Indicators to monitor and evaluate HBV/HCV screening programmes for migrants

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HEPscreen
SCREENING FOR HEPATITIS B AND C AMONG MIGRANTS IN THE EUROPEAN UNION

Viral hepatitis screening – an urgent public health priority

If left untreated, viral hepatitis can cause serious liver disease including cancer. Effective antiviral treatment is available but early identification is key to prevent disease progression, liver damage and mortality. Screening is therefore an important public health priority in the prevention of associated but avoidable mortality and morbidity. Within HEPscreen a set of indicators is proposed to assist public health and other professionals to measure, monitor and articulate the quality, effectiveness, population health impact and economic costs and benefits of viral hepatitis screening programmes. The evaluative process should be planned from the start and is an important aspect of a screening programme.

Criteria for monitoring and evaluation

The HEPscreen criteria are based on Maxwell's classic quality criteria of effectiveness, efficiency, acceptability and equity.[1,2] Impact is added to this list. Maxwell's list also included 'relevance' ('are the services the best that could be achieved, taking account of the needs and wants of the population as a whole?'), which is considered a criterion more important prior to implementation.

The appropriateness of a screening programme in terms of targeting the people most at risk can be assessed prior to implementation by considering the expected HBV/HCV prevalence in the target population defined by country of birth compared to the prevalence in other ethnic minority groups in the region where screening is implemented. The expected prevalence can be assessed using the burden tool available within the HEPscreen toolkit.

The quality of a screening programme can also be assessed by a qualitative review of structures and processes in place. E.g. whether locations and times where screening is offered are acceptable and convenient for the target population and whether written materials are translated and interpreters are available on site. In addition, the quality can be assessed by specific indicators, outlined below.

Specific indicators based on these criteria are outlined in table 1. This list is partly based on indicators defined in the HIV-COBATEST project (see annex).

HEPscreen proposed criteria to monitor quality of the screening programme

- *Effectiveness*, i.e. the benefits of healthcare measured by improvements in health. For hepatitis B and C, health benefits of early detection of chronic infections arise from preventing complications (liver disease, cancer) which occur decades after being infected. These improvements in health can therefore not be directly measured. For the toolkit, we therefore propose process indicators to assess effectiveness.
- *Equity*, i.e. the fair distribution of healthcare amongst individuals or groups
- *Acceptability*, i.e. the social, psychological and ethical acceptability regardingçg the way people are treated in relation to healthcare
- *Efficiency*, i.e. the cost of healthcare related to the outputs or benefits obtained. The efficiency of the screening process can be estimated directly by considering process indicators and the costs of the programme. However, assessing efficiency of achieving the health benefits is more complicated, since these benefits exist of avoiding long-term complications of hepatitis. To assess efficiency of achieving those, mathematical models are required which compare the natural course of chronic hepatitis with the course after early detection and treatment. The latter is outside the scope of this document.
- *Impact*, i.e. the impact of the screening programme on preventing late diagnosis of chronic HBV/HCV infection. For this, data from (national) surveillance of chronic HBV/HCV is required. Since the proposed indicator requires info on clinical picture and migration data of the individual, this is usually not available in routine surveillance: it requires enhanced surveillance.

References

[1] From: www.healthknowledge.org.uk/public-health-textbook/research-methods/1c-health-care-evaluation-health-care-assessment/study-design-assessing-effectiveness

[2] Maxwell RJ. Quality assessment in health. BMJ 1984, 288: 1470-2

Table 1: Indicators to assess the quality of a screening programme for chronic HBV and HCV in migrants.

Quality criterion	Indicator
Effectiveness	▶ Number of people attending an awareness session (most applicable in outreach screening) ▶ Number of people tested for HBV/HCV ▶ Proportion of the target population* tested for HBV/HCV ▶ % of people who reported to have been previously tested for HBV/HCV ▶ % of people with positive HBV/HCV test result by country of birth ▶ % of people tested for HBV/HCV with a screening test who received the results ▶ % of people tested positive for HBV/HCV who visited a specialist ▶ % of people tested positive for HBV/HCV who visited a specialist and had an indication for treatment ▶ % of people with an indication for treatment who started treatment
Equity	▶ Proportion of the target population* that accessed the screening by e.g. age, sex, country of birth, place of residence
Acceptability	▶ % of people screened who had a pre-test discussion (counselling) ▶ % of people with positive screening HBV/HCV test who received post-result counselling upon receiving the result
Efficiency	▶ Cost per person attending an awareness session (most applicable in outreach screening) ▶ Cost per person tested ▶ Cost per HBV/HCV diagnosis ▶ Cost per new HBV/HCV diagnosis
Impact	▶ % of people who tested HBV/HCV positive who were diagnosed late[#] ▶ % of new HBV/HCV diagnoses (or notifications) who present with end-stage liver disease[#]

