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Inhaled Corticosteroids for All Asthma Patients Discharged from Emergency Department

Problem Statement

- Short-acting beta agonist (SABA) has been first-line treatment for asthma for many years. Patients often do not see the need for regular inhaled corticosteroids (ICS).
- Since 2019, Global Initiative for Asthma (GINA) no longer recommends treating asthmatic adults with SABA only. All patients should receive ICS to reduce the risk of severe asthma exacerbations.
- A local audit (2011-2015) showed that almost 1/3 of those admitted for severe life threatening asthma exacerbations were only on SABA.

Project Aim

- The median ICS prescription in asthma patients discharged from TTSH Emergency Department (ED) was 79.3% from January to May 2019, which paled in comparison to NUH's 100% for 2017.
- Our team has aimed to improve and sustain ICS prescription in asthma patients discharged from TTSH ED from 79.3% to above 95% since 2019.

Lessons Learnt

- Prescribing ICS for all asthma patients is a paradigm shifting practice. Many physicians were still prescribing SABA alone for asthma. Patients also often do not see the need for regular ICS and continue to rely on SABA.
- The COVID-19 pandemic was a really difficult period for TTSH with major impact on our asthma ED attendances, manpower allocation and asthma education for both physicians and patients. However, great multi-disciplinary work partnership made it possible for our project to succeed.
- Other than regular monitoring of ICS prescription and providing asthma updates to ED, our team also took this opportunity to improve our asthma educational materials for patient-centered long term sustainability.

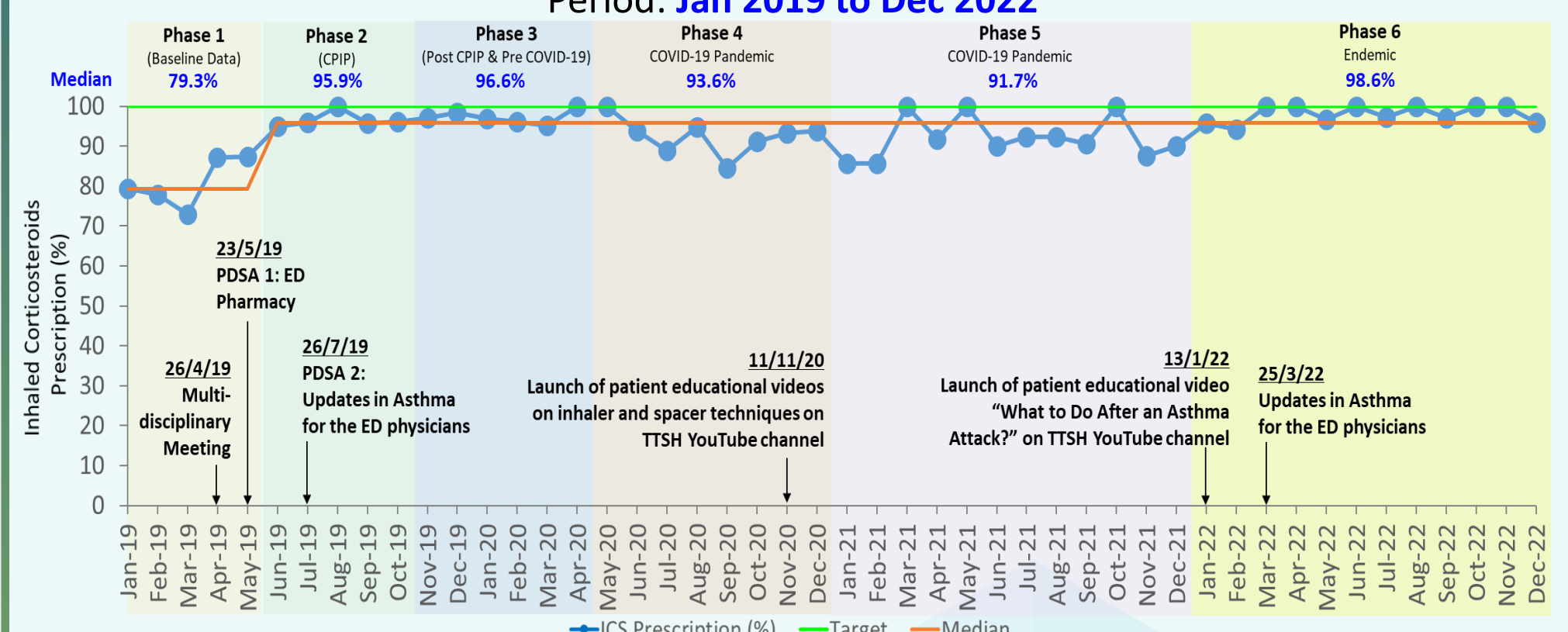
Potential Solutions

Root Cause	Intervention	Implementation Date
ED Pharmacy did not clarify with prescribing doctor	ED pharmacy intervention	23 May 2019
Lack of knowledge on latest GINA guidelines and rationale of ICS	Asthma updates for the ED physicians	26 Jul 2019
No documentation in prescription's instruction column		25 Mar 2022
Patients' lack of knowledge on asthma treatment	"What to do after an Asthma Attack" Educational Video	11 Nov 2020 13 Jan 2022



Outcomes & Impacts

Runchart on Prescription of Inhaled Corticosteroids (ICS) in Asthma Patients Discharged from ED
Period: Jan 2019 to Dec 2022



GOOD OUTCOME:

- Pre Intervention Median (Jan to May 2019) = **79.3%**
- Post Intervention Median (Jun 2019 to Dec 2022) = **95.9%**

VALUE:

- Estimated cost savings from prevented hospital admissions for asthma over 12 months ranged from \$28,128 to \$37,440.
- Number of ward bed days saved over 12 months ranged from 93.6 to 148.8 days.
- Estimated cost savings from prevented ED re-attendances over 3 months ranged from \$896 to \$1,536.