

## Reducing Postponements and Revamping the CT Scan Service from Year 2014 to 2023

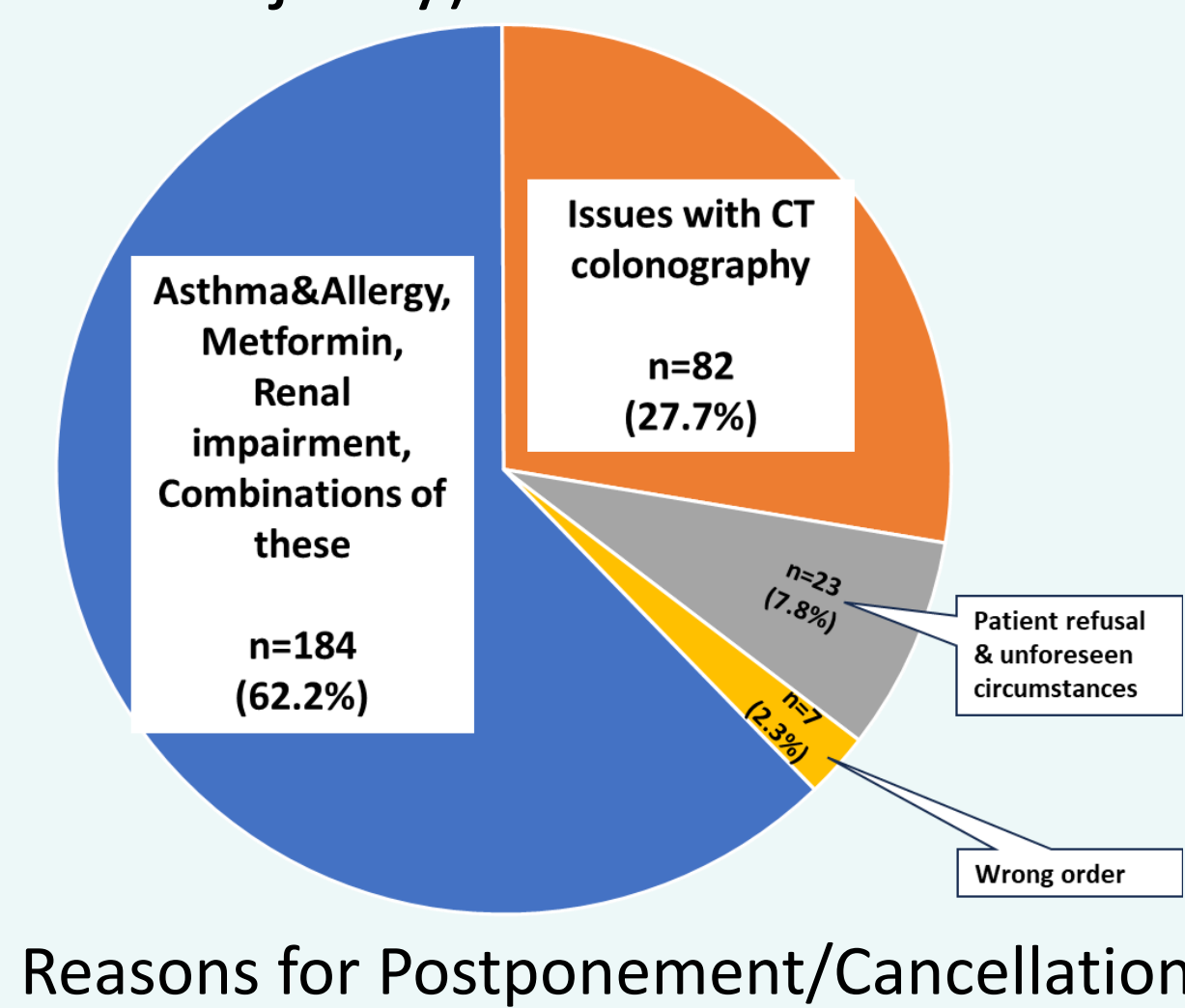
Dr. Martin Weng Chin H'NG

martin\_hng@ttsh.com.sg



### Problem Statement

Baseline data over preceding 6 months showed that 76.5% (296 patients) had to be postponed (significant majority) or cancelled.



### Project Aim

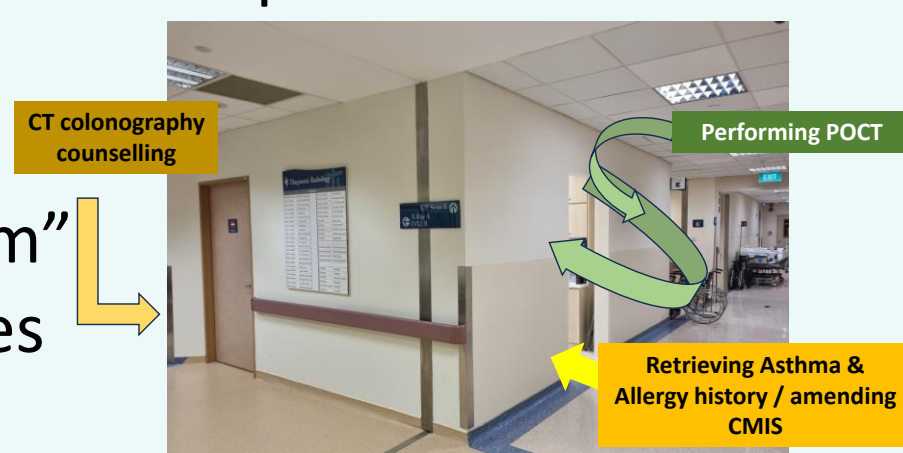
To reduce postponing appointments of outpatients scheduled for Computed Tomography (CT) scans by  $\geq 50\%$  – A sustainability project from Year 2014 to 2023