* The target population should be defined in the screening strategy. The size of the target population depends on available population statistics and the type of screening programme. E.g. in an invitation based screening in a GP practice this would be the number of people who are eligible to be invited. In an outreach programme, it would be the number of people living in a defined geographical area where the outreach activities take place.

[#] There is no internationally agreed definition for late diagnosis of hepatitis B and C. The current proposal (as presented at the HEPHIV conference 2014 in Barcelona) is: advanced fibrosis or cirrhosis (stage F3 or F4). There is also no internationally agreed definition for end stage liver disease (ESLD). ESLD is likely to include cirrhosis, portal hypertension and hepatocellular carcinoma).

Annex 1: HIV-COBATEST: Core CBVCT indicators for CBVCT services (community based voluntary counselling and testing)

From: http://www.cobatest.org/arxius/aecddda5f90441df63cfaf2358db6deb.pdf

CBVCT 1:	Number of clients[1] tested for HIV with a screening test[2]
CBVCT 2:	Proportion of clients who reported to have been previously tested for HIV
CBVCT 3:	Proportion of clients who reported to have been tested for HIV during preceding 12 months
CBVCT 4:	Proportion of clients who reported to have been tested for HIV at the same CBVCT facility during preceding 12 months
CBVCT 5:	Proportion of clients with reactive screening HIV test result
CBVCT 6:	Proportion of clients tested for HIV with a screening test who received the results
CBVCT 7:	Proportion of clients with reactive screening HIV test result who received post- result counselling
CBVCT 8:	Proportion of clients with reactive screening HIV test result who were tested with confirmatory HIV test[3]
CBVCT 9:	Proportion of clients with positive confirmatory HIV test result
CBVCT 10:	Proportion of clients with positive confirmatory HIV test result who received the conclusive confirmatory HIV test result at CBVCT facility
CBVCT 11:	Proportion of clients with positive confirmatory HIV test result who received post-result[4] counselling at CBVCT facility

Optional	
CBVCT 12:	Proportion of clients who received a pre-test discussion[5] or pre-test counselling or pre-result counselling[6] and were tested for HIV with a screening test
CBVCT 13:	Proportion of clients with non-reactive screening HIV test result who received post-result Counselling
CBVCT 14:	Proportion of clients with negative confirmatory HIV test result who received the conclusive confirmatory HIV test result at CBVCT facility
CBVCT 15:	Cost per client tested
CBVCT 16:	Cost per HIV diagnosis
CBVCT 17:	Proportion of clients who tested HIV positive at CBVCT sites who were linked to health care
CBVCT 18:	Proportion of clients who tested HIV positive at CBVCT sites who were diagnosed late

[1] A CBVCT service specific clients' unique identifiers must be used to eliminate duplicates and to link information obtained at different visits from the same client and information about the same client received from other services (e.g. HIV testing laboratory). For example Soundex code of a surname and date of birth can be used. Some CBVCT services may decide to collect personal data about their clients.

[2] Enzyme-linked immunosorbent assay (ELISA) HIV test or rapid HIV test.

[3] Only a positive result of a confirmatory HIV test is the conclusive evidence of HIV infection.

[4] The term post-result counselling is equivalent to the term post-test counselling.

[5] In accordance with the CBVCT code of good practice prepared by HIV-COBATEST project, it may be a shorter pre-test discussion instead of a pre-test or pre-result counselling session that precedes specimen collection. When rapid HIV tests are used, shorter pre-test discussion and post–test counselling may be conducted within one session with the client.

[6] The term "pre-result counselling" implies counselling while waiting for a rapid HIV test result.

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