

SANBS Update

Presenter:

Kuben Vather

Prepared by:

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Siemi Prithvi Raj & Michael
Lennards



Actually what a year and half it has been!
Rewind to 26/03/2020.



Challenges

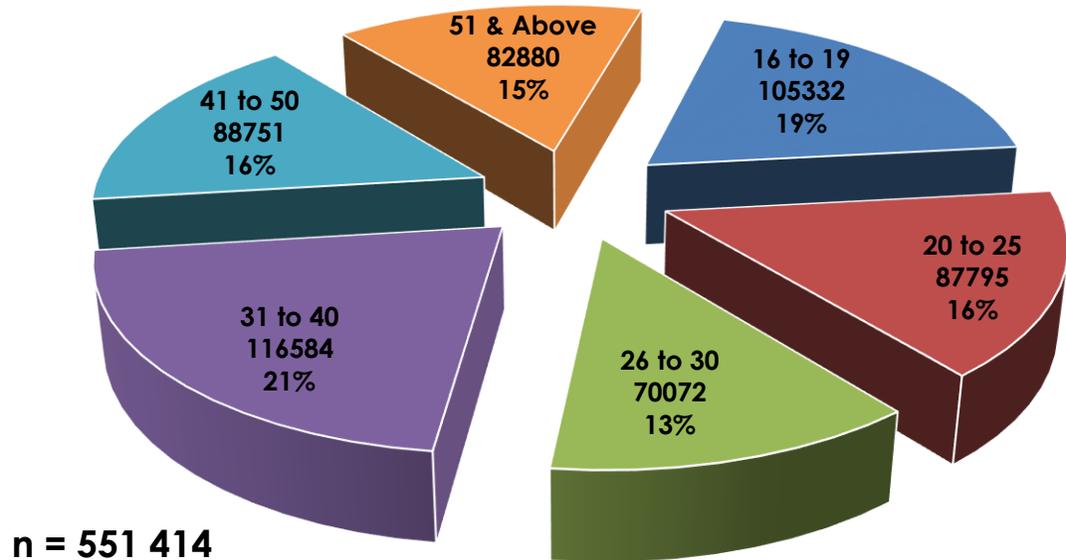
- Limited access to donors due to lockdown restrictions & fear (blood drive controllers at corporates and schools and no access to universities)
- Minimal new blood drives, resulting in reduced first-time donors
- Increased workload for supervisory staff – implementation & monitoring of covid-related compliance requirements
- Increasing staff absences – sick leave/ quarantine & isolation
- Work life (im) balance
 - Not being able to switch off at home
 - No “work hours”
 - Leaders need to take time to reflect, think and mentor



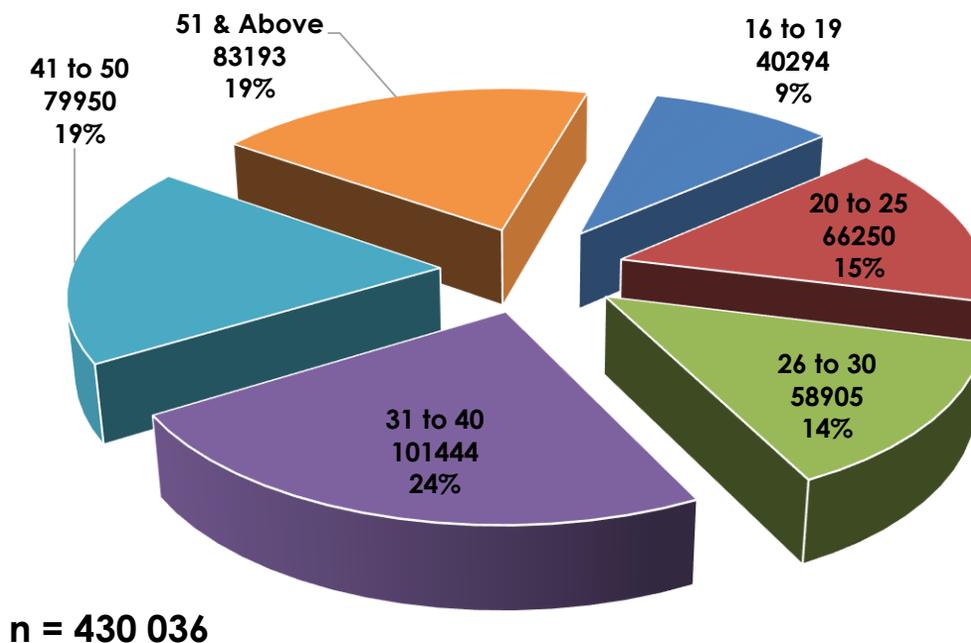
Total Donor Panel by Age Group – 2 Year Review

