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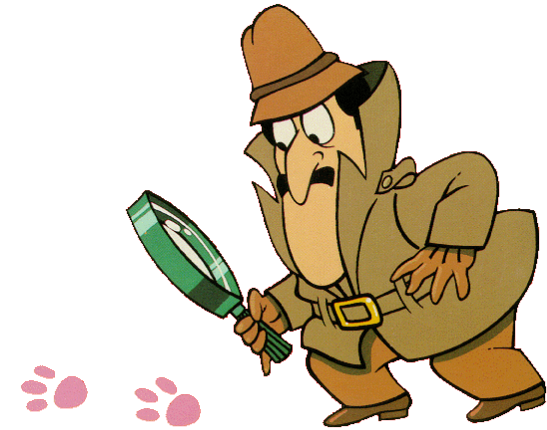
Playing Detective: going in search of the source of infection

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Consultant in Epidemiology and Health
Protection

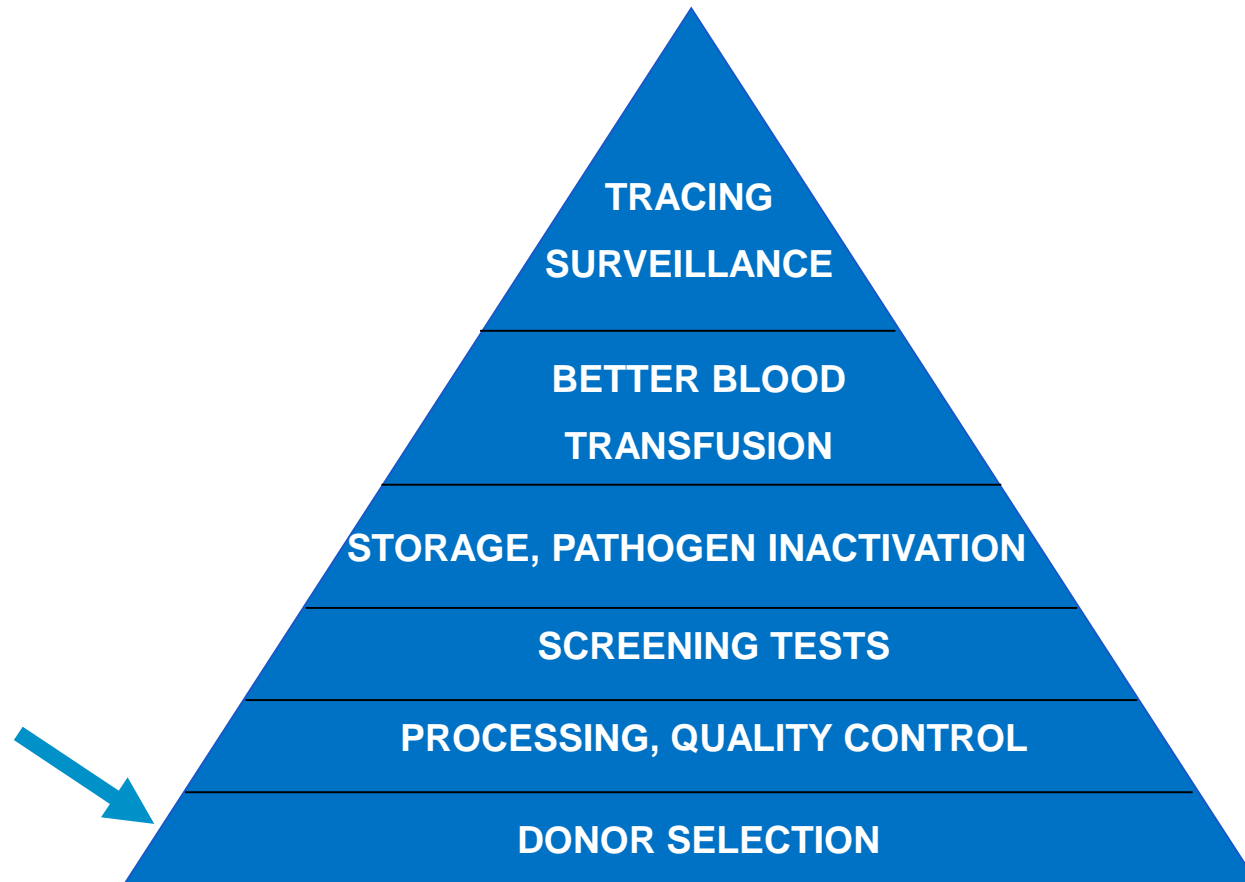
The Micro' Services clinical team

- Are inquisitive
- Like problem solving
- Don't mind asking personal questions



Maybe we're just a bit nosy!

