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Evidence-based public health guidance for integrated HBV, HCV and HIV testing in Europe

AK Sullivan on behalf of the Collaborating Expert Study Group

Athénée Palace Hilton, Bucharest, 2019

Background - HIV

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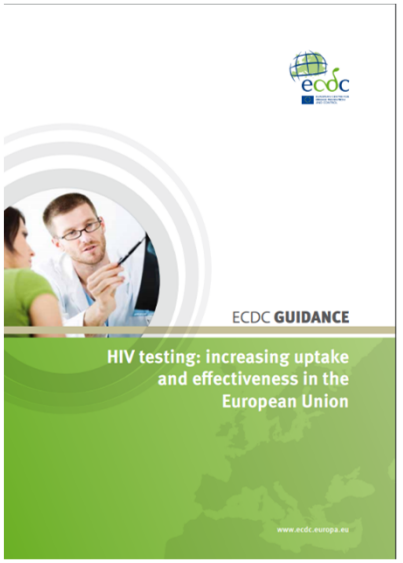
2015 evaluation of the impact of the 2010 ECDC HIV testing guidance

Recommended an update of the guidance, including the addition of evidence on self sampling and testing and examples of best practice




RESEARCH ARTICLE

HIV testing in Europe: Evaluating the impact, added value, relevance and usability of the European Centre for Disease Prevention and Control (ECDC)'s 2010 HIV testing guidance

Ann K Sullivan[1], Ida Sperle[2], Dorthe Raben[2], Andrew J Amato-Gauci[3], Jens Dilling Lundgren[2], Yazdan Yazdanpanah[4], Stine Finne Jakobsen[2], Lara Tavoschi[3]

Background – HBV and HCV

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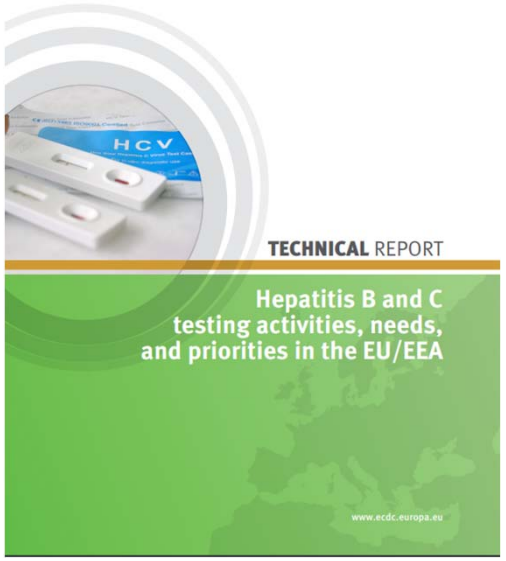
2015 ECDC survey to identify gaps in HBV and HCV testing policies and practices in the EU/EEA

Identified the need for European-level testing guidance, especially on who to test and how to best target those at risk, including contact tracing and partner notification



Objectives

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To provide an evidence-based framework to help EU/EEA countries develop, implement, monitor and evaluate their own national HBV, HCV and HIV testing guidelines and programmes

To support efforts to increase the coverage and uptake of HBV, HCV and HIV testing, while encouraging the integration of testing interventions for all three viruses

Ultimately to help reduce the number of individuals unaware of their infection by promoting early diagnosis and prompt linkage to care

Methods

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Collaborating Expert Study Group (CESG)

Systematic reviews - HIV and HBV/HCV performed separately

Evidence synthesis and production of Decision Making Tables (DMT) by CESG and ECDC

Expert Panel - preliminary review of evidence and DMTs, face to face meeting and subsequent review of outputs

Production of final guidance by ECDC based on collected evidence and expert consensus

Systematic Reviews

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Systematic reviews: 2010 - 2017

Grey literature review - from 2008 for HBV/HCV and from 2010 for HIV to 2017

PRISMA - Preferred Reporting Items for Systematic Reviews and Meta-Analysis

EU/EEA countries only, included articles in all EU/EEA languages

Reviews carried out separately for HBV/HCV and HIV prior to the decision to integrate the guidance

Review Questions: EU/EAA focus

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What approaches to increase coverage and uptake of HBV, HCV and HIV testing have been implemented and how (cost-)effective are they?