April to March 2020 vs 2021

April 2019 to March 2020



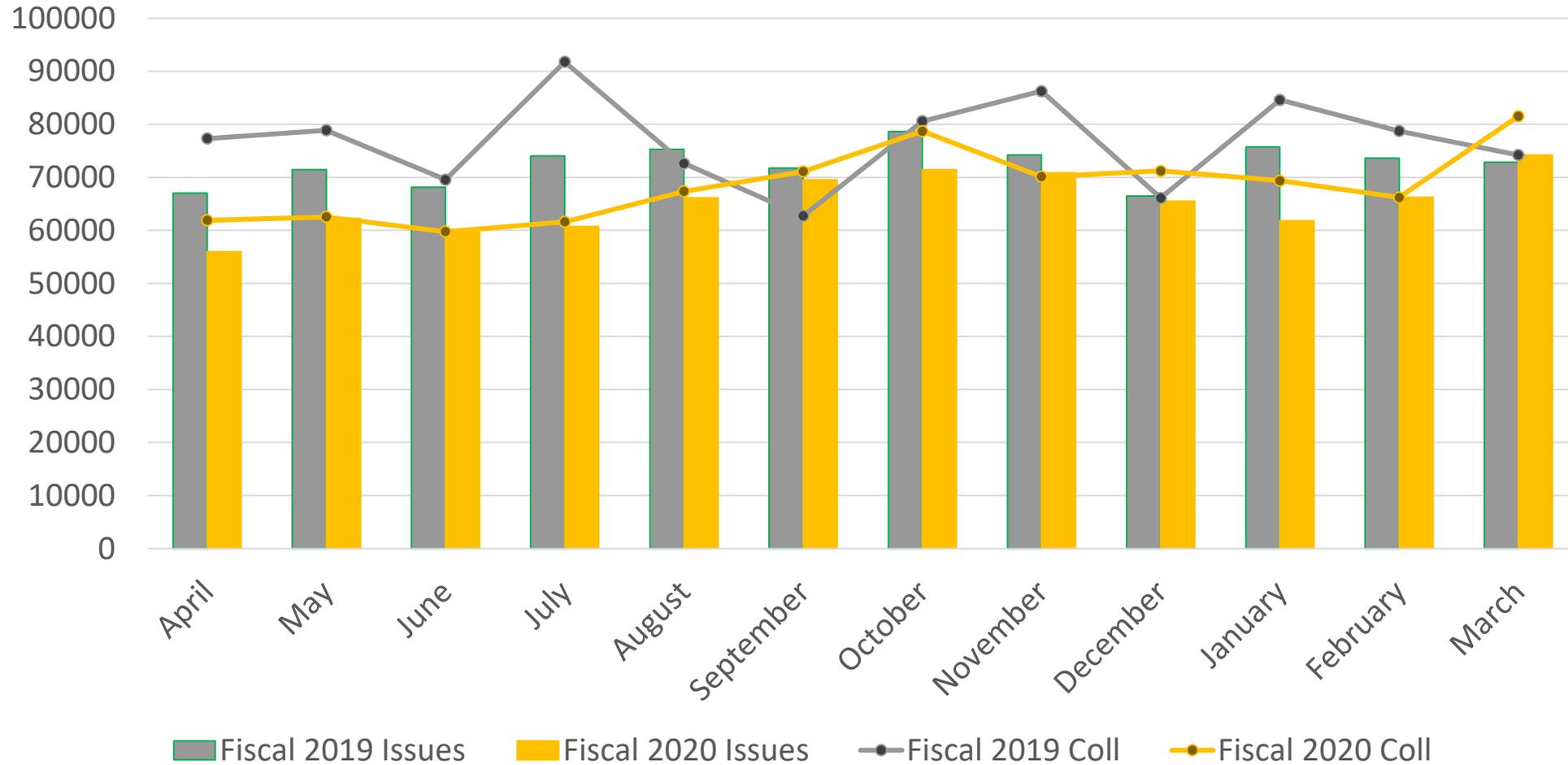
April 2020 to March 2021



• Most notable loss of the 121 378 donors and the 45% reduction in 16 to 25 age group (86 583 donors)