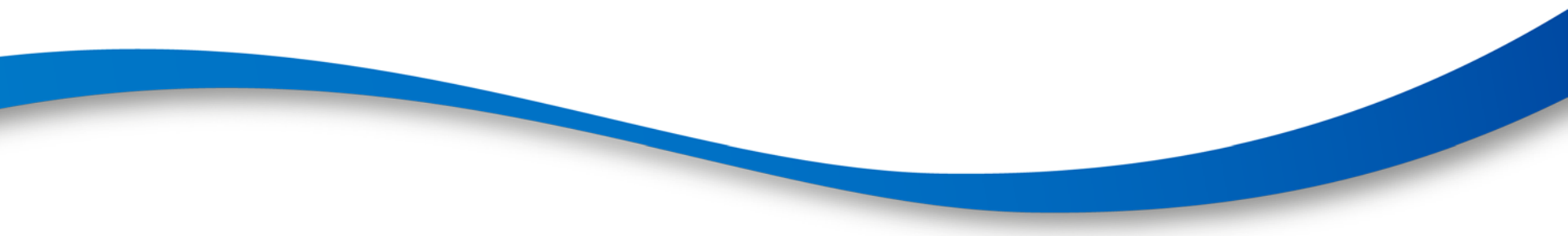
Strategies to reduce risk of transfusion transmitted infections



Modified from Bihl et al, Journal of Translational Medicine 2007, 5:25

SaBTO report: <https://www.gov.uk/government/publications/blood-tissue-and-cell-donor-selection-criteria-report-2017>

Donor with markers of infection

- Donors don't expect to become patients
 - Very small numbers attend to test-see
 - Very rare that they are aware of their infection
 - React in many different ways to the news
 - Most people view themselves as not 'at risk'
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What happens-mandatory markers

- Donors informed initially by letter/e-mail/text
- Telephone conversation with one of the team
 - Explain results
 - Explore likely source
 - Expedite referral

