



BBV prevalence assessment

Overview

This case study describes a pilot bloodborne virus testing program from Chelsea and Westminster Hospital in London UK. The aim of this study were to assess the feasibility of simultaneous testing for HIV, Hepatitis B (HBV) and Hepatitis C (HCV) in the emergency department (ED) and ascertain the seroprevalence for these three viruses in this setting.

Approach

BBV Prevalence assessment

- In order to decide whether or not to introduce a prospective testing program for HCV and HBV the team used samples already collected through an existing HIV testing programme in the ED to perform a retrospective, unlinked anonymous seroprevalence survey.
- 500 randomly-selected, irreversibly-unlinked samples from individuals who had tested HIV-negative were tested for anti-HCV IgG and hepatitis B surface antigen (HBsAg).
- 15 (3.0%) were HCV IgG-positive and 8 (1.6%) were HBsAg positive.
- Authors found a high prevalence compared to the UK national average (0.4% and 0.3% respectively), and it was decided to develop an ED opt-out testing program for HCV and HBV.

Clinical Approach

- Staff from the local HIV/sexual health service (SHS), ED and virology laboratory developed in collaboration a model of delivery: All individuals attending the ED aged between 16–65 years that were able to consent were included. Testing was performed on an opt-out basis.
- Automated pop-up prompts were implemented in the ED IT system to remind clinicians to offer a test.
- A leaflet providing information on testing was provided to patients and they were given the opportunity to opt out.
- All ED clinicians delivering testing received training from SHS staff.
- Results governance and delivery were managed by the local SHS, and patients with a reactive or equivocal test results were recalled to undergo confirmatory or repeat testing.
- A helpline telephone number was provided and patients could confirm their negative results by telephone or email.
- The ED and sexual health teams met weekly to evaluate the effectiveness of the testing service.
- Quality improvement methods were applied to identify significant outcome trends and evaluate the effectiveness of different interventions designed to improve the model.

Results

Results November 2015 - December 2016

Testing uptake:

- Out of 25,520 eligible ED attendees 24% (6108) were tested for all 3 BBVs and additional 4.5% (1160) had a standalone HIV test.
- HIV Ab/Ag: 7,268 tests
- HBsAg: 6,108 tests
- HCV IgG: 6,108 tests

Non-negative results (includes reactive and equivocal results):

- HIV: 83 (1.1%)
- HCV: 103 (1.7%)
- HBV: 32 (0.52%)

Potential new diagnoses:

- HIV: 12 (0.17%) . All 12 confirmed.
- HCV: 40 (0.65%), 16 (0.26%) recalled and confirmed (of these 5/16 were HCV RNA positive)
- HBV: 12 (0.20%), 8 (0.13%) recalled and confirmed

New positivity rates:

- HIV: 0.17%
- HCV: 0.26 - 0.65%
- HBV: 0.13 - 0.20%

Lessons learned



The challenges associated with follow-up of reactive or equivocal results highlight the importance of incorporating effective patient-contact and linkage-to-care strategies into screening programmes to ensure their long-term feasibility and impact.



It is essential that any BBV testing program in the ED includes robust systems in place to facilitate testing by the busy clinical team, including electronic requesting, automated pop-up common order set prompts and verbal opt-out testing.



Involvement of a key senior member of the ED clinical staff, in collaboration with support from sexual health services is essential.

Source

[Bradshaw D, Rae C, Rayment M, Turner N, Turner R, Pickard G, Pillay K, Roberts P, Foxton M, Sullivan AK. HIV/HCV/HBV testing in the emergency department: a feasibility and seroprevalence study. HIV Med. 2018 Feb;19 Suppl 1:52-57. doi: 10.1111/hiv.12590.](#)