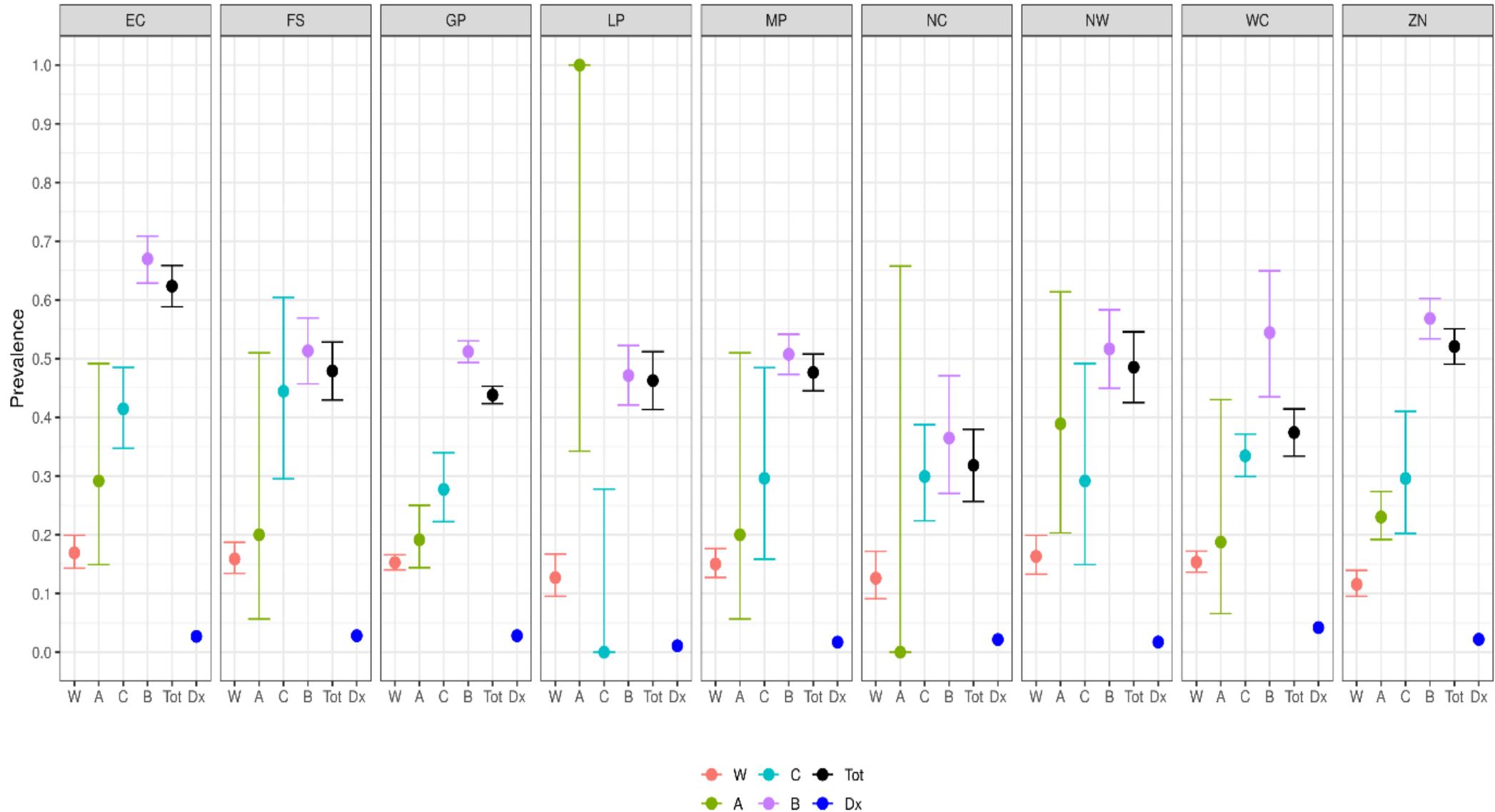
Collections & Demand Pattern FY2019 vs FY2020



51 of the 52 weeks' demand for blood met – despite collections in FY 2020 September, December & March being higher than the previous year, restrictive issues was implemented in September 2020



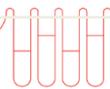
Seroprevalence by race and province showing race weighted provincial estimates and case reports