**TRANSFUSION
MEDICINE**Official Journal of
the British Blood Transfusion Society

Transfusion Medicine | ORIGINAL ARTICLE

British Blood
Transfusion Society

Notifying blood donors of infection: results of a donor satisfaction survey

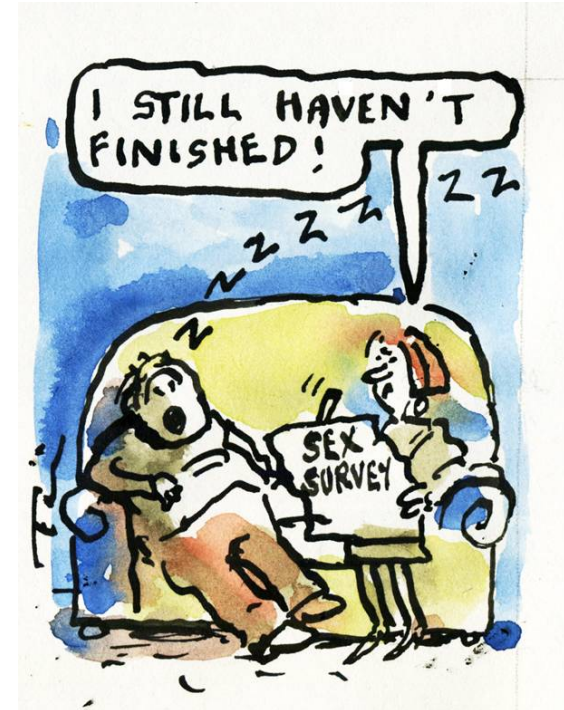
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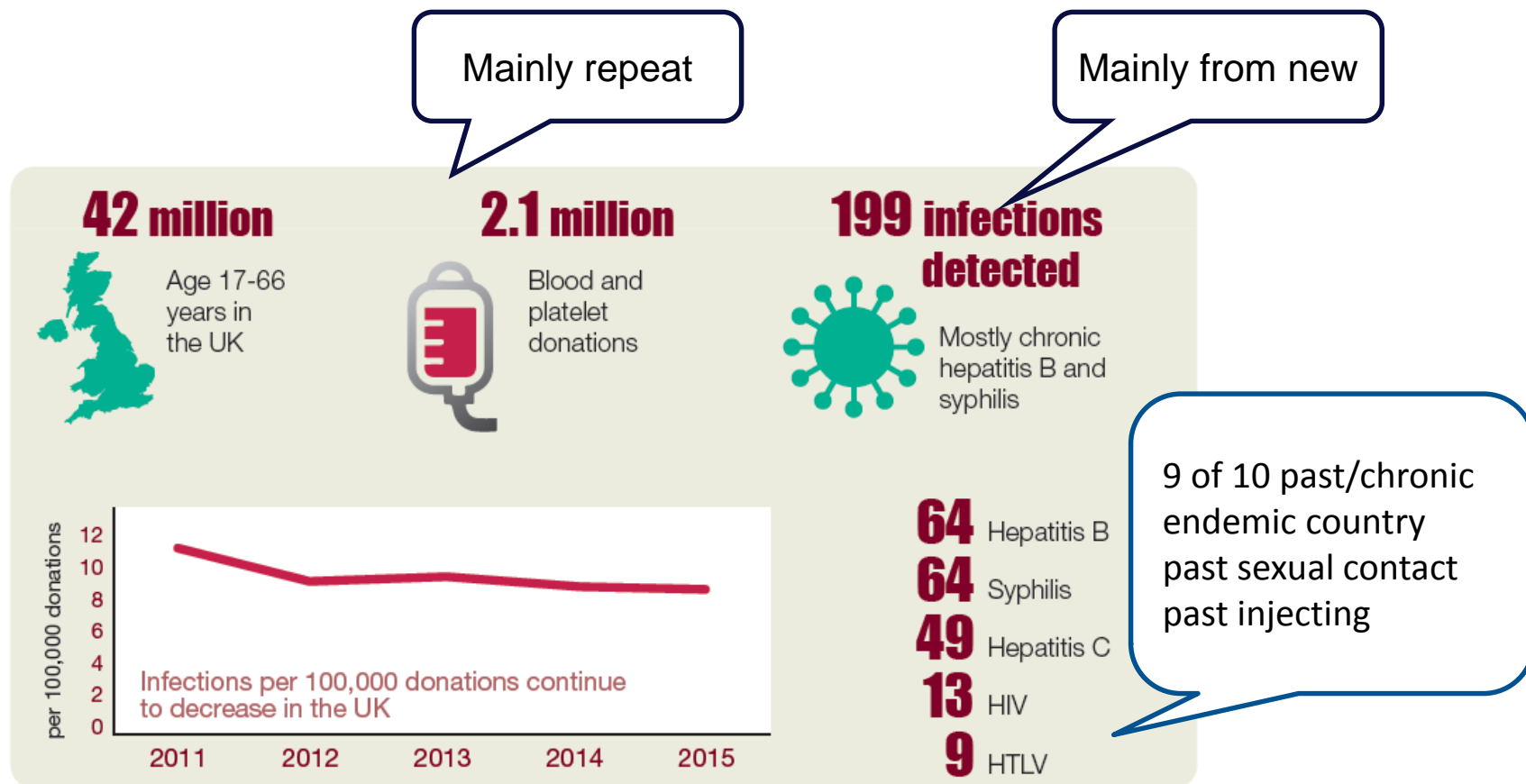
Received 15 September 2015; accepted for publication 1 December 2015

Donor follow-up

- Check list
- Donor information
- Epidemiology collection
- Notification
- Referral and follow-up



Positive blood donors UK 2015



<https://www.gov.uk/government/publications/safe-supplies-annual-review>

SECTION 2: Donor information for blood borne infections

Please complete a report for each donor with a confirmed HIV, HBV, HCV, T. pallidum or HTLV infection. Do NOT report indeterminates.

TM Log		BTC		Donation Date		Donation Number	
Soundex		Initial(s)		Sex		Date of Birth	

Confirmed infection

How was information obtained?

Any communication issues?