How feasible and acceptable are implemented testing approaches?

What are the barriers to testing at the individual, healthcare provider and institutional level?

What strategies for linkage to care (and prevention) have been implemented for people who have been tested for HBV and HCV in the EU/EEA and how effective are they?

Evidence Synthesis and Grading

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HBV and HCV systematic review

Scottish Intercollegiate Guidelines Network (SIGN) checklists for publications with appropriate study designs

Assigned the quality ratings low (–), acceptable (+) and high (++)

HIV systematic review

National Institute for Health and Clinical Excellence (NICE) checklists (adapted) and the Appraisal Tool for Cross-Sectional Studies (AXIS)

Assigned the quality ratings low (+), medium (++) and high (+++) on the basis of seven standard quality-assessment questions, and assigned bias probability score low or high

Decision Making Tables (DMTs)

To structure the evidence synthesis, the evidence base from the systematic reviews was compiled by developing separate decision-making tables.

A separate DMT was developed for:

- Primary Healthcare
- Hospitals
- Other healthcare settings
- Community settings
- Self-testing
- Self-sampling
- Partner notification

Decision Making Tables (DMTs)

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The evidence was analysed based on the following characteristics:

Virus	HBV, HCV and HIV
Study population	general population, migrants, PWID, MSM, homeless
Study setting	emergency departments, drug services, STI clinics, migrant clinics, prison health services, outreach

Outcomes

Testing outcomes:	sample size, test offer, number of people tested or number of tests performed, testing coverage, positivity rate, missed opportunities, testing outcomes before and after intervention
Acceptability measures:	acceptance rates, patient and provider indicators
Barriers to testing:	at the individual, healthcare provider and institutional levels
Economic evaluation:	cost per diagnosis
Linkage to care:	referral rate, proportion linked to care; and
Type of approach:	testing implementation, campaigns, education, clinical decision-making tools, communication technology, audits

Expert Scientific Panel (EP)

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A multisectoral panel of experts were invited to contribute to the guidance development

EP had representatives from civil society, learned societies, EU projects and international agencies (EMCDDA, WHO)

Representatives from European Liver Patients' Association, World Hepatitis Alliance, European Association for the Study of the Liver, International Union against Sexually Transmitted Infections (IUSTI), European AIDS Treatment Group, Correlation Network, Grupo de Ativistas em Tratamentos, Positive Voices

Member states: Belgium, Denmark, Estonia, France, Greece, Ireland, Latvia, Poland, Slovenia, Spain, Sweden, The Netherlands, United Kingdom

Expert Scientific Panel

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Provided with DMTs and draft conclusions prior to a two day face to face meeting with CESG and ECDC in Stockholm in February 2018, where all DMTs were reviewed, expert opinion obtained and final conclusions agreed by consensus

Post meeting review was obtained to ensure accurate representation of expert opinion

ECDC produced final scientific advice

Case study criteria themes

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Countries, regions and organizations that have

- scaled-up coverage of HBV, HCV and/or HIV testing in most-at risk populations
- demonstrated efficiency gains
- re-allocated resources towards testing strategies and interventions that are cost-effective
- improved the technical efficiency of HBV, HCV and/or HIV testing programmes