Headline in Numbers

Province	Estimated Prevalence (%)	Estimated Total Infections	Official Diagnosed Cases	Diagnostic Underestimate (Fold)
Eastern Cape	62.5 (58.8, 65.9)	2,724,350	176,902	15.4
Free State	47.8 (42.8, 53.0)	925,093	81,622	11.3
Gauteng	43.8 (42.3, 45.4)	4,926,044	434,494	11.3
Limpopo	46.3 (41.3, 51.2)	1,687,558	64,966	26.0
Mpumalanga	47.6 (44.5, 50.8)	1,523,296	81,758	18.6
Northern Cape	31.8 (25.7, 38.0)	235,156	25,007	9.4
Northwest	48.5 (42.5, 54.6)	1,302,318	69,328	18.8
Western Cape	37.4 (33.4, 41.4)	1,855,484	294,201	6.3
KwaZulu-Natal	52.1 (49.1, 55.1)	3,950,784	249,703	15.8

Extrapolating to the national population 12-30 million people infected vs 1.5 million case report – 13 fold underestimate



Relocation to Mount Edgecombe

- SANBS Pinetown relocated to Mount Edgecombe on the weekend 12 – 14 February 2021
- State of the art facility – Journey of blood for public viewing
- 5-star green building

SLS



Inventory & Processing



ICT Contingent



Donation Testing



Labyrinth



Innovation Update

- Say Hello to FIFI – The first SMART Fridge on the African Continent.
- Currently undergoing evaluation and compatibility to SANBS LIMS.
- Will be launched at Rahima Moosa Mother & Child Hospital during Dec 2021.
- Allows electronic issue of blood from a SMART fridge once Crossmatch testing has been done at the blood bank (stringent criteria for electronic crossmatch).
- Will improve TAT and patient outcomes.



New VW Crafter 3-bed mobile donor vehicle was launched at SAFA HOUSE





Reliability of CE-marked NATs for HIV-1 subtype C detection and quantitation

J. Kress^{a,1}, M. Vermeulen^{b,1}, M. Chudy^a, A. Reissinger^a, K.-M. Hanschmann^c, A. Saville^b, C. M. Nübling^{d,*}

ORIGINAL RESEARCH

TRANSFUSION

Comparison of two nucleic acid amplification technology systems for detection of human immunodeficiency virus, hepatitis B virus, and hepatitis C virus

Charl Coleman¹ | Nico Lelie² | Ronel Rademeyer¹ | Harry van Drimmelen³ | Karin van den Berg¹ | Marion Vermeulen¹

ORIGINAL PAPER

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DOI: 10.1111/vox.12987

HIV incidence in South African blood donors from 2012 to 2016: a comparison of estimation methods

Marion Vermeulen¹ | Dhuly Chowdhury² | Ronel Swanevelder¹ | Eduard Grebe³ | Donald Brambilla² | Ute Jentsch¹ | Michael Busch³ | Gert Van Zyl⁴ | Edward L Murphy^{3,5} & for the REDS-III International Program South Africa

Prevalence of anti-SARS-CoV-2 antibodies among blood donors in Northern Cape, KwaZulu-Natal, Eastern Cape, and Free State provinces of South Africa in January 2021.

Wendy Sykes¹, Laurette Mhlanga², Ronel Swanevelder¹, Tanya Nadia Glatt¹, Eduard Grebe^{2,4,5}, Charl Coleman¹, Nadia Pieterse³, Russel Cable³, Alex Welte², Karin van den Berg^{1,6,7}, Marion Vermeulen^{1,7}

9 Publications. 3 as 1st author

VoxSanguinis



The International Journal of Transfusion Medicine

Vox Sanguinis (2021) 116, 18–35

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DOI: 10.1111/vox.12970

ORIGINAL PAPER

Guidance for the procurement of COVID-19 convalescent plasma: differences between high- and low-middle-income countries

Evan M. Bloch^{1,+} | Ruchika Goel^{1,2,+} | Silvano Wendel³ | Thierry Burnouf^{4,5} | Arwa Z. Al-Riyami⁶ | Al Leen Ang⁷ | Vincenzo DeAngelis⁸ | Larry J. Dumont^{9,10,11} | Kevin Land^{12,13} | Cheuk-kwong Lee^{14,15} | Adaeze Oreh¹⁶ | Gopal Patidar¹⁷ | Steven L. Spitalnik¹⁸ | Marion Vermeulen¹⁹ | Salwa Hindawi²⁰ | Karin Van den Berg²¹ | Pierre Tberghien²¹ | Hans Vrieling²² | Pampee Young²³ | Dana Devine^{24,25,*} & Cynthia So – Osman^{22,26,*}

