

## **Project Title**

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

## **Project Lead and Members**

- Dr. Martin Weng Chin H'NG

## **Organisation(s) Involved**

Tan Tock Seng Hospital

## **Healthcare Family Group Involved in this Project**

Medical

## **Applicable Specialty or Discipline**

Diagnostic Radiology

## **Project Period**

Start date: April 2014

Completed date: March 2023

## **Aims**

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

## **Background**

See poster appended/ below

## **Methods**

See poster appended/ below

## **Results**

See poster appended/ below

### **Lessons Learnt**

See poster appended/ below

### **Conclusion**

See poster appended/ below

### **Additional Information**

Accorded the MOH National Quality Improvement Conference 2023 (Stellar Poster Award)

### **Project Category**

Care & Process Redesign

Quality Improvement, Clinical Practice Improvement

### **Keywords**

Postponement, CT scan, Appointment

### **Name and Email of Project Contact Person(s)**

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

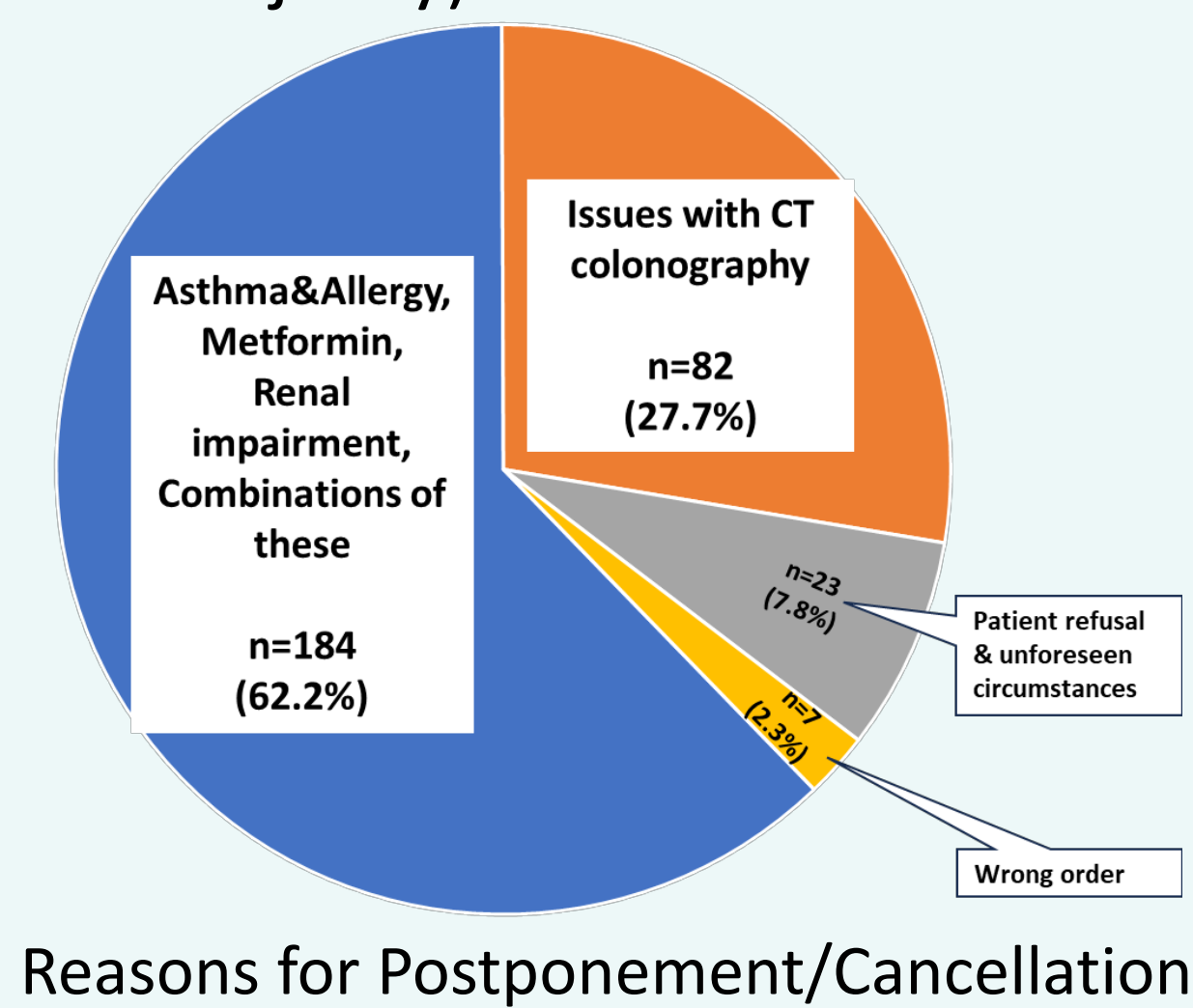
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### Problem Statement