Q1. Please select the summary of the follow-up of the donor's exposures to infection:

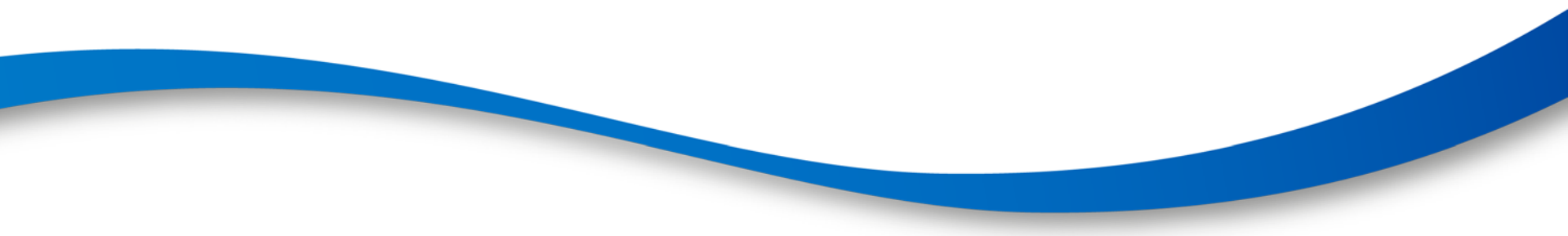
Q2. Possible risk exposures:

If c. to question 1, specify probable/possible risks for infection by choosing all that apply. Please indicate the country of the exposure (UK or abroad), and the first/last year of exposure. For multiple exposures you may asterisk (*) the exposure you think is the most probable one.

Donor's probable exposure(s): please complete as fully as possible		if YES	UK	Abroad	First Year	Last Year
Injecting drug use						
Other drug use (e.g. snorting): please specify in Comments						
Sex between men						
Sex between men and women (i.e. heterosexual intercourse) please give details of sexual partner(s) risk factor(s) below						
Blood / tissue / organ recipient please delete as appropriate						
Occupational exposure to blood (give occupation)						
Perinatal/horizontal exposure in childhood (ONLY known positive contact e.g. mother, sibling – please describe						
Born in an endemic country (NO other identified risk)						
Other suspected exposure(s) (e.g. A. household exposure (adult), B. renal dialysis, C. surgical, D. dental, E. other invasive medical treatment, F. tattooing, G. acupuncture, H. ear or I. body piercing, J. blood-sharing) Please list (using letter if applicable) below						
Donor's sexual partner(s) inc oral sex is/was		if YES	UK	Abroad	First Year	Last Year
has HIV / HBV / HCV / T.pallidum / HTLV						
A man who has had sex with a man						
A person who injects drugs						
Has lived in/visited Africa						
Other suspected exposure(s) A. Paid for sex, B. blood/tissue/organ recipient C. Other known exposure, please						

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But it's not just the donor

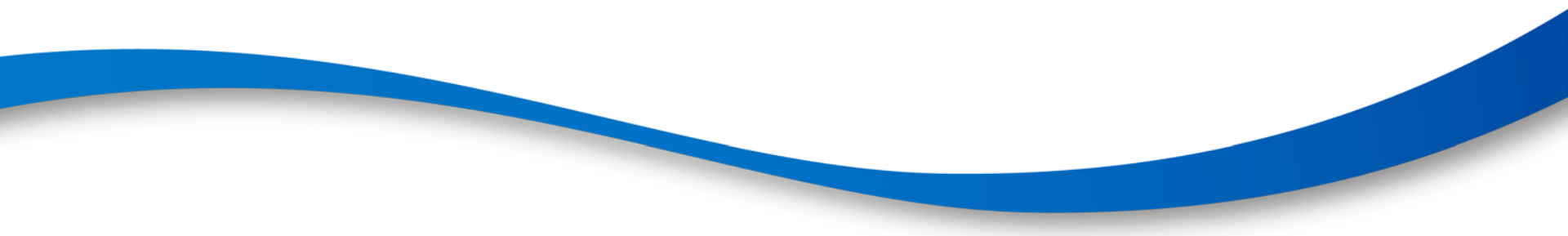
- Public health
 - Statutory duty to notify some specific organisms and/or conditions
 - Previous donation- seroconversion, ?lookback
 - Could we have missed an early infection?
 - Other donors in the house-donor selection criteria
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Acute syphilis