### Lessons Learnt

▶ Educate and empower: Collation of a handbook (2019) ensured that knowledge will be retained and passed down.

▶ Creating a “Runner Room” (2023) centralized processes from various PDSAs and empowered our Residents with these duties.

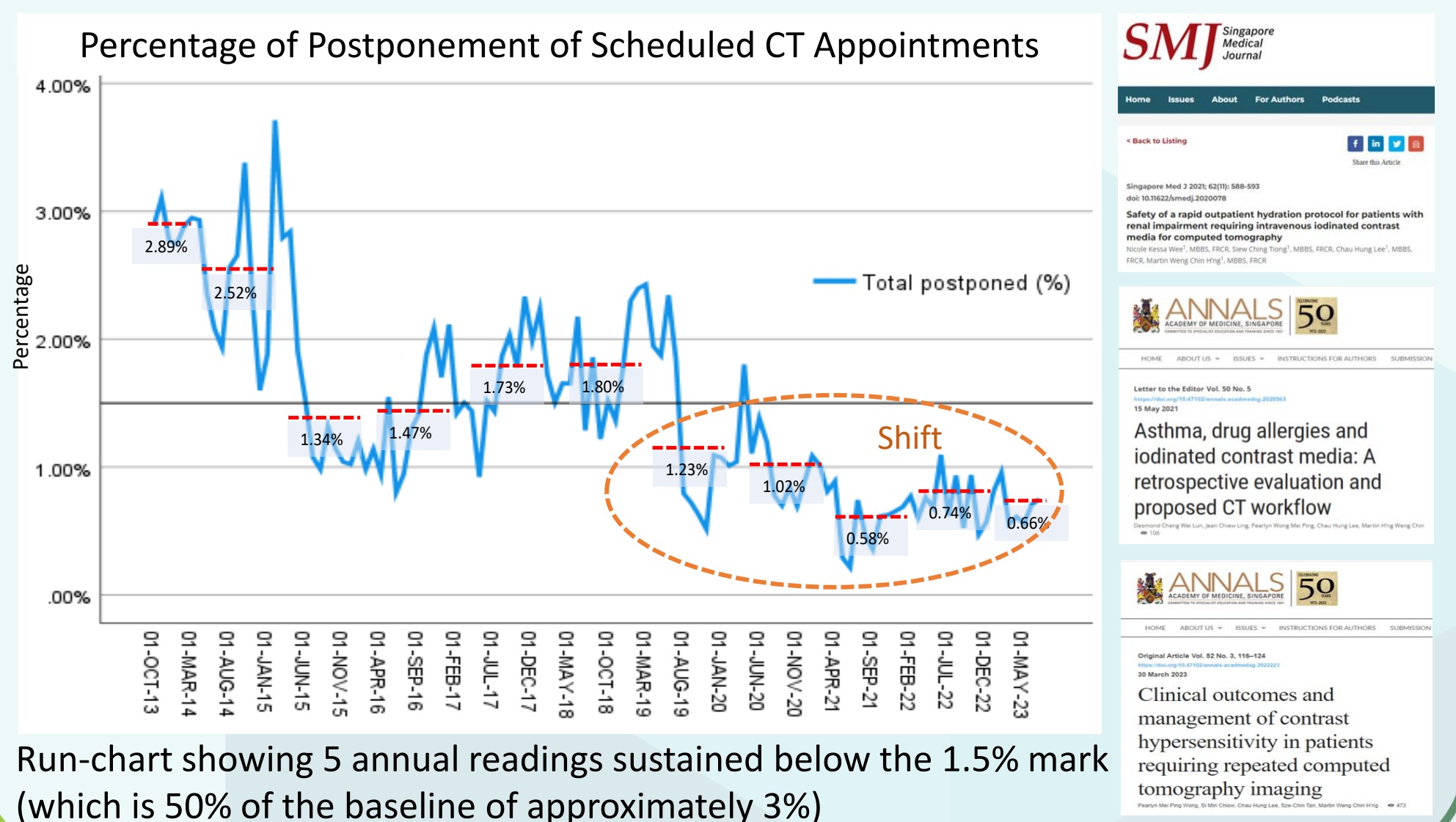
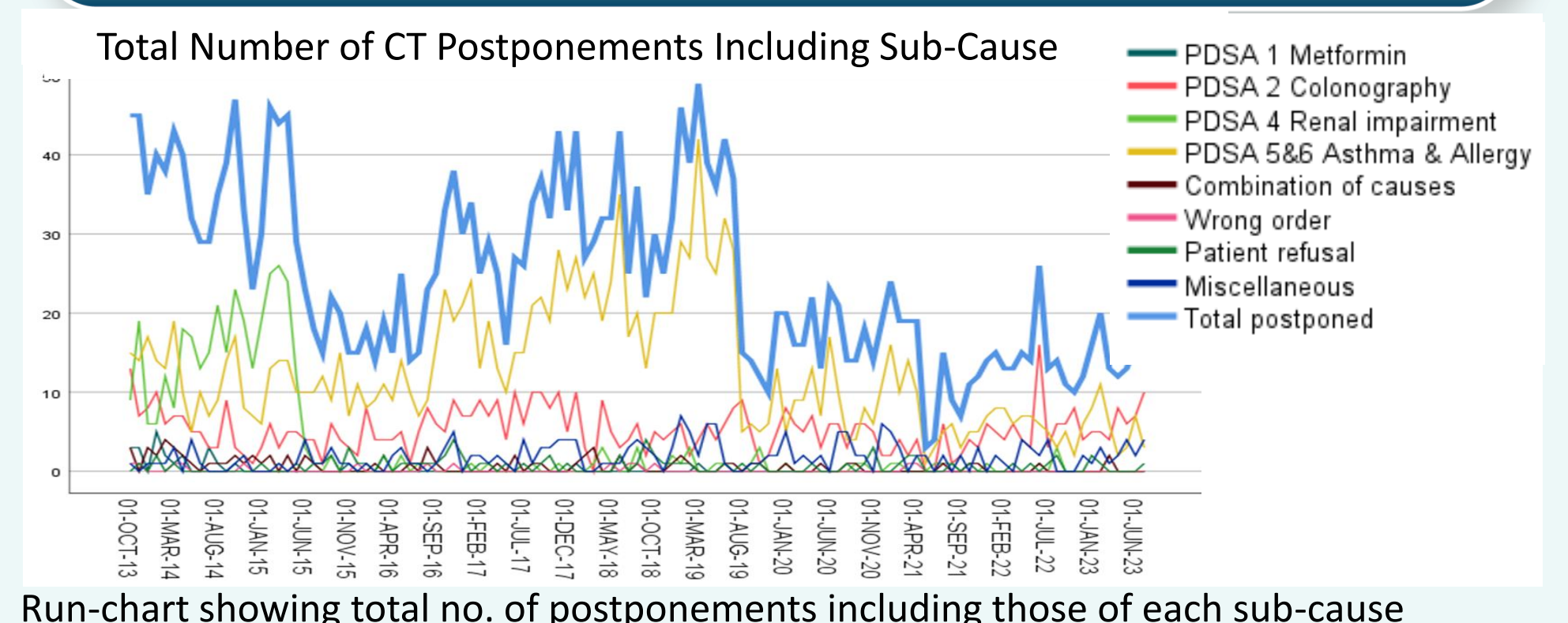
- ▶ Evidence-based enforcement: We collected data throughout our journey and retrospectively analyzed these for proof of efficacy and demonstration of safety.
- ▶ We have published 3 articles related to our PDSAs to demonstrate evidence-based clinical improvement and to promote spread (see Outcomes & Impacts).



