MANAGEMENT OF HIGHLY INFECTIOUS BLOOD SPECIMENS – ARE WE DOING ENOUGH TO PROTECT LABORATORY STAFF?

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Introduction

- Viral Haemorrhagic Fevers (VHF) are highly contagious blood borne diseases associated with very high rates of morbidity and mortality.

- Often presents with vague symptoms complicating early diagnosis.

- Crossmatch requests are sometimes received in blood banks without full diagnostic information on the Blood Request Form (BRF), resulting in staff following routine crossmatch procedures.

Nature of The Problem

- Specimens were sent by hospital doctors to the National Institute of Communicable Diseases (NICD) for confirmation of possible VHF, however, blood banks were not informed of the possible diagnosis.
- Doctors and NICD operated independently, leaving SANBS out of the communication loop, thus placing staff at risk of exposure.
- Doctor's used acronyms for the diagnosis on BRF that staff did not understand, e.g. ? CCHF / PUO / ?EB.
- Some BRF had no diagnosis or perhaps just the ICD10 code for diagnosis.

Background Information

- 2010 – SANBS Medical Director sent a letter to all hospitals titled ***'VIRAL HAEMORRHAGIC FEVER CASES AND BLOOD TRANSFUSION'*** requesting doctors to order Emergency Blood in suspected VHF cases.

- 2013 – SANBS launched a project to raise awareness, reduce exposure and improve communications to alert relevant stakeholders of suspected cases.
    - Released the *Management of Highly Infectious Specimens* SOP
    - Conducted train-the-trainer of all blood bank supervisors (to train their staff) on VHF
    - Written communication was sent to all hospitals requesting detailed diagnostic information on blood request forms

- But there were still gaps ….

VHF Task Team

In November 2017, a Task Team was formed. The goals were to:

- Improve communication amongst stakeholders
- Prevent blood bank staff from crossmatching potential VHF specimens
- Ensure doctors complete BRFs with the proper diagnosis and other relevant information

Stakeholders of Task Team include:

- Occupational Health
- Medical Department (SANBS/WCBS)
- Technical Department
- NICD

Methods Used to Achieve Goals

- A cascading (email and Whatsapp group) communication system was established:
  - NICD notifies all parties as soon as a suspected VHF specimen is received
  - one of the Task Team members notifies the relevant blood bank
  - this prevents crossmatching procedures being performed
- Systems within the blood banks, together with the existing procedure for managing VHF specimens, were reviewed and areas for improvement identified.
- A database of suspected VHF cases was developed, recording patient details, e.g. admitting hospital, diagnosis indicated on BRF, etc.