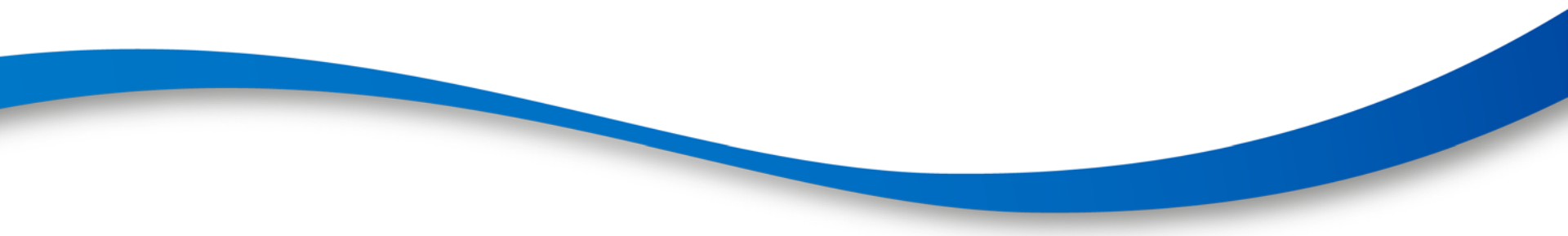
- TPHA 1:4096, VDRL 1:32
- Female 50s; long term relationship >35 yrs
- >50 previous donations
- 4 months since last donation

Test is for treponemal antibodies: also detects Pinta and Yaws

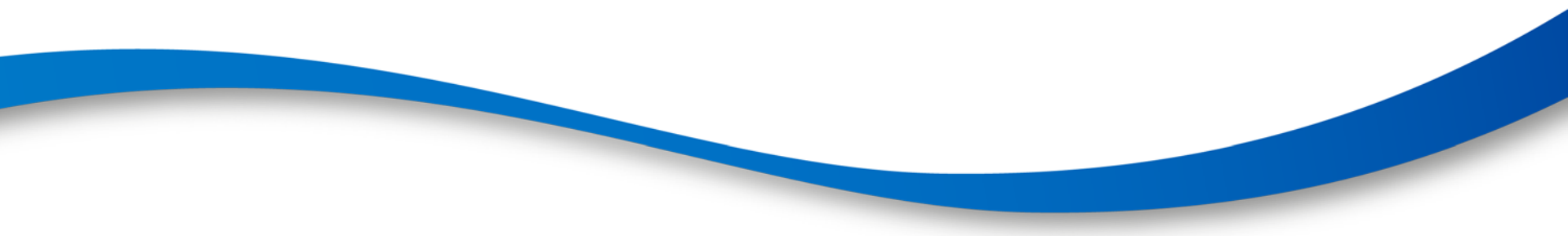
HIV

- Male donor in 50s
 - Previous negative donation 12 months ago
 - Married for many years
 - Initially disclosed 'one-off' sexual contact with man 2 months earlier
 - Very upset and apologetic
 - On further discussion 18 month history of sex with unknown men
 - Avidity: unlikely to have been acquired in the last 4 months
- 

Donor seroconversion

- Previous negative donation
 - archive tested
 - Given history decided to carry out lookback
 - Patient identified and contact made with clinician
 - Advised very small risk of transmission but recommend discuss with patient and offer testing
- 

Hepatitis B

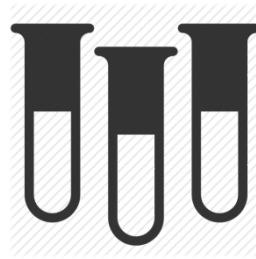
- Donors who clear an acute infection can be returned to panel
 - Young female donor 20s
 - 'One-off' sexual contact with flatmate
 - Devastated by information
 - Arranged direct referral, cleared infection and RTP
- 