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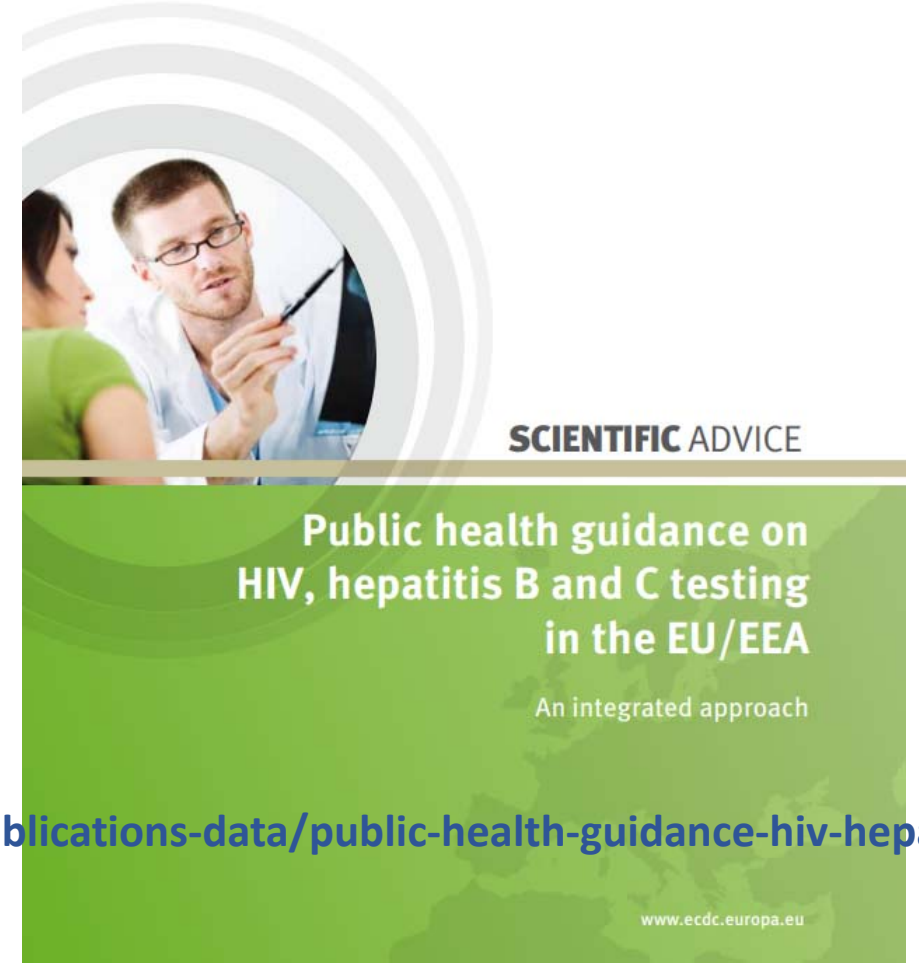

https://ecdc.europa.eu/en/publications-data/public-health-guidance-hiv-hepatitis-b-and-c-testing-eueea

Guidance Highlights

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Core principles

Structure of advice is primarily setting based

Expert Panel conclusions

ECDC scientific advice

Implications for public health practice, monitoring and evaluation and future research

Case studies

Evidence from the Systematic Reviews

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HIV

15,504 records were identified from the database searches and reviewed

368 references were accepted for inclusion in the systematic literature review
(Including **137** conference proceedings) or reports

HBV/HCV

8,331 records were identified from the database searches and reviewed

108 references were accepted for inclusion in the systematic literature review
(Including **24** conference proceedings)

PS4/04 Community-based HIV testing in Europe: a systematic review. S. Croxford
PO4/01 HIV self-sampling and self-testing in Europe: a systematic review. S. Croxford

PS3/04 Hepatitis B and C testing strategies in healthcare and community settings in the EU/EEA: a systematic review L. Tavoschi

