

[See more information about this Research and analysis](#)

Research and analysis

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Contents

Eleventh annual review of infections among UK blood, tissue and organ donors and transfusion recipients

Ebola virus disease: international epidemiology summary (at 1 November 2015)

Particulate air pollution PHOF indicator updated

1. Eleventh annual review of infections among UK blood, tissue and organ donors and transfusion recipients

The NHSBT/PHE Epidemiology Unit's annual review, *Safe Supplies: Uncovering Donor Behaviour*, describes infections among blood, tissue, and organ donors and transfusion recipients during 2014 [1]. New to 2014's report are initial findings from the PHE UK blood donor survey [2] and, for the first time, platelet screening data for all UK blood services.

During 2014, almost 2.2 million blood donations were tested in the UK. There were 212 confirmed markers: syphilis (82), HBV (68), HCV (38), HIV (13), and HTLV (11). This is a rate of 9.7 confirmed positive donations per 100,000, a 4% decrease compared with 2013. New donors accounted for 8% of the donor population but 84% of the positives. Four acute and two occult HBV infections were reported. Occult HBV is not usually reported in the general population but is identified in blood donations as both serology and nucleic acid testing are used in screening. HBV and HCV infections are notified to local health protection teams (HPTs).

The donor survey showed that donor adherence to selection criteria is very high (99.3%) but each year a small number of non-compliant donors with markers of infection are observed. In 2014, there were eight of these donors: five of whom reported sex between men. This is the third full reporting year since the change in blood donor selection policy for men who have sex with men (MSM): from a permanent to a 12-month deferral. Although the data should be interpreted with caution, there is no evidence that this change has resulted in increased risk

of a transfusion transmissible infection entering the blood supply.

New risk estimates for infectious but undetected infections suggest that testing will miss approximately one HBV infection every year, one HCV infection every 12 years and one HIV infection every three years.

1.1 HEV screening

During 2014, a local HPT initiated a blood service investigation following a report of a hospital patient with acute hepatitis E following transfusion which led to confirmation of a hepatitis E transfusion transmission. HEV screening will be implemented by the UK blood services in 2016 [3]. There were two near-miss cases of Staphylococcus Aureus in platelet packs – vigilance of hospital staff before transfusion led to the discovery of clumps which allowed preventative action to be taken with associated packs.

During 2014, 3,825 organs from 1,241 deceased solid organ donors were transplanted in the UK. Testing of these donors for markers of infection revealed that Epstein-Barr virus (EBV) and cytomegalovirus (CMV) were detected in 93% and 52%, respectively, of donors for whom a test result was available. Initial screening results were also obtained for: HBV core antibodies (33 donors); HBV surface antigen (3); HCV antibodies (12); Toxoplasma Gondii (212); and treponemal antibodies (4). The Unit is currently working to quantify the risk of a transmission occurring through transplantation.

NHSBT also tested a total of 2,375 cord blood donors: two were reactive for markers of HCV infection and two for HTLV. Positive donors are referred for specialist advice, particularly on the risk of maternal HTLV transmission through breast feeding.

1.2 References

1. NHSBT/PHE Epidemiology Unit (November 2015). [Safe supplies: uncovering donor behaviour: annual review.](#)
2. Davison KL, Reynolds CA, Andrews N, Brailsford SR and on behalf of the UK Blood Donor Survey Steering Group (2015). Getting personal with blood donors – the rationale for, methodology of and an overview of participants in the UK blood donor survey. *Transfusion Medicine*, 25: 265–275.
3. Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO). [Extraordinary meeting: Tuesday 7 July 2015.](#)