Years of a national surveillance scheme



Donor
records



Laboratories

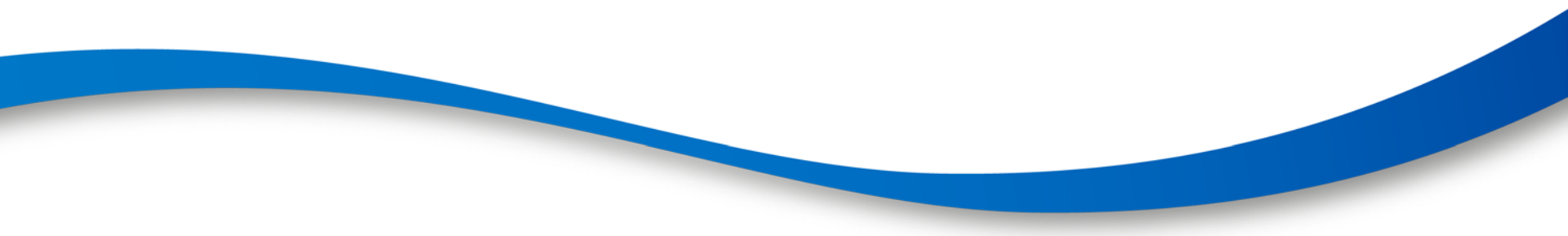


Clinical teams

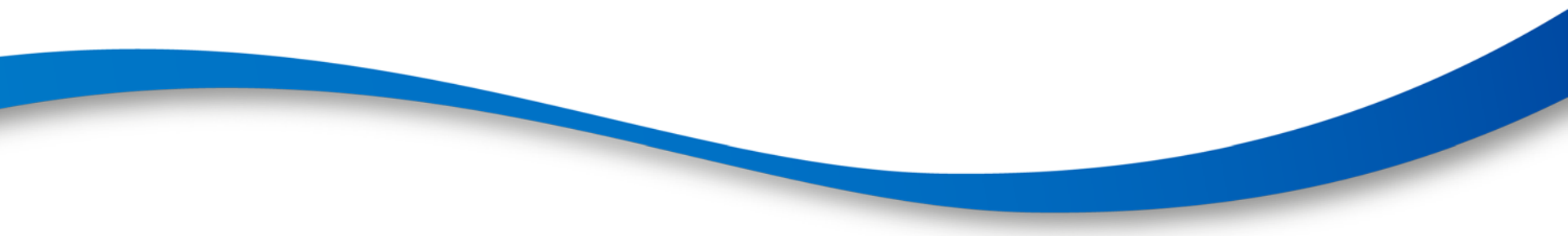
<https://www.gov.uk/government/publications/safe-supplies-annual-review>



Post-transfusion infection

- Cardiac patient, developed acute HBV 4 months post cardiac surgery/3 months post dental treatment
 - Blood transfusion investigated when all other sources were negative
 - 16 donor exposures, archives tested and source identified-FFP
 - Donor asymptomatic, HBsAg neg, pooled NAT neg
 - Recipient of associated red cells developed chronic hepatitis B
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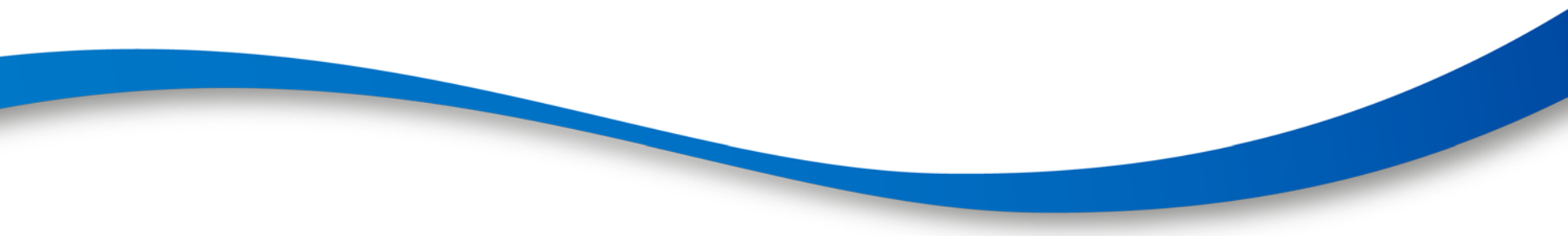
HEV

- July 2015, pre screening
 - Transfused 2 platelets and 2 units of cryo: 18 donor exposures
 - October developed jaundice, nausea and abdominal pain, diagnosed with acute HEV
 - Archives retrieved and one donor who donated to cryo pool HEV RNA positive
 - Associated red cell-no evidence of transmission to recipient
- 