Core Principles

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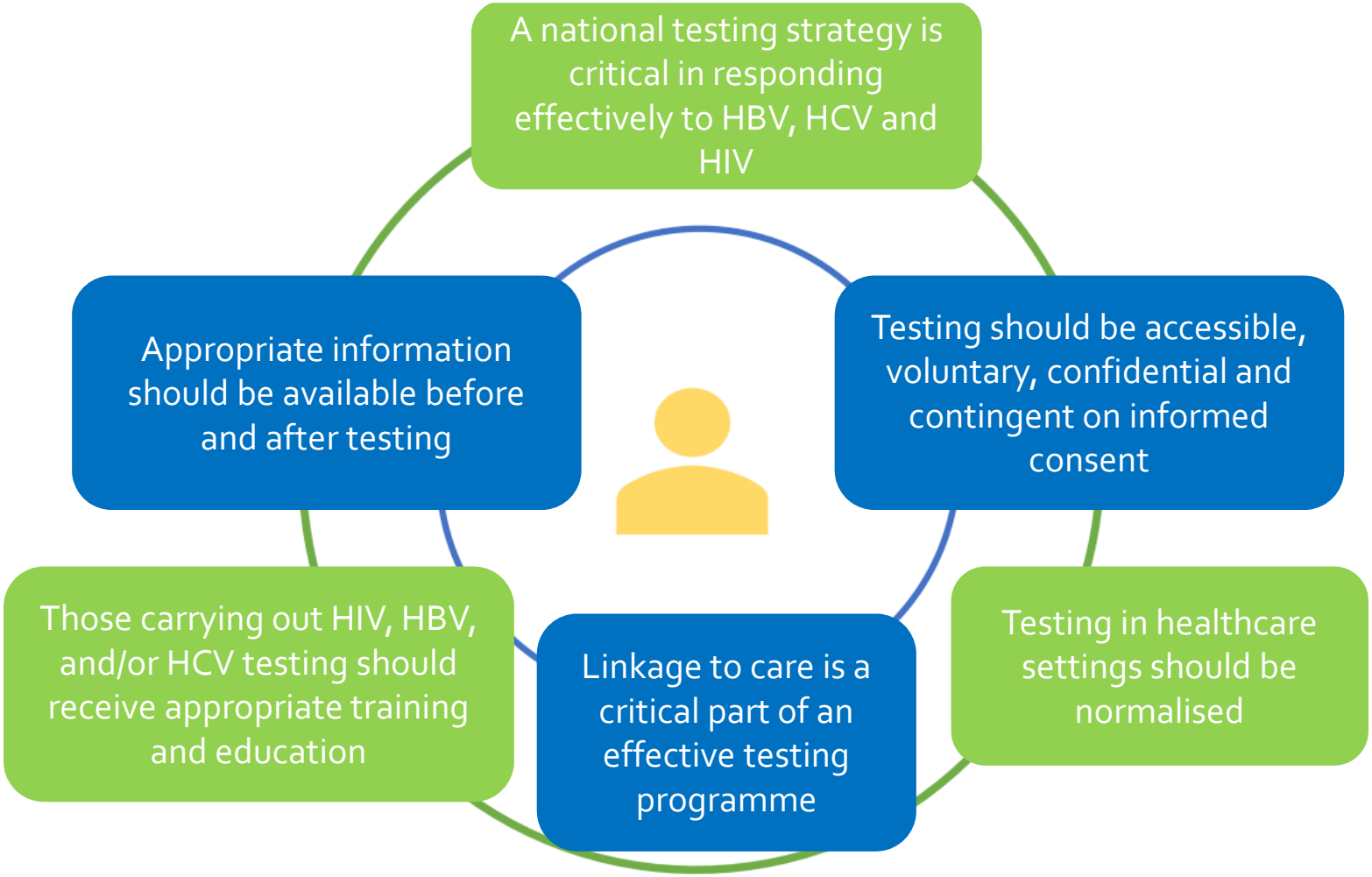

Expert Panel: Conclusions

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43 discrete conclusions covering **5** settings and partner notification; including some strategies that cover all settings e.g. testing in areas of high diagnosed prevalence, HIV Indicator Conditions, birth cohorts

Populations to be considered for targeted testing and suggested testing frequencies across all settings

Table 3. Population groups to be considered for targeted HBV, HCV and HIV testing and suggested testing frequencies (all settings)

