



Singapore Healthcare  
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# Reducing Default Rate for Mandatory Blood Tests in NUH Peritoneal Dialysis Patients on the National Kidney Transplant Waitlist



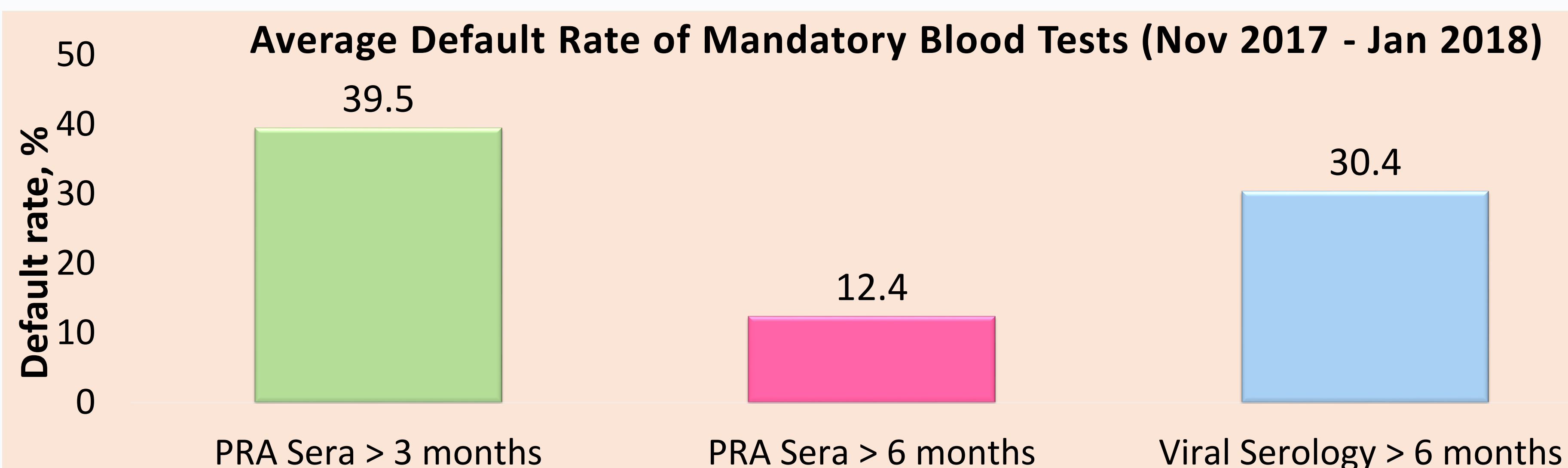
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## INTRODUCTION

Patients on the National Transplant Registry System (NTRS) waitlist awaiting kidney transplantation are required to do panel reactive antibody (PRA) and Hepatitis B, C, HIV serology testing mandated by MOH, every 3 months and 6 months respectively. PRA testing allows collection and storage of patients' sera at Health Sciences Authority (HSA), for tissue crossmatch testing when a deceased donor becomes available. Patients overdue for PRA test by more than 6 months could be excluded from the potential deceased donor kidney transplant, while those overdue for the virology tests by more than 6 months may receive penalty points at transplant selection.

Haemodialysis patients have these tests taken at dialysis centres routinely. From November 2017 to January 2018, NUH peritoneal dialysis (PD) patients had an average default rate of 39.5% for PRA and 30.4% for virology tests.

12.4% patients had no PRA tested for more than 6 months – with no current sera stored for crossmatch testing, these patients could be excluded from transplant selection.



## AIM

- ✓ **Streamline process** of scheduled blood taking to minimise visits and venepuncture for PD patients
- ✓ Thereby **reducing default rate** for mandatory NTRS blood tests.