**KEEP
CALM
AND
LOVE
MICROBIOLOGY**

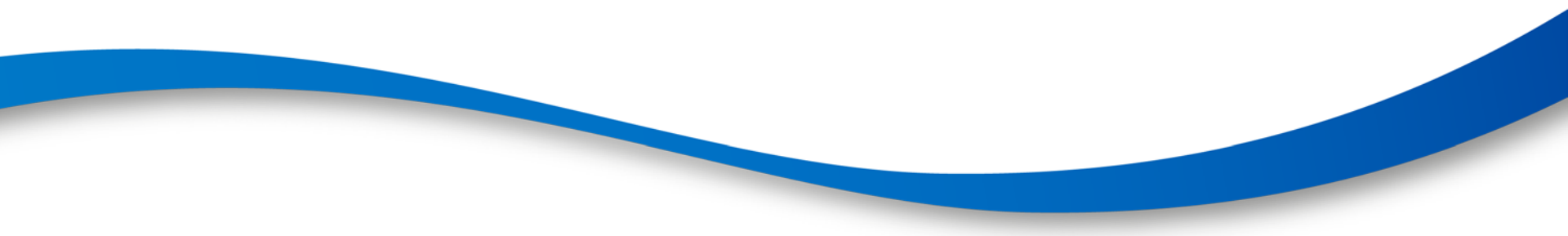
Bacteriology

- More case-by-case
 - Follow up of donors with 'significant' bacterial pick up
 - Pool v apheresis
 - Swab?
 - Referral to GP?
 - Record and return to panel?
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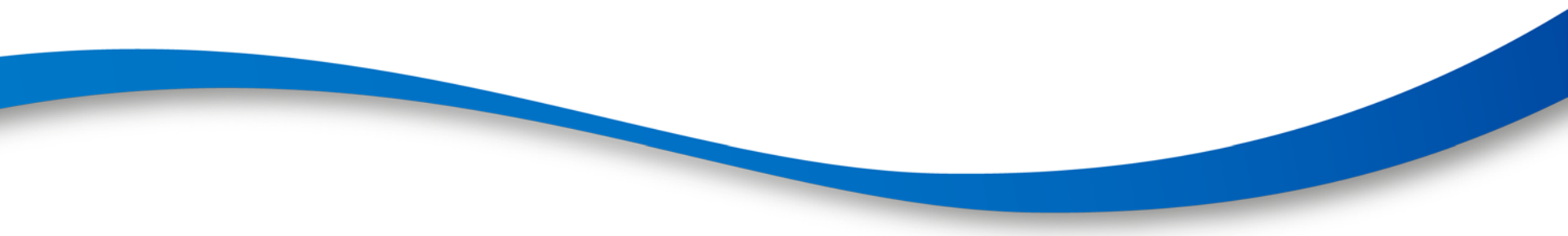
Follow-up

- Gut: *S. bovis*; *E. coli*
- Skin: *S. aureus*
- Oral: many streptococci
- Harmful to the recipient
- Marker of illness in the donor?
- Random finding?

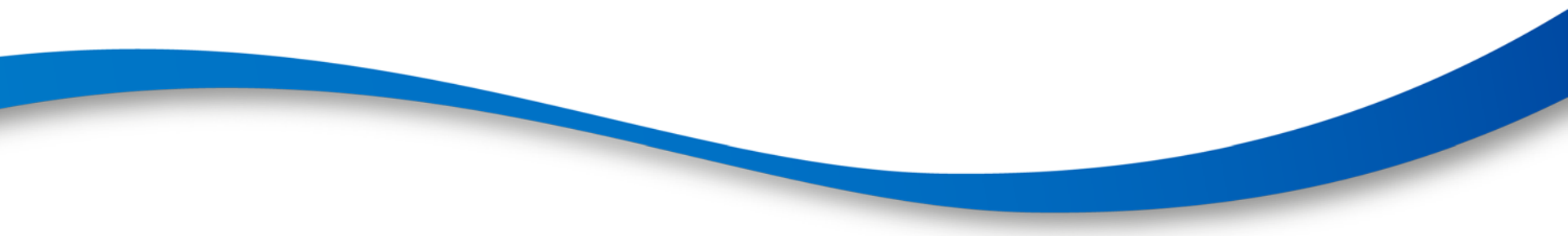
Bacteriology 2

- Temporary or permanent deferral
 - Colonoscopy, bloods
 - Ca colon, diverticular disease, polyps
 - ?listeriosis
 - Cracked or decayed teeth
 - Eczema, cellulitis
- 

Bacterial screening is very effective but...

- Patient undergoing palliative care
 - Blood cultures positive for *S. aureus*
 - Remains of pack returned-negative at day 7 on screening
 - Follow up donors, second donor positive for *S.aureus* with v. similar *spa* type
 - Source identified
- 

Safety of the blood supply

- Follow up of donors has wider public health impacts
 - What we learn informs future policy
 - Important role in ensuring donors receive appropriate care
 - Maintaining safety of the supply and protecting patients
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Acknowledgements

- Colleagues in the Microbiology Service Clinical Team
- Colleagues in the NHSBT/PHE Epidemiology Unit
- All our donors