Population group[a]	Rationale for testing	Who and how often to test		
		HBV	HCV	HIV
Men who have sex with men (MSM)	Disease burden: elevated prevalence of HBV and HCV in some countries; high incidence rate and prevalence of HIV Ongoing risk: sexual transmission of HBV and HIV; higher risk of sexual transmission of HCV, at least among individuals living with HIV, PrEP users and MSM who engage in sexualised drug use ('chemsex')	All MSM who have not had a complete course of HBV vaccinations based on vaccination history Frequency: retesting, up to every 6–12 months; only required if at ongoing risk and either unvaccinated or vaccine non-responder	When indicated by individual risk assessment (e.g. sexual behaviour, sexualised drug use, PrEP or PEP use, HIV infection, history of rectal bacterial STI) Frequency: up to every 6–12 months depending on ongoing risk, sexual behaviour, HIV PrEP use, history of STIs, injecting drug use and local HCV prevalence/incidence	All MSM Frequency: at least yearly and up to every 3 months depending on ongoing risk, sexual behaviour, history of STIs, PrEP or PEP use, local HIV prevalence/ incidence
Trans* people	Disease burden: limited epidemiological data available Ongoing risk: sexual transmission of HBV, HCV, HIV; increased likelihood of overlapping risk factors (e.g. condomless anal sex, injecting drug use, sex work)	All trans* individuals who have not had a complete course of HBV vaccinations based on vaccination history Frequency: retesting, up to every 6–12 months; only required if at ongoing risk and either unvaccinated or vaccine non-responder	All trans* individuals Frequency: up to every 6–12 months depending on ongoing risk, sexual behaviour, HIV PrEP use, history of STIs, injecting drug use and local HCV prevalence/incidence	All trans* individuals Frequency: at least yearly and up to every 3 months depending on ongoing risk, sexual behaviour, history of STIs, PrEP and PEP use, local prevalence/ incidence
Sex workers[b]	Disease burden: limited epidemiological data available; significant geographic variation Ongoing risk: sexual transmission of HBV, HCV, HIV; increased likelihood of overlapping risk factors (e.g. injecting drug use, male or trans*)	All sex workers who have not had a complete course of HBV vaccinations based on vaccination history Frequency: retesting, up to every 6 to 12 months; only required if at ongoing risk and either unvaccinated or vaccine non-responder	All sex workers Frequency: up to every 6–12 months depending on ongoing risk, sexual behaviour, history of STIs, HIV PrEP use, injecting drug use and local HCV prevalence/ incidence	All sex workers Frequency: at least yearly and up to every 3 months depending on ongoing risk, sexual behaviour, history of STIs, injecting drug use, PrEP and PEP use and local HIV prevalence/ incidence

ECDC: Scientific Advice

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For each setting or strategy is ECDC's scientific advice, collaboratively produced based on the reviewed evidence, expert opinion and EP conclusions

There are **34 pieces of advice** across **all** settings

ECDC scientific advice

There are several options for testing for HBV/HCV/HIV in community settings:

- There is a sound body of evidence to suggest that there is a role for community-based testing and these are acceptable and effective in increasing HBV, HCV and HIV testing coverage and case detection among groups at higher risk.
- There is evidence that DBS testing for HCV, rapid HIV tests and oral fluid tests are acceptable strategies in community-based services and may increase testing uptake, tests performed and new diagnoses.
- Available evidence suggests that integrated testing among groups at higher risk, including those accessing community-based drug and harm reduction services, outreach testing activities and rapid testing in the community, are acceptable and contribute to increased testing coverage when implemented there.
- Evidence suggests that linkage to care after HBV/HCV testing in community settings may be suboptimal, at least for certain risk groups. Appropriate care pathways and referral systems need to be established to ensure effective linkage to care for people newly diagnosed with HBV/HCV/HIV in community settings, including differentiated care pathways for the three infections.
- Despite limited research evidence available from EU/EEA countries, testing services offered by lay providers should be considered to further increase testing opportunities, uptake and coverage.