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

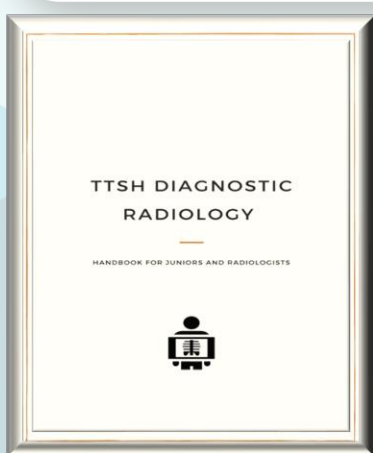


Reasons for Postponement/Cancellation

### 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.



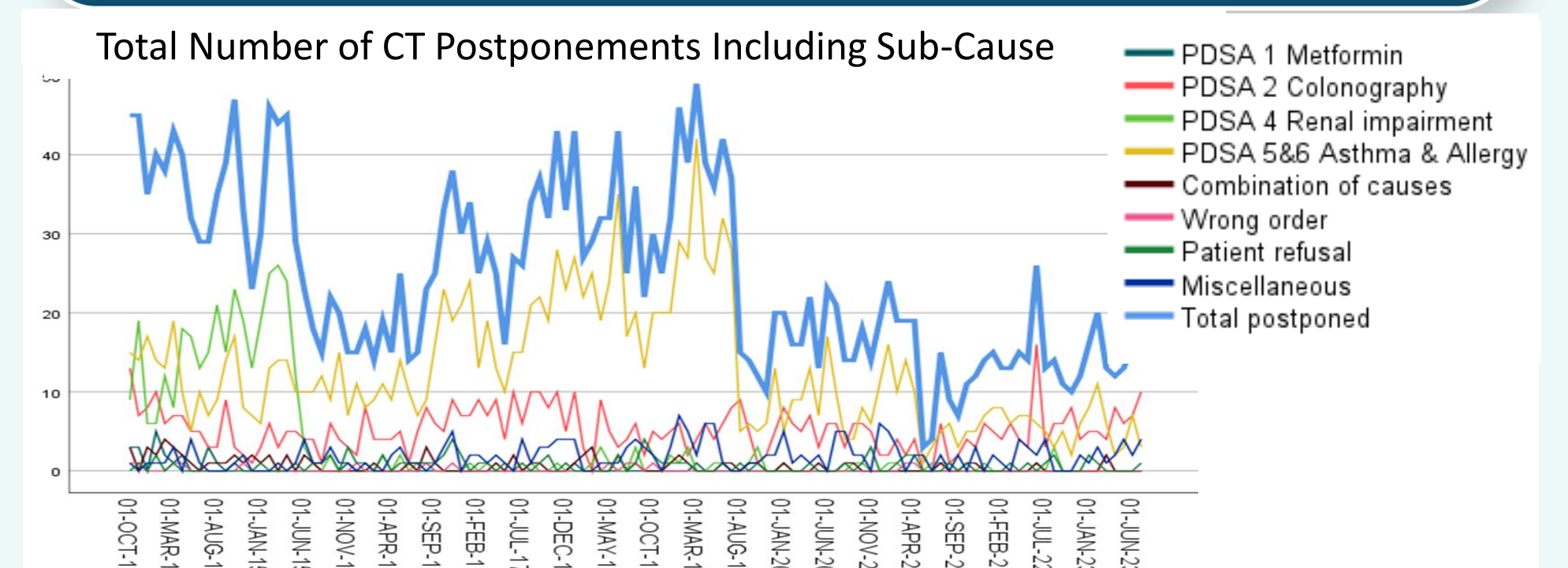
▶ Creating a "Runner Room" (2023) centralized processes from various PDSAs and empowered our Residents with these duties.

