Additional survey findings about surveillance are presented in Table 3.

Member States were asked how often hepatitis disease reports are published. Of the responding Member States, 35.3% reported that they publish hepatitis disease reports annually; 17.6%, monthly; and 23.5%, weekly. No hepatitis disease report is published by 17.6% of responding Member States.

Table 3. Data registration and surveillance (*N*=17)

	Yes (%)	No (%)	Do not know (%)	No response (%)
Liver cancer cases are registered nationally	70.6	23.5	5.9	0
Cases with HIV/hepatitis coinfection are registered nationally	47.1	47.1	5.9	0
Hepatitis outbreaks are reported	100	0	0	0
If YES – Hepatitis outbreaks are further investigated (N=115)	94.1	5.9	0	0

Nine responding Member States (52.9%) reported the existence of a national public health research agenda for viral hepatitis.

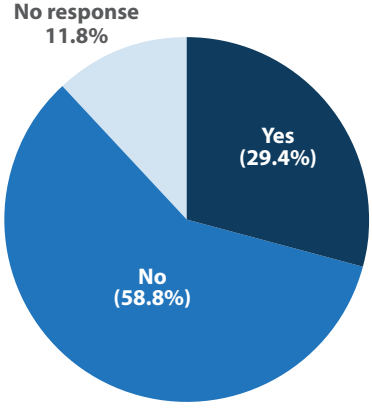
Four responding Member States (23.5%) reported that viral hepatitis serosurveys are conducted regularly. Among this subset of responding Member States, one (Kuwait) indicated that serosurveys take place every year. The same Member State reported that the most recent viral hepatitis serosurvey was carried out in 2011.

Prevention of transmission

Four responding Member States (23.5%) reported that they have a national policy on hepatitis A vaccination.

Five responding Member States (29.4%) reported that they have established the goal of eliminating hepatitis B (Figure 2). Member States with this goal were asked to specify the timeframe in which they seek to eliminate hepatitis B. Of the two Member States that answered this question, one (Bahrain) said 2015 and one (Lebanon) said 2020.

Figure 2. Responses to the question, "Has your government established the goal of eliminating hepatitis B?" (*N*=17)



Member States were asked to report, for a given recent year, the percentage of newborn infants who had received the first dose of hepatitis B vaccine within 24 hours of birth. Among the 13 Member States that provided this information, responses ranged from 0% to 100% (median, 90.0%). Member States were also asked to report, for a given recent year, the percentage of one-year-olds (ages 12–23 months) who had received three doses of hepatitis B vaccine. Among the 14 Member States that provided this information, responses ranged from 0% to 100% (median, 91.0%).

Eleven responding Member States (64.7%) reported the existence of a national policy that specifically targets mother-to-child transmission of hepatitis B; details are presented in Table 4. Slightly less than half of the Member States with such a policy indicated that one component of the policy calls for screening of all pregnant women for hepatitis B.

Eleven responding Member States (64.7%) reported the existence of a specific national strategy and/or policy/guidelines for preventing hepatitis B and hepatitis C infection in health-care settings.

Nine responding Member States (52.9%) reported that health-care workers are vaccinated against hepatitis B prior to starting work that might put them at risk of exposure to blood.

Thirteen responding Member States (76.5%) reported the existence of a national policy on injection safety in health-care settings. These Member States were asked which types of syringes the policy recommends for therapeutic injections. Single-use syringes are recommended in 84.6% of policies, and auto-disable syringes in 23.1% (Figure 3).

Fourteen responding Member States (82.4%) reported that single-use or auto-disable syringes, needles and cannulas are always available in all health-care facilities.

Member States were asked for official estimates of the number and percentage of unnecessary injections administered annually in health-care settings (e.g. injections that are given when an equivalent oral medication is available). Sixteen Member States reported that the figures are not known and one (Pakistan) reported that 20.0% of the total injections administered annually in health-care settings are unnecessary.

Additional findings relating to the prevention of hepatitis transmission are presented in Table 5.