Monitoring and Evaluation

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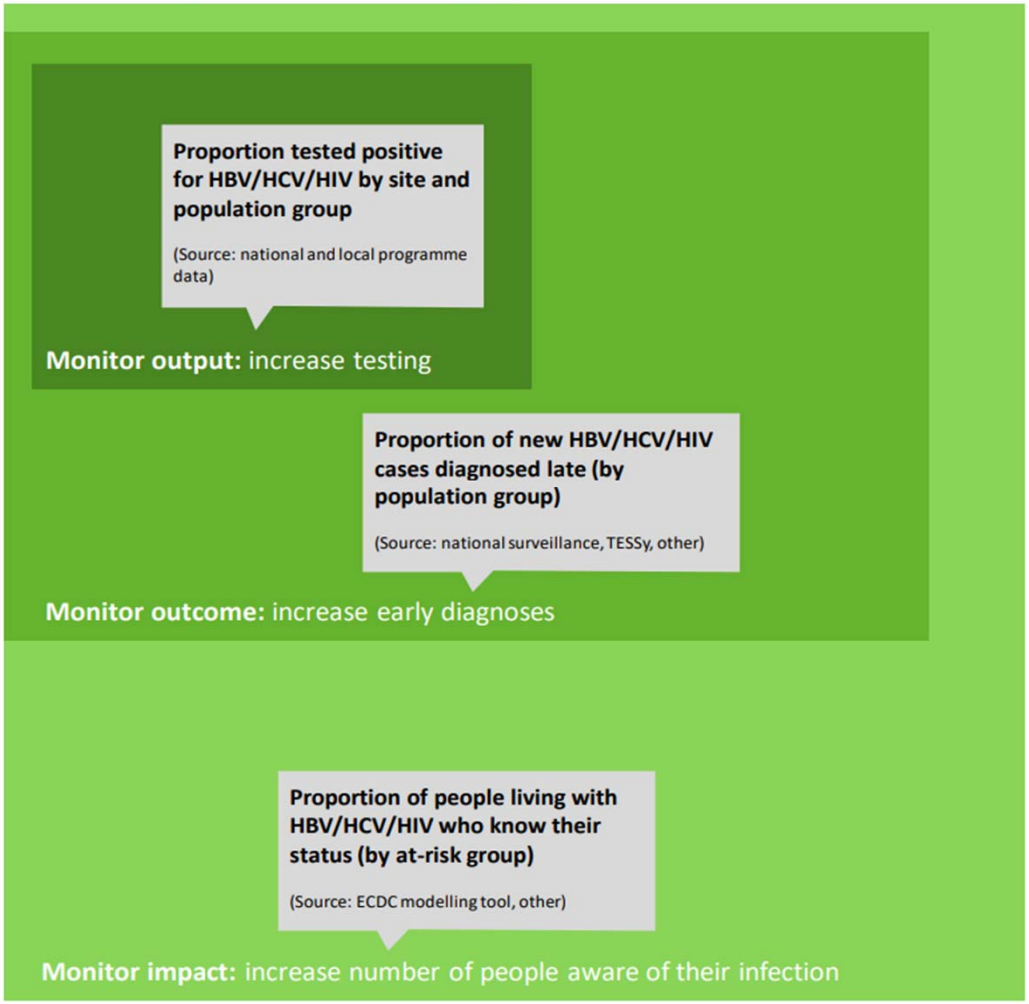
Main elements of a monitoring framework for viral hepatitis and HIV testing

Key element - data should be easily available through the appropriate integration of existing surveillance and programmatic data sources



Key Metrics for M&E

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Key data items:

- number of tests
- basic demographic data of the person tested; age, sex and population group
- location/setting of the test
- number of reactive/positive tests

Other metrics to consider:

- linkage to care
- site/setting of first reactive test/diagnosis
- reason for test
- late diagnosis in different risk groups

