



**Singapore Healthcare
Management 2019**

Ophthalmic Nurses performing Intravitreal Injections



**Singapore National
Eye Centre**

SingHealth

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Introduction

To reduce waiting time intravitreal injection (IVT) for patients with Age-Related Macular Degeneration, work processes are streamlined and a rigorous training and education program is developed to provide ophthalmic nurses with the knowledge and skills to competently perform intravitreal injections.

This procedure is used to be under the sole jurisdiction of ophthalmologists. Today, the nurse-led intravitreal clinics can significantly reduce the load on medical staff and increase capacity in medical retina intravitreal injection clinics.

Objectives

- ✓ Better management of patients' waiting time in IVT clinics
- ✓ Reduce load on medical staff; Increase capacity in IVT clinic
- ✓ Expand nurses' scope of practice to better manage increased load of chronic eye cases
- ✓ Develop a competent nursing workforce critical to support the healthcare structure
- ✓ Improve overall service delivery

Method

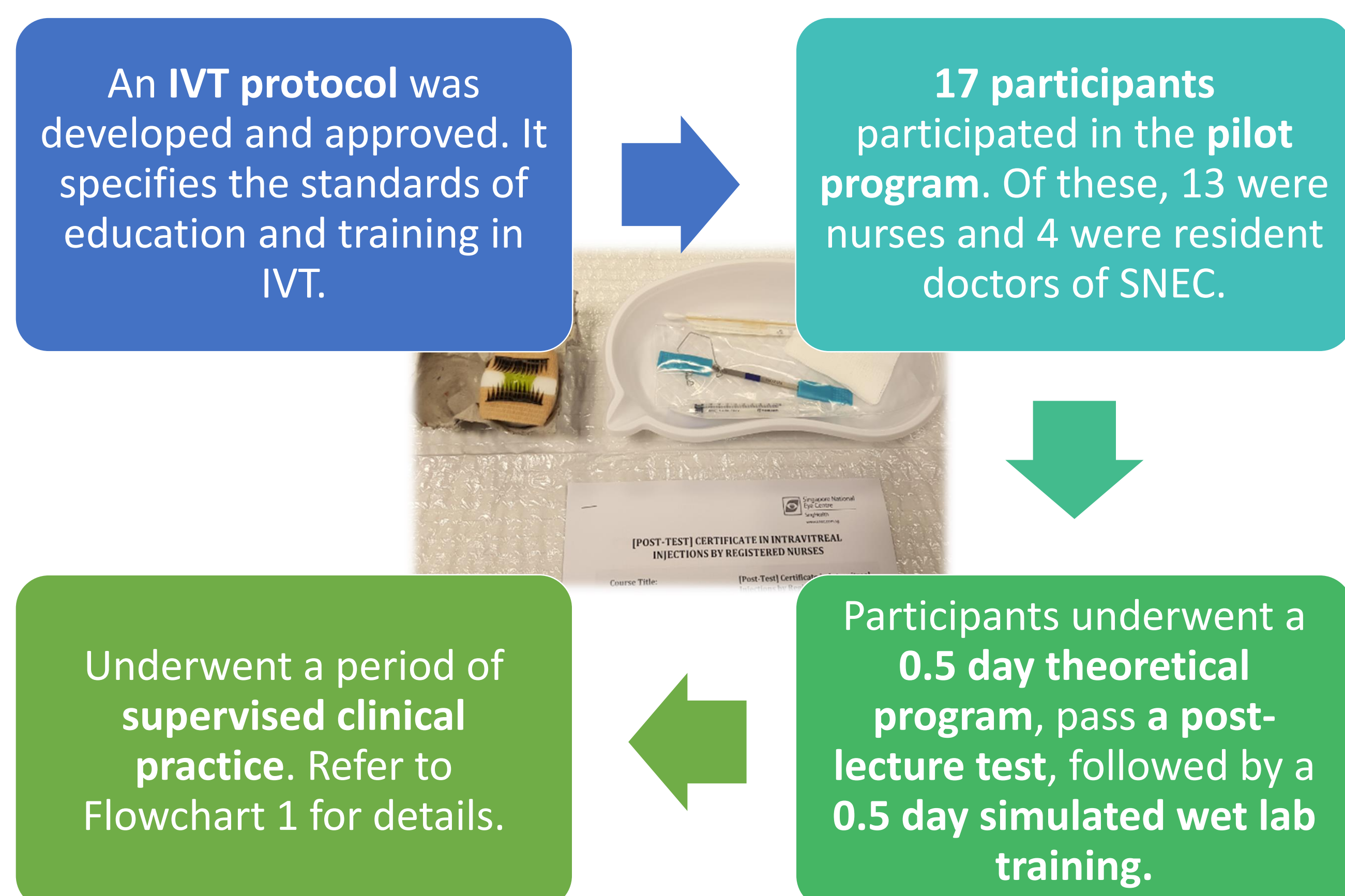
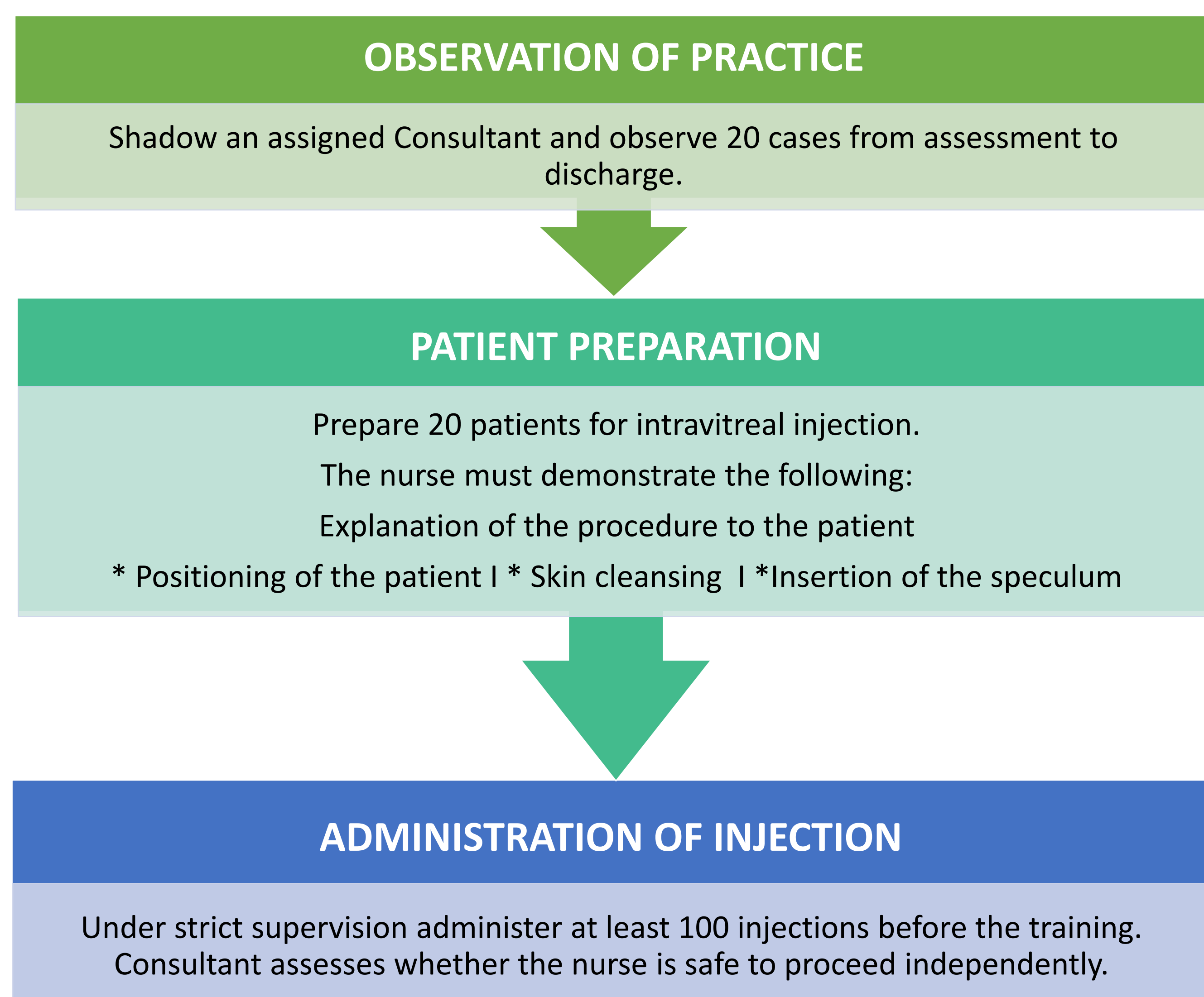


Figure 1. flowchart of Supervised Clinical Practice



Feedback

- ❖ A pre and post theory test and assessment of the technical skill in the wet lab.
- ❖ A Wilcoxon Signed Ranks Test indicated that post-test scores were statistically significantly higher than pre-test scores.
- ❖ As expected, the resident doctors performed better in the pre-test theory; but the nurses knowledge increased significantly after training and was shown to be on par with the residents.