Summary of Database on VHF Cases: November 2017 - 2019

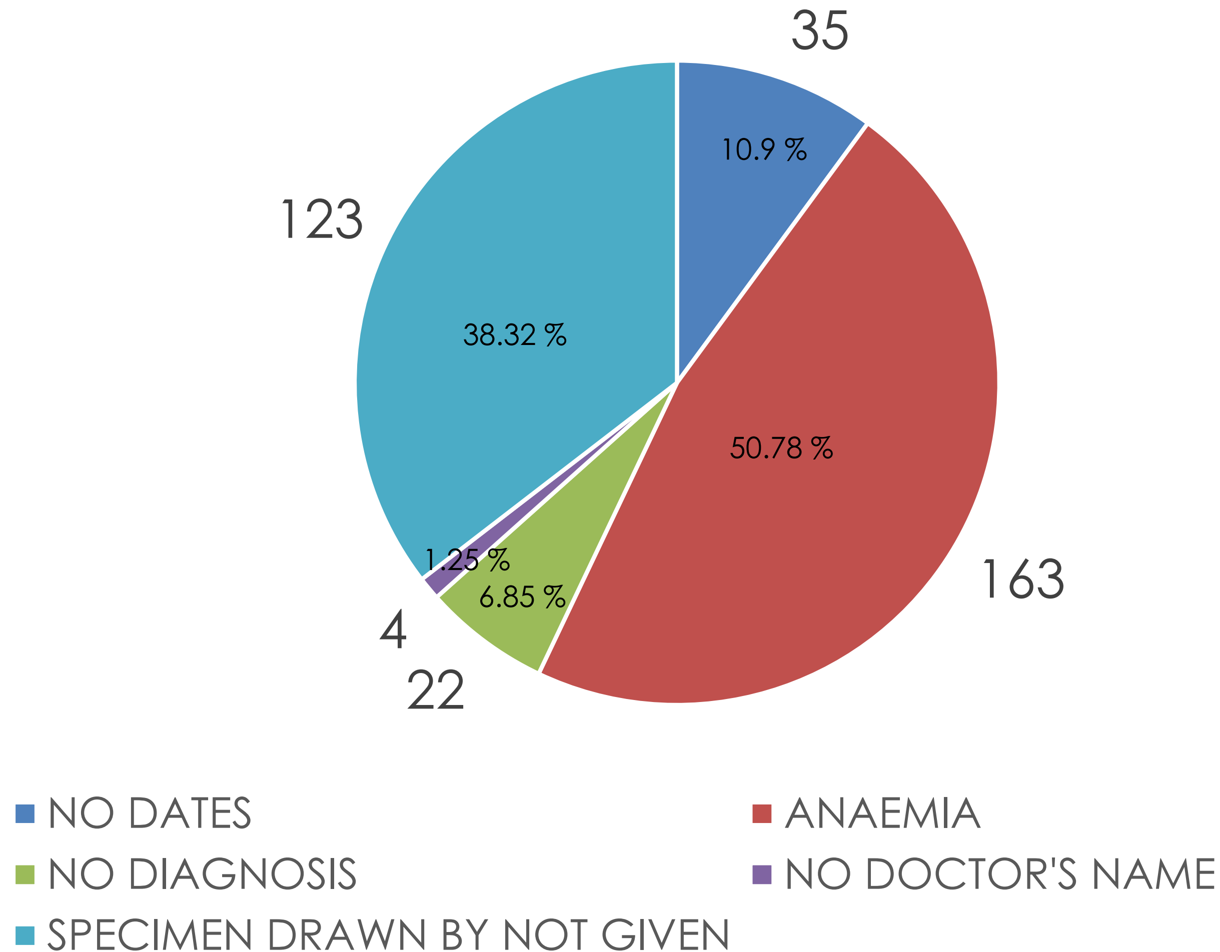
SUMMARY	Total Suspected Cases report by NICD to Task Team	Total Confirmed Positive	%	No. Cases Cross matched - prior to diagnosis confirmation	%
2017	6	3	50 %	1	16 %
2018	10	1	10 %	1	10 %
2019	6	3	50 %	0	0
TOTAL	**22**	**7**	**31 %**	**2**	**9 %**

Effectiveness of Task Team

- Of the 22 suspected cases reported by the NICD:
  - 9 (40%) cases - no blood or blood products were ordered, but blood banks were alerted
  - 13 cases where blood products were ordered,
    - 8 (73%) did not indicate 'suspected VHF' as the diagnosis
    - 7 (31 %) were confirmed VHF positive.
    - Crossmatches were performed on 2 of these 7 cases:
      - one in 2017 indicated '?VHF' as diagnosis on the requisition
      - one in 2018 indicated 'Anaemia' as the diagnosis on the requisition
        - » Employees involved with these crossmatches were monitored according to the SANBS procedure as well as the infection control procedures of the source hospital.

- Subsequent to these 2 cases, no crossmatches have been performed on potential VHF cases

Analysis of Blood Request Forms: FS/NC – June 2018



Conclusion and the Way Forward

Did the Task Team meet their goals ?

✓ Communication system is effective and has raised awareness

✓ Identification of:

- significant gap on the part of hospital doctors regarding the:
  - medico-legal requirement for completing the blood request forms in full
  - importance of safety to all staff involved with drawing specimens and crossmatching
  - use of Emergency Blood where possible
- need for refresher training for blood bank staff
  - VHF and the associated risks for all involved
  - Information posters indicating acronyms for diseases, e.g. ? VHF / CCHF / PUO / EB etc.

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THANK YOU