

THE RARE DONOR PROGRAM AT SANBS: ACHIEVEMENTS AND FUTURE PLANS

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BACKGROUND

The South African Rare Donor Program (SARDP)

- ❖ A collaborative program between the South African National Blood Service (SANBS) and the Western Cape Blood Service (WCBS).
- ❖ Identifies rare donors and obtain their donations for storage and issue when required both nationally and internationally.
- ❖ The SANBS Reference Laboratory is the custodian of the SARDP.
- ❖ SANBS collects +/- 3300 units of blood every day from different race and ethnic groups in 8 of the 9 provinces in South Africa.
- ❖ Within South Africa, less than 1% of the country's total population donates blood. These donors make it possible for the SANBS to receive some 850 000 blood donations annually.





BACKGROUND

- ❖ Donors are considered rare if:
 - ❖ They lack antigens present in 99% of the population **OR**
 - ❖ If they are negative for high frequency antigens.
- ❖ Natural attrition of donors has led to a decline of the active rare donor database.
- ❖ A manual system for the tracking of incoming and outgoing rare donations made assessment of the status of the rare donor program difficult.
- ❖ In order to re-establish a younger, active donor pool and ensure continuity of access by South African patients to rare donations, an urgent donor screening program was implemented.





INTRODUCTION

- ❖ The objectives of this review was to analyse the outcome of the rare donor screening program implemented by SANBS in January 2016 through to October 2018.
- ❖ To describe the number and type of new rare donors identified, and to list the rare types most frequently issued.





METHODS

- ❖ A retrospective review using frequency analysis of laboratory data was performed.
- ❖ Batch screening of random donor samples was performed to identify rare types using extended phenotyping by:
 - ❖ Manual tube Indirect Antiglobulin Technique (IAT)
 - ❖ Manual tube Enzyme Techniques
- ❖ Results were captured on Meditech, the SANBS operating platform, and extracted to the SANBS Power Business Intelligence (BI) Report Server.





RESULTS

January 2016 – October 2018

11712 samples screened, 11 tests per sample with a total of 128832 tests

Rare types	No. of rare donors identified from screening	Percentages
hrB-	40	44%
U-	17	19%
Js(b-)	14	16%
hrS-	9	10%
U variant	7	8%
Lan -	1	1%
kk-	1	1%
Do(b-)	1	1%
	* 90	100%

* 0.8% increase





Can SANBS meet the demand?

January 2016 – October 2018

Rare Type	No. of Active Rare Donors	No. of rare units received	No. of rare units issued	Meet the demand
hrB-	58	80	65	✓
hrS -	27	52	18	✓
U-	13	25	23	✓
Js (b-)	13	17	6	✓
Do (b-)	10	33	0	✓
Bombay Oh	6	19	4	✓
Kn (a-)	2	0	0	✓
In (a+b-)	1	0	0	✓
Ge -	0	0	0	✓





Can SANBS meet the demand?

Rare Types	No. of Active Rare Donors	No. of rare units received	No. of rare units issued	Meet the demand
k-	20	56	6	✓
U variant	14	23	0	✓
Lu (b-)	2	8	7	✓
Yt (a-)	1	4	3	✓
Rh null	1	0	0	✓
Vel -	1	0	0	✓
Kp (a+b-)	1	5	2	✓
p Phenotype	1	0	2	*
Lan -	1	3	4	*
	172	325	140	





DISCUSSION/CONCLUSION

- ❖ 90 rare donors were identified with a success rate of 0.8%, increasing the SARDP by 38%.
- ❖ The most frequently issued rare types were hrB-, hrS- and U-.
- ❖ There are currently 129 SANBS rare donors and 56 WCBS rare donors contributing to the SARDP.





DISCUSSION/CONCLUSION

- ❖ The SARDP has successfully identified donors with rare types, however long-term screening is unsustainable due to limited availability of the rare reagents required.

- ❖ Future plans for the SARDP include:
 - ❖ Sourcing of alternate supplies of rare reagents.
 - ❖ Validation of different screening methods.
 - ❖ Introduction of a family studies programme, for the identification of rare blood types within the families of rare patients and donors.





Automated Cell Processor (ACP 215)



The inside of the Ultra Low Freezer



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- ❖ Western Cape Blood Service (WCBS)
- ❖ Specialised Processing Department
- ❖ Inventory Department
- ❖ Specialised Donor Services
- ❖ Donation Testing Department
- ❖ Quality Control Department
- ❖ SLS management





REFERENCES

- ❖ SANBS Power Business Intelligence (BI) Report Server
- ❖ SANBS Five-Year Strategy: 2019-2024



Thank you