## METHODOLOGY

### PROBLEM ANALYSIS



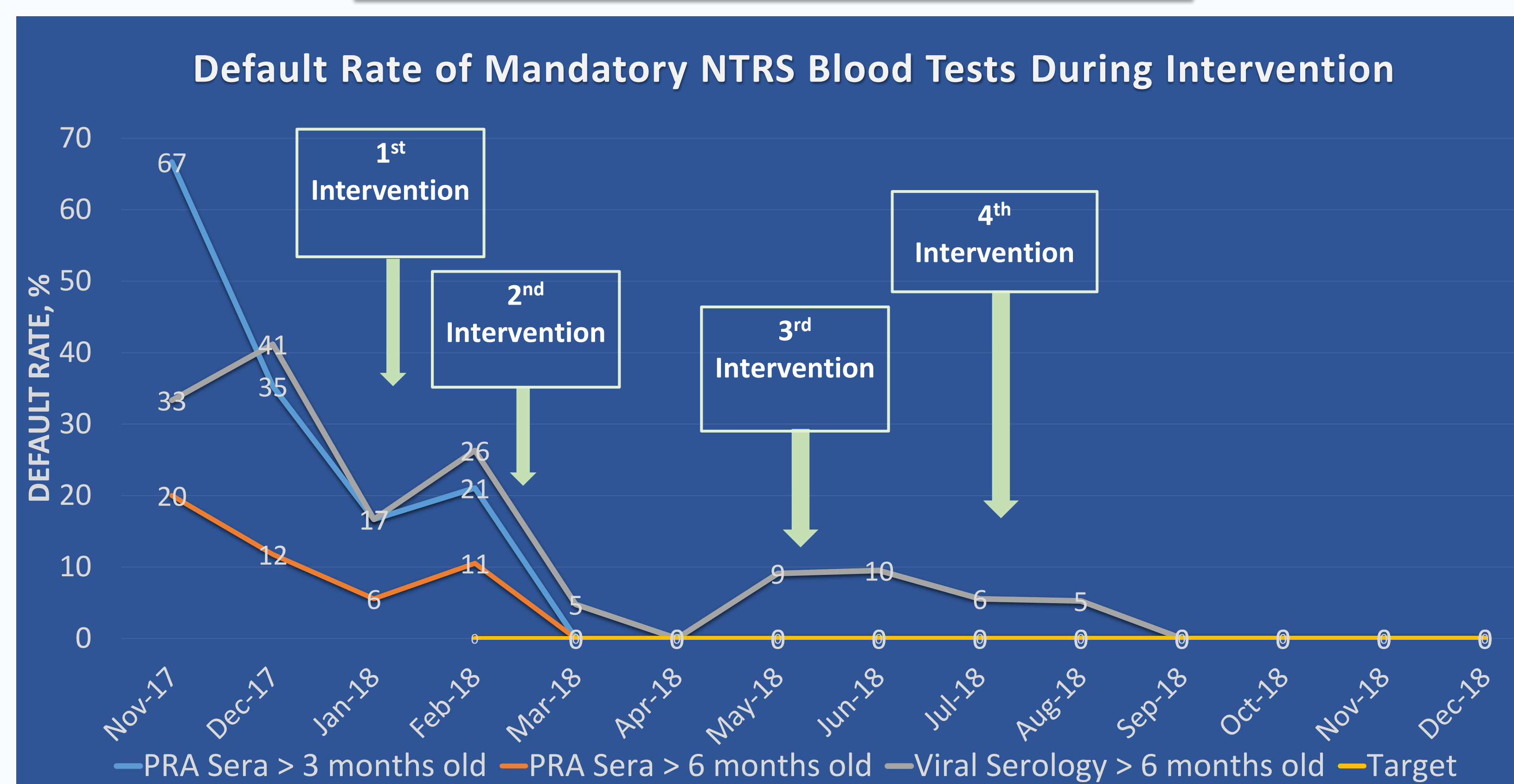
- **Delay in communication** between Transplant Coordinators and PD nurses – need for scheduling of due and missed NTRS tests to coincide with PD blood tests.
- **Inconvenience and cost** – patients unwilling to make extra trips to hospital and take time away from work.
- **No system prompts** – PD nurses unaware if patients are on waitlist.
- **Missed or defaulted PD appointments.**
- **Lack of knowledge** – patients and PD nurses do not understand importance of need for up-to-date sera for transplantation

### INTERVENTIONS

1. **Provide monthly patient schedule to PD nurses**  
– email to PD nurses, provide printed schedule, blood test forms and tubes directly.
2. **System changes** – online prompts for PD nurses inserted as reminders of tests due
3. **Monthly audit and review** – to re-schedule missed tests in timely manner.
4. **Regular education** of patients and nurses – reinforcement of need of mandatory NTRS tests and up to date results for transplantation.



## RESULTS



- 0% default for PRA testing and  $\leq 10\%$  default for virology testing achieved 2 months after instituting process changes.
- With reinforcement measures, 0% default for virology testing also achieved after 5 months. Results have been maintained for further 4 months.
- Patient visits and venepuncture were reduced by 4 times a year.
- Transplant coordinators reduced time wastage – repeated reminders to patients for overdue tests no longer required.



## CONCLUSION

Adherence rate of NUH PD patients to mandatory NTRS blood tests can be improved significantly with process streamlining. This in turn ensures patients do not miss out on the opportunity for kidney transplantation.