Results

- ❖ Trained nurses are competent to perform IVT.
- ❖ Shift in mindset in patients to accept nurses to perform IVT instead of doctors.
- ❖ Waiting time in IVT clinics has reduced significantly.



- ❖ Elderly patient (63 years old, driver) suffers from Age-Related Macular Degeneration
- ❖ Started receiving the IVT since end 2015
- ❖ Since nurses started performing the IVT in Jan 2019, it took him only 10 minutes to complete the procedure after seeing the doctor.
- ❖ In the past, he would had waited for almost an hour.

Source: Lianhe Zaobao
5 Apr 2019

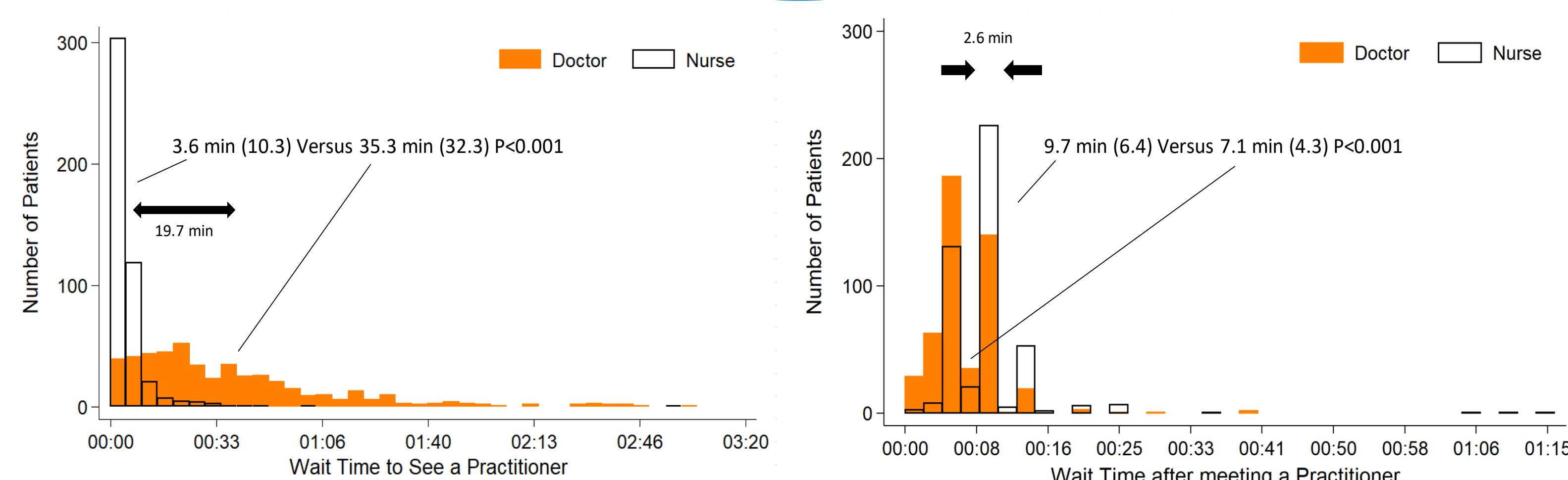


Figure 2. Waiting time and procedure time

- ❖ Waiting time is significantly shorter in nurse-led procedure (3.6 ± 10.3 minute) compared with waiting time in specialist-led procedure (35.3 ± 32.3 minute).
- ❖ On average, the shortening of 19.7 minutes was achieved through the nurse-led injection ($p<0.01$). On the contrary, the nurse-led injections (9.7 ± 6.4 minute) took longer than the specialist-led injections (7.1 ± 4.3 minute, $p<0.001$). The average time difference was 2.6 minutes.

Conclusion

- ❖ Program aligns with international practice guidelines and included ongoing audits for quality improvement.
- ❖ A rigorous process was undertaken to develop a program that provides ophthalmic nurses with the knowledge and skills to competently perform intravitreal injections.
- ❖ A shared-care model with nurses performing intravitreal injections within a consultant-led medical retina clinic gives confidence to nurses and patients as medical support is readily available.
- ❖ Patients who underwent intravitreal injections by nurses complete short surveys and interviews. These measures taken to improve service delivery in the long run.
- ❖ The pilot program is currently being evaluated with data on clinical outcomes.

Intravitreal Injection wet-lab



Demonstration by
Consultant



RN practicing injection
on eye model



RN injecting into pig's eye