VoxSanguinis



The International Journal of Transfusion Medicine

Vox Sanguinis (2021)

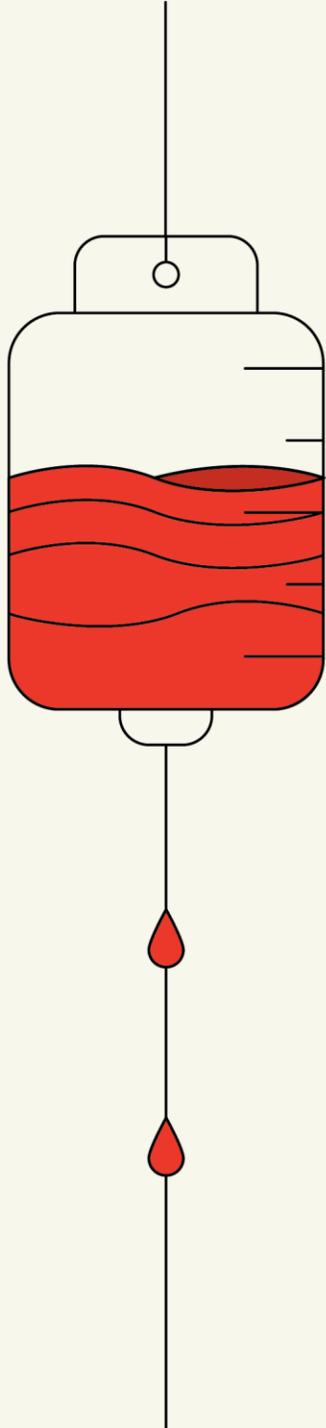
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DOI: 10.1111/vox.13076

REVIEW

ABO blood group and COVID-19: a review on behalf of the ISBT COVID-19 working group

Ruchika Goel^{1,2,+} | Evan M. Bloch^{1,+} | France Pirenne³ | Arwa Z. Al-Riyami⁴ | Elizabeth Crowe¹ | Laetitia Dau¹ | Kevin Land^{5,6} | Mary Townsend⁵ | Thachil Jecko⁷ | Naomi Rahimi-Levene⁸ | Gopal Patidar⁹ | Cassandra D. Josephson¹⁰ | Satyam Arora¹¹ | Marion Vermeulen¹² | Hans Vrieling¹³ | Celina Montemayor¹⁴ | Adaeze Oreh¹⁵ | Salwa Hindawi¹⁶ | Karin van den Berg^{17,18} | Katherine Serrano^{19,20} | Cynthia So – Osman^{21,22} | Erica Wood²³ | Dana V. Devine^{19,20,+} | Steven L. Spitalnik^{24,+} & the ISBT COVID-19 Working Group





SANBS Update

Department of Cellular Therapy and Novel Products

Presenters:

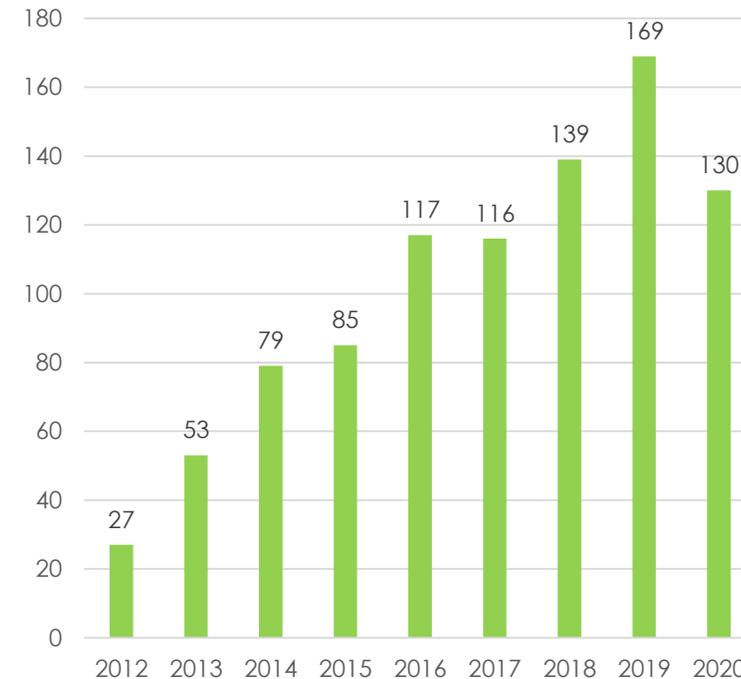
Dr Tanya Glatt
Dr Riana Cockeran



Haematopoietic Stem Cell Transplant

- SANBS collaborates with 18 clinical units across South Africa in the public and private sector offering HSCT
- SANBS has a HSCT collection facility, based in Eton Rd, Parktown, and travels to hospital bedside for HSCT collection
- SANBS has a HSCT processing facility, based in Constantia Kloof, Roodepoort for HSCT processing and storage
- A fully functional second HSCT processing facility is in progress in Eton Rd, Parktown

Patients supported to transplant by SANBS
2012 to 2020



HSCT – Annual Stability Report 2020

- Annually
- Test 10 samples for viability
- ≥ 1 year old
- Validates our processing and storage conditions
- Determine maximum validated LN storage time period in our facility

RESULTS

The HSCT products were older than 1 year with a range of 1-5 years and a mean of 1.7 years. Upon flow cytometric viability analysis, it was found that all products passed the release criteria, with a range of 50-90% for CD 45 (mean 70 and 96-100 % (mean 96 for CD34 There was no correlation between age of product and viability of product (correlation coefficient 0,019309).

Sample No	Days in Freezer	CD34%	CD45%
1	712	96	69
2	933	99	77
3	520	100	67
4	519	100	90
5	383	95	63
6	376	95	72
7	375	87	84
8	1857	94	50
9	343	97	66
10	855	97	56

CONCLUSION

This study showed that HSCT products stored for more than one year still fulfill the release criteria, indicating the robust processing and LN storage procedures in SANBS CTL. Annual testing of samples with increasing ages will be beneficial in determining maximum validated LN storage time periods in this facility.



HSCT – Annual Engraftment Report 2020

	n	%
Total	92	n
Diseases treated		
Myeloma	50	50.4
Lymphoma	22	23.9
Others	20	21.7
Autologous HSCT	74	84.1
Data available for engraftment analysis	88	95.7
Death <28 days	3	3.4
Neutrophil engraftment prior to day 28	85	100
Platelet engraftment prior to day 28	83	97.6



Novel Products Update

Human Platelet Lysate

- Human Platelet Lysate is a substitute for foetal bovine serum as a growth factor additive in cell culture
- SANBS has produced a research grade HPL in line with international criteria
- Scale-up production almost complete

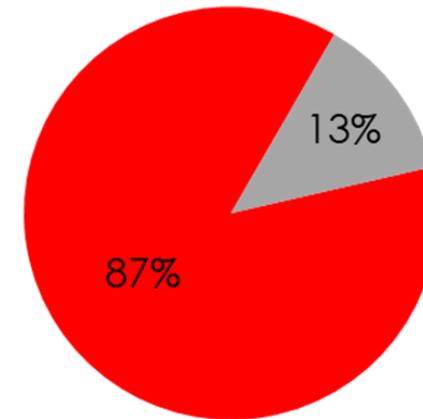
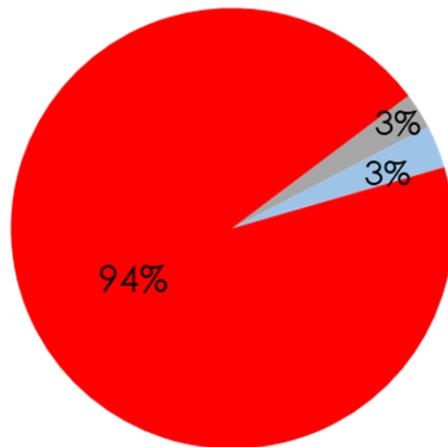
	Result
Biochemical properties (total protein, pH, fibrinogen)	Within determined range
Microbiological safety (sterility test, mycoplasma, endotoxin, syphilis)	Negative
Virological safety (HIV, HBV, HCV)	Negative
Functional assay (MSC doubling time)	20-26 hours



Novel Products Update

Potential new product: Faecal Microbiota Bank

- A survey was undertaken to investigate the need for a faecal microbiota bank (FMB)
- A questionnaire was designed and forwarded to clinicians on the SANBS database, gastroenterologists and microbiologists
- 414 voluntary responses were received and the data analysed



■ current involvement in FMT
■ no involvement in FMT

■ past involvement in FMT

■ there is a need

■ there is no need



THANK YOU