- 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).

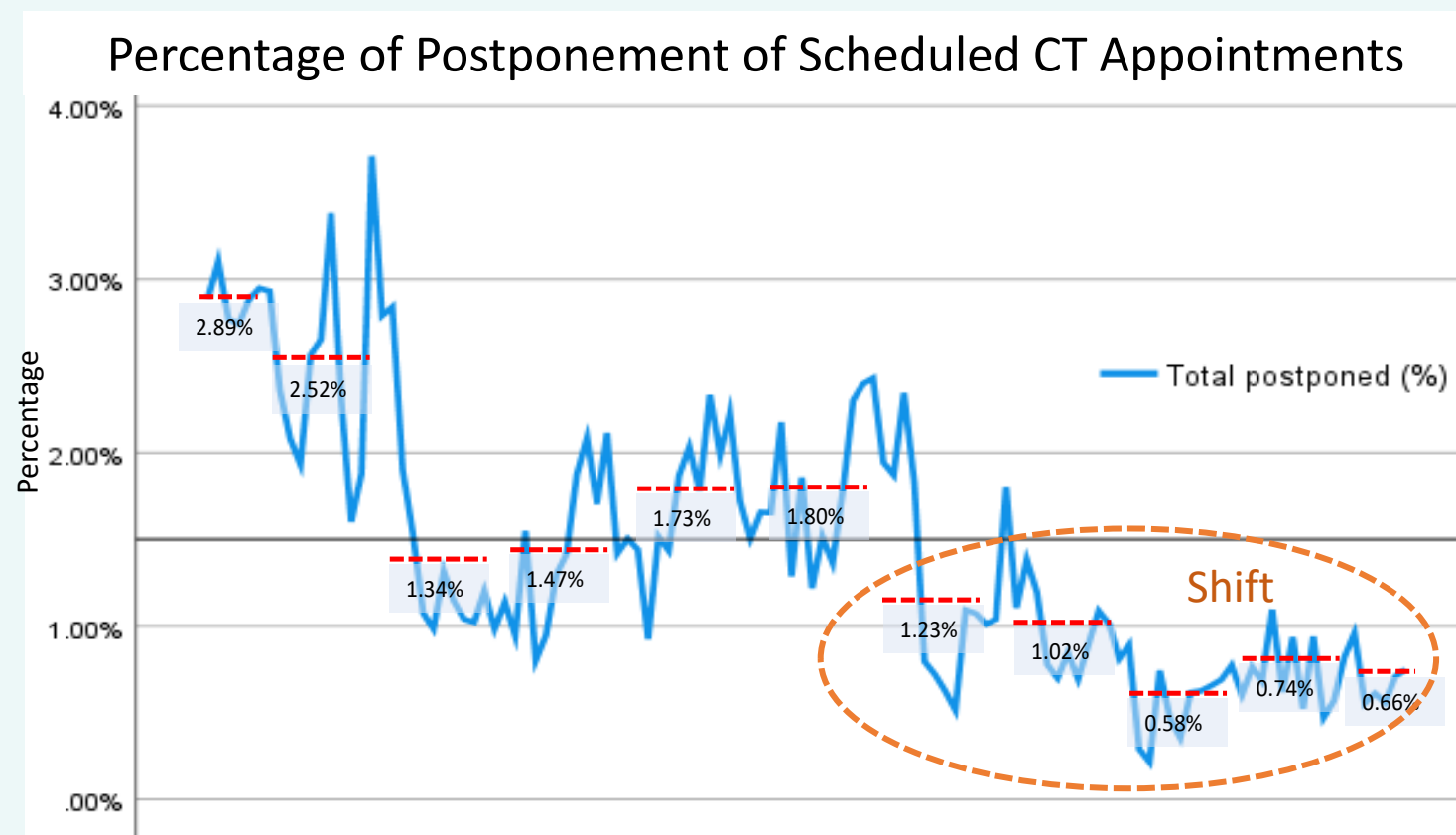
### Potential Solutions

- 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



Run-chart showing total no. of postponements including those of each sub-cause



Run-chart showing 5 annual readings sustained below the 1.5% mark (which is 50% of the baseline of approximately 3%)