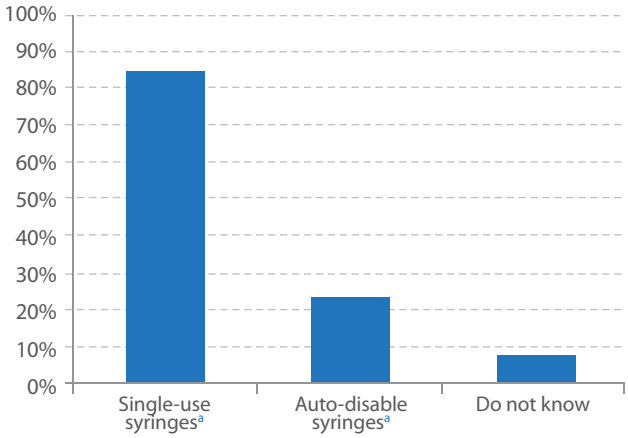
Screening, care and treatment

Member States were asked how health professionals in their countries obtain the skills and competencies required to effectively care for people with viral hepatitis. Responding Member States most frequently indicated that these are obtained in schools for health professionals (pre-service education, 82.4%). Additionally, on-the-job training was identified in 70.6% of responses, and postgraduate training in 52.9%.

Table 4. Activities called for in national policy targeting mother-to-child transmission of hepatitis B (*N*=11)

	All pregnant women are screened for hepatitis B	All pregnant women found to have hepatitis B are counselled	Health-care providers follow up with all pregnant women found to have hepatitis B during pregnancy for the purpose of encouraging them to give birth at health-care facilities	Upon delivery, all infants born to women with hepatitis B receive hepatitis B immunoglobulin	All infants receive the first dose of hepatitis B vaccine within 24 hours of birth
Bahrain	X	X		X	X
Djibouti					X
Egypt			X		
Iran					X
Iraq	X	X	X	X	X
Jordan		X	X	X	X
Kuwait	X	X	X	X	X
Lebanon				X	X
Oman					X
Pakistan	X				X
Qatar	X	X	X	X	X
TOTAL	**5**	**5**	**5**	**6**	**10**

Figure 3. Proportion of responding Member States with national policies on injection safety in health-care settings which recommend single-use syringes and auto-disable syringes for therapeutic injections (*N*=13)



[a] Respondents could select both "single-use syringes" and "auto-disable syringes".

Table 5. Hepatitis prevention: policies, practices and guidelines (*N*=17)

	Yes (%)	No (%)	Do not know (%)	No response (%)
There is a national infection control policy for blood banks	76.5	17.6	5.9	0
All donated blood units (including family donations) and blood products nationwide are screened for hepatitis B	82.4	11.8	0	5.9
All donated blood units (including family donations) and blood products nationwide are screened for hepatitis C	100	0	0	0
There is a national policy relating to the prevention of viral hepatitis among people who inject drugs	23.5	76.5	0	0
The government has guidelines that address how hepatitis A and hepatitis E can be prevented through food and water safety	41.2	58.8	0	0

Nine responding Member States (52.9%) reported the existence of national clinical guidelines for the management of viral hepatitis (Figure 4). Five of these nine Member States indicated that the guidelines include recommendations for cases with HIV coinfection. Six of 12 responding Member States (50.0%) indicated that there are national clinical guidelines for the management of HIV, which include recommendations for coinfection with viral hepatitis.

Eight responding Member States (47.1%) indicated that they have a national policy relating to screening and referral to care for hepatitis B. Eight (47.1%) reported having such a policy for hepatitis C.

Regarding hepatitis B testing, 16 responding Member States (94.1%) indicated that people register by name for testing. Twelve members of that subset (75.0%) indicated that the names are kept confidential. Seven responding Member States (41.2%) reported that the hepatitis B test is free of charge for all individuals. Among the ten other Member States, five (50.0%) reported that the test is free of charge for members of specific groups. Groups identified included blood donors, health-care workers and patients on haemodialysis. Nine responding Member States (52.9%) reported that the hepatitis B test is compulsory for members of specific groups. Groups identified included blood donors, health-care workers, patients on haemodialysis and prisoners.