Case Studies – Examples of good practice

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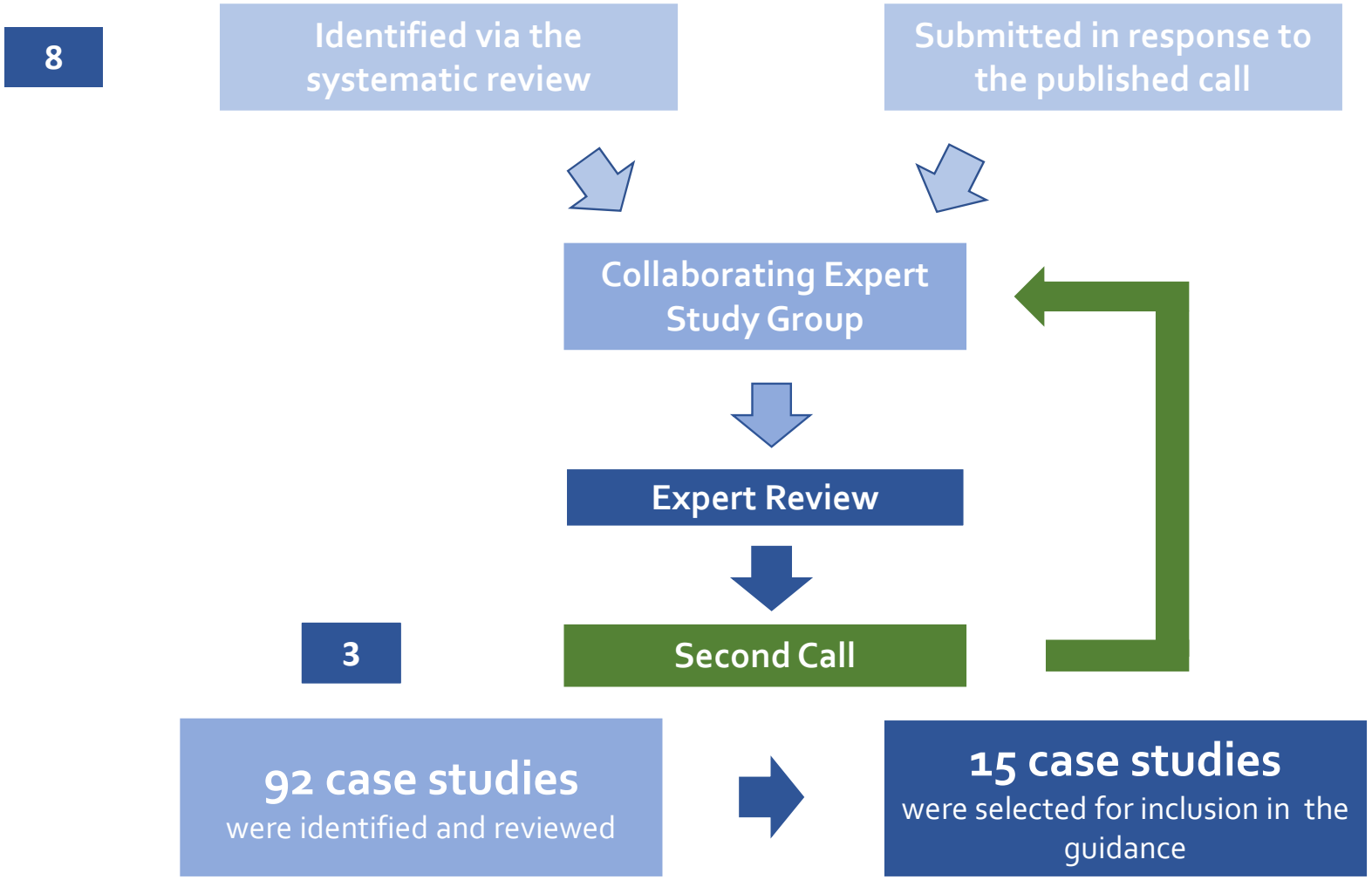

Case Studies themes

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Primary health care settings

Hospital settings

Drug treatment/harm reduction settings

Community settings

Self-sampling/self-testing

Partner notification/Contact tracing

COM2: Increasing coverage of HIV prevention by providing services and linkage to care for key vulnerable populations. (Lithuania)

Author(s): Svetlana Kulšis

Affiliation(s): Association of HIV affected women and their families 'Demetra'

Country: Lithuania

Setting: Hospital and community settings

Source: Open call

ST2: Swab2know: An HIV testing strategy using oral fluid samples and online communication of test results for men who have sex with men in Belgium

Author(s): Platteau, Tom[1]; Fransen, Katrien[1]; Apers, Ludwig[1]; Kenyon, Chris[1]; Albers, Laura[1]; Vermoesen, Tine[1]; Loos, Jasna[2]; Florence, Eric[1]

Affiliation(s): Institute of Tropical Medicine, Department of Clinical Sciences, Antwerp, Belgium[1]; Institute of Tropical Medicine, Department of Public Health, Antwerp, Belgium[2].

Country: Belgium

Setting: Community

Source: Journal article [58]

Gaps: primarily from Eastern countries and community settings

Conclusions

Where evidence is lacking in specific topic areas and regions, systematic review enhanced by expert panel consensus on the resultant synthesised evidence and case studies can be an effective strategy to produce comprehensive guidance

Whilst there is clear evidence on the benefits of testing, prompt transfer to care etc, little evidence exists on effective implementation and integration of testing for the three infections.

Inclusion of the case studies will provide practical guidance on strategies that have demonstrated effectiveness

The guidance highlights these knowledge gaps and calls for them to be a focus for future study

Ongoing evaluation of their implementation across Europe is essential

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