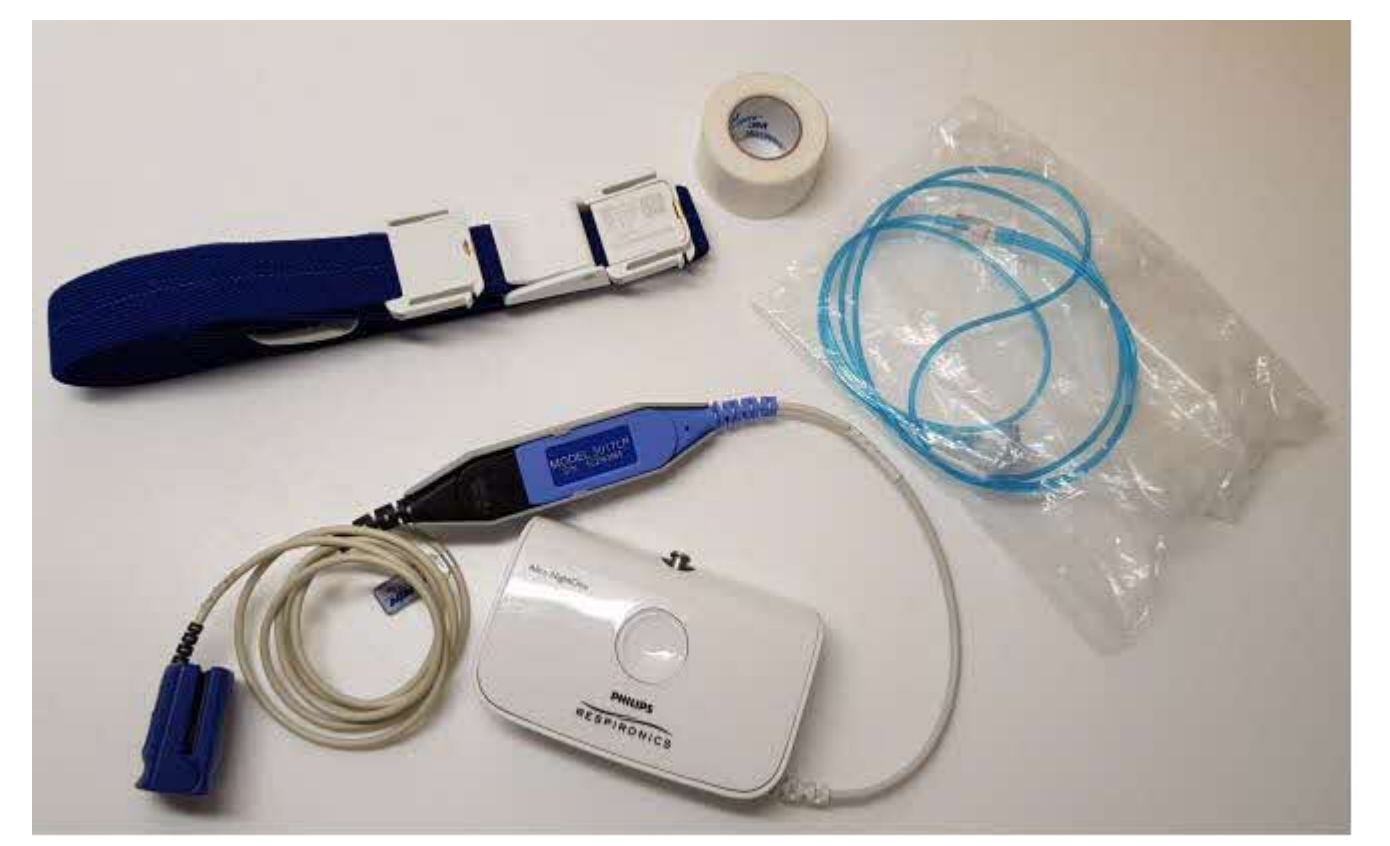


Sleep Testing: Shifting from Hospital to Home



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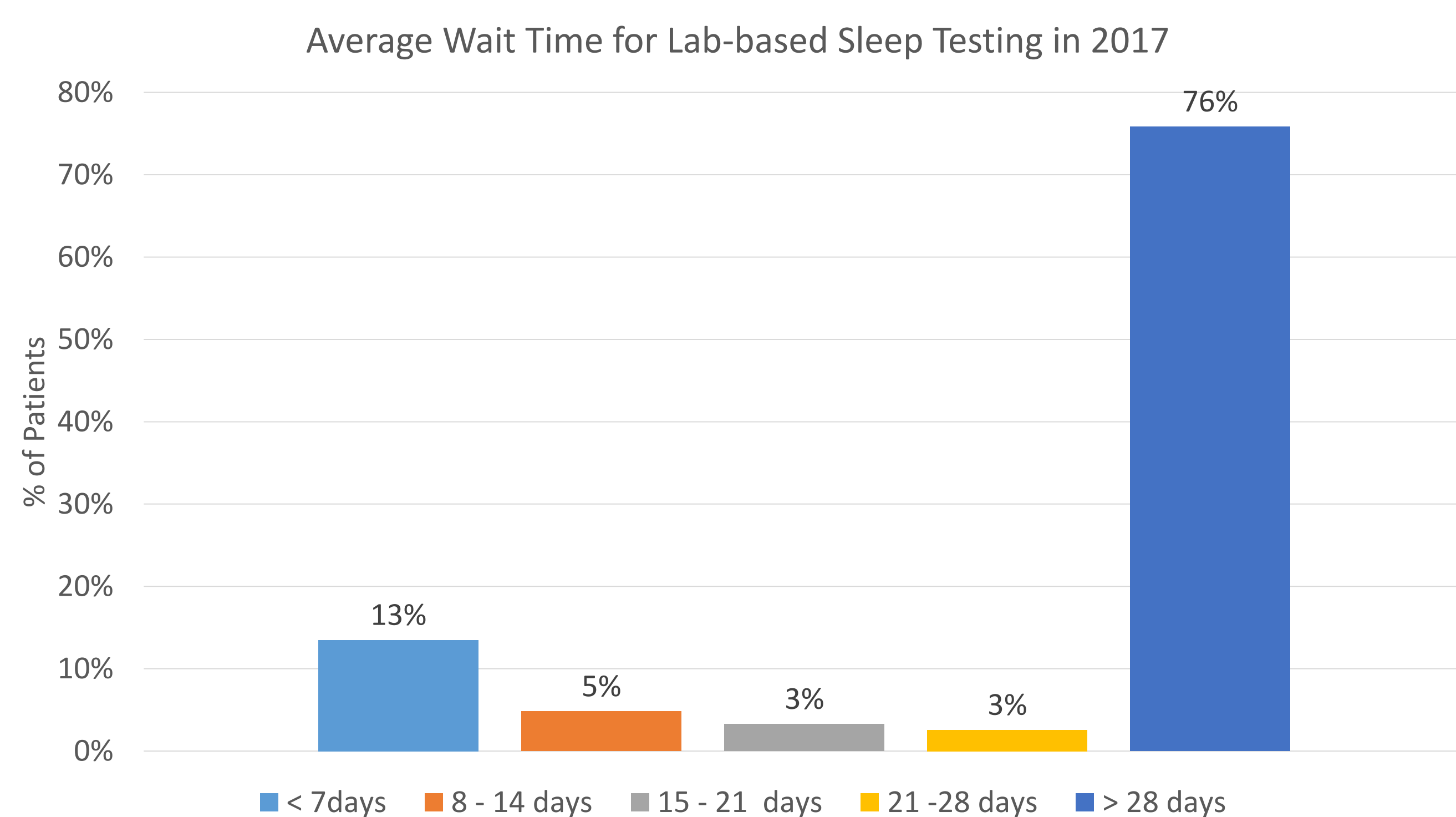
1. Background

Undiagnosed sleep apnoea has many ill effects including reduced neurocognitive function, poor performance, increased motor vehicle accidents and also increased long term cardiovascular risk, stroke risk and mortality. However, due to the growing demand coupled with the limited capacity of TTSH Sleep Lab, **care delivery was inevitably delayed**.

To address the above, TTSH introduced **home sleep testing (HST)** to make sleep testing more **accessible and affordable** to patients.

2. Assessment of Issue

Since 2014, demand for sleep studies grew by 11%. In 2017, 76% of patients waited beyond 28 days for lab-based testing and the average wait time was 5.45 to 5.78 months. This suggested a **need to expand the service** to meet clinical needs.



3. Strategy for Change

Given infrastructure and manpower limitations of Sleep Lab, HST as an alternative model, to **shift care from a hospital-centric model to an ambulatory home care model** was proposed.

Job redesign was also done to allow staff to perform to the top of their license. Patient Service Associates (PSA) were **up-skilled** to provide training to patients on how to use and operate the HST. The sleep technician could then focus on the technical (e.g. scoring of the test results) aspects of patient care.

4. Results & Conclusion

Greater Access to Care

With HST, more patients can receive **timely diagnosis and treatment without an increase in cost** (value-added care):

- With the pilot of 1 HST device, 93 patients benefitted from the service in 2019.
- The total number of sleep studies also increased by 12% from 2017 to 2019.
- In 2019, patients who would only have to wait 17 days if they opted for HST.

HST also **provides an alternative avenue of diagnosis** for patients who are unable to do lab-based testing:

- Patients who are unable to stay at the hospital e.g. patient is a caregiver
- Patients who are unable or not willing to pay for lab-based study can now opt for HST (avoidance of cost of admission)

Better Resource Allocation

Under this service, limited hospital resources are better allocated:

- Patients are managed at the **most appropriate site and level of care** they require.
- Unlike lab-based testing, HST is **less labour-intensive** as it does not require overnight monitoring by Sleep Technician.
- Since training of patient on HST device usage is conducted by the PSA, this has **freed up the time of sleep technicians** to attend to matters requiring their expertise (e.g. lung function testing). In 2019, a total of 46.5 hours of sleep technicians' time was saved.

5. Lesson Learned

The demand for HST did not increase at the expense of lab-based sleep testing. On the contrary, the accessibility of HST created increased awareness of sleep-related disorders and an avenue for diagnosis of a separate profile of patients