### Potential Solutions

- ▶ PDSA 1 (April 2014): Adopted Societal guidelines which stratified patients based on renal function. Not all patients needed to stop metformin, or get postponed.
- ▶ PDSA 2.1 (May 2014): Standardized notion of acceptable bowel preparation for patients coming for CT colonography so as to reduce random postponements by Residents.
- ▶ PDSA 2.2 (June 2014): Ensured referral clinic sent all patients they ordered CT colonography for, to Radiology for counselling and collecting bowel preparation before going home.
- ▶ PDSA 2.3 (February 2018): Implemented “1-stop-shop” where referral clinic counselled and dispensed bowel preparation instead.
- ▶ PDSA 3 (June 2014 to January 2015): 1) Tapped onto IT expertise to reconfigure CT ordering screen by enlarging it so as to eliminate “hidden” drop-down lists and 2) Harmonised variance in patient preparation regimens from 56 down to 5.
- ▶ PDSA 4 (June 2015): Revised protocol to promote hydration as the primary means to prevent contrast-induced nephropathy, making Fluimucil optional, as the latter was unproven. Used existing Choyke Questionnaire and “piggy-backed” on available POCT machine for stratifying patients requiring hydration.
- ▶ PDSA 5 (August 2019): All patients with asthma and multiple drug allergies received pre-emptive steroids, an unnecessary measure. Incorporated both the Asthma Control Test and post-CT observation within a new protocol to stratify patients who could proceed even if they were not prescribed or had forgotten to take steroids.
- ▶ PDSA 6 (December 2019): Worked with Department of Allergy to institute objective testing for patients with contrast allergy, to decide if they could safely receive contrast (as well as the brand of contrast).

### Outcomes & Impacts



My sincerest appreciation to Ms. Ee Ling ONG for secretarial assistance