Regarding hepatitis C testing, 16 responding Member States (94.1%) indicated that people register by name for testing. Twelve members of that subset (75.0%) indicated that the names are kept confidential. Seven responding Member States (41.2%) reported that the hepatitis C test is free of charge for all individuals. Among the ten other Member States, five (50.0%) reported that the test is free of charge for members of specific groups. Groups identified included blood donors, health-care workers and patients on haemodialysis. Nine responding Member States (52.9%) reported that the hepatitis C test is compulsory for members of specific groups. Groups identified included blood donors, health-care workers, patients on haemodialysis and prisoners.

Figure 4. Responses to the question, "Are there national clinical guidelines for the management of viral hepatitis?" (*N*=17)

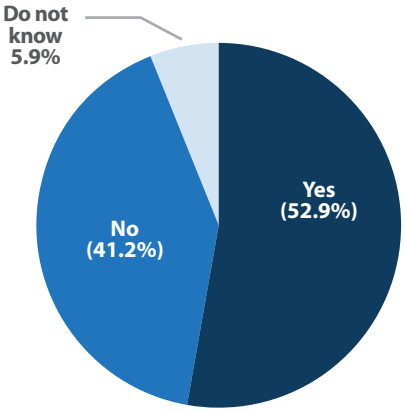


Table 6. Proportion of Member States reporting drugs for treating hepatitis B and C on national essential medicines lists or subsidized by governments

Drugs for treating hepatitis B	% of Member States reporting its inclusion (*N*=12)
Lamivudine	64.7
Interferon alpha	64.7
Tenofovir	52.9
Pegylated interferon	41.2
Entecavir	35.3
Adefovir dipivoxil	23.5
Telbivudine	17.6
Drugs for treating hepatitis C	**% of Member States reporting its inclusion (*N*=12)**
Ribavirin	64.7
Pegylated interferon	64.7
Interferon alpha	47.1
Telaprevir	11.8
Boceprevir	11.8

Eleven responding Member States (64.7%) reported that publicly funded treatment is available for hepatitis B and 11 (64.7%) that publicly funded treatment is available for hepatitis C. Four responding Member States reported the amount spent on publicly funded treatment for hepatitis B and hepatitis C. Details can be found in the summaries of country findings later in this chapter (*see* Bahrain, Egypt, Pakistan and Syrian Arab Republic).

Thirteen responding Member States (76.5%) reported that at least one available drug for treating hepatitis B is on the national essential medicines list or subsidized by the government (Table 6). The drugs most commonly reported were interferon alpha, pegylated interferon and lamivudine.

Twelve responding Member States (70.6%) reported that at least one available drug for treating hepatitis C is on the national essential medicines list or subsidized by the government. The drugs most commonly reported were ribavirin, pegylated interferon and interferon alpha.

World Health Organization assistance

Member States were asked to indicate areas in which they might want assistance from WHO for the prevention and control of viral hepatitis. Respondents most commonly selected the following: developing the national plan for viral hepatitis prevention and control (82.4%), developing tools to assess the effectiveness of interventions (82.4%) and assessing the economic impact of viral hepatitis (82.4%) (Table 7). Responses from individual Member States appear in Annex C.

Table 7. Viral hepatitis control and prevention: areas in which Member States indicated interest in receiving WHO assistance (*N*=17)

Awareness-raising, partnerships and resource mobilization (first WHO strategic axis)	
Developing the national plan for viral hepatitis prevention and control	82.4%
Integrating viral hepatitis programmes into other health services	64.7%
Awareness-raising	76.5%
Evidence-based policy and data for action (second WHO strategic axis)	
Viral hepatitis surveillance	64.7%
Estimating the national burden of viral hepatitis	76.5%
Developing tools to assess the effectiveness of interventions	82.4%
Assessing the economic impact of viral hepatitis	82.4%
Prevention of transmission (third WHO strategic axis)	
Increasing coverage of the birth dose of the hepatitis B vaccine	41.2%
Screening, care and treatment (fourth WHO strategic axis)	
Increasing access to treatment	76.5%
Increasing access to diagnostics	70.6%
Improving laboratory quality	70.6%
Developing education/training programmes for health professionals	76.5%