



# TELECARE ASTHMA EXACERBATION – post Rescue Therapy (TLC ART)

Singapore Healthcare  
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## Introduction

Asthma exacerbations are treated promptly with rescue therapy at SingHealth Polyclinics. After patients respond adequately, they are discharged with advice to adhere to their Written Asthma Action Plan (WAAP); including up-titrated controller medication, to finish their prescribed course of oral steroids and gradually reduce their salbutamol inhalers to when-needed basis. An early follow-up review in the clinic is arranged in 2 weeks. This management is in line with international management guidelines such as the Global Initiative for Asthma (GINA).

## Problem

We note that patients have a high reliance on reliever medication (salbutamol inhalers), poor compliance with regular use of controller medication and completion of prescribed oral steroids. An initial survey\* showed that many patients default their early asthma review back in the clinic. This potentially leads to inadequate control of their asthma, leading to revisits to the clinic requiring repeat rescue therapies, and increased risk of A&E attendances, and even asthma deaths.

\*Survey of patients in 2 polyclinics showed an average about 27.5% of patients who visited the clinics for acute asthma exacerbation came back for their medical review in the clinic in 2 weeks.

## Aim

We used remote care (TLC-ART) as a remote touch-point after managing such patients to:

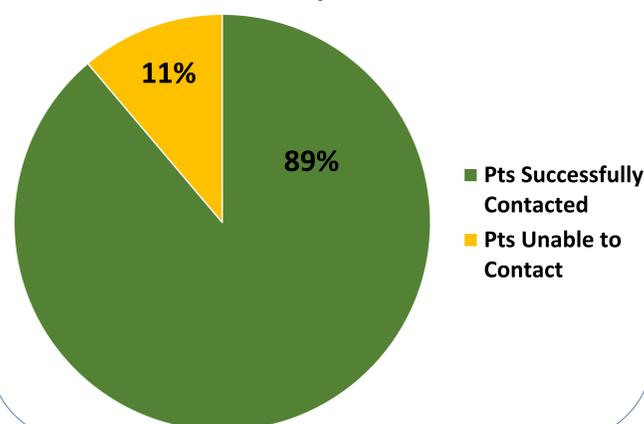
- Reinforce compliance to continue with up-titrated doses of controller medications, complete the course of oral steroids, and remind TCU in clinic.
- Reinforce patient education after the stabilisation of an acute asthma attack, and address reasons that may result in defaulting follow up, and non-adherence to prescribed therapy.

Even if the patient subsequently did not turn up for 2 weeks post rescue review, the telecare serves as a valuable touch-point to review resolution of symptoms.

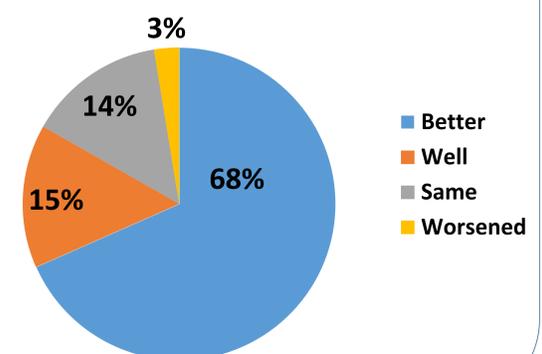
## Results

179 patients were enrolled across 8 SingHealth Polyclinics (April to June 2018), and 159 were successfully contacted.

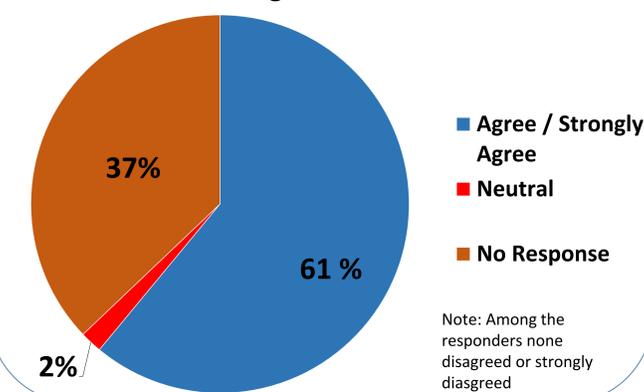
% of Patients Enrolled That Were Successfully Contacted



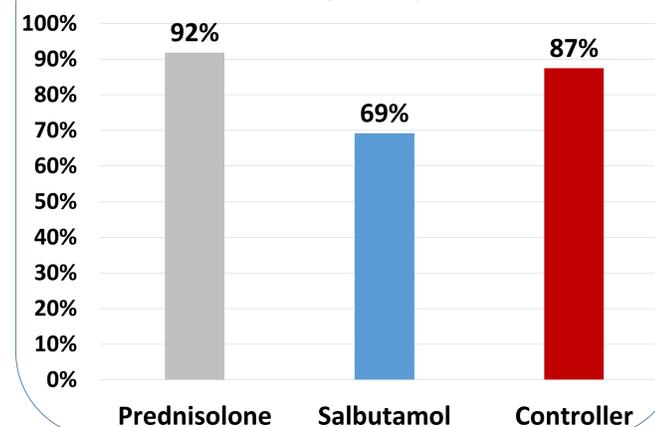
Status of Symptoms On Day of Call



Patient Feedback – Patients Who Think That the TLC Service is Beneficial to Controlling Patient's Asthma



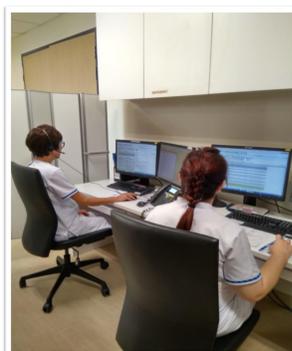
WAAP Utilisation (Yellow Zone Compliance)



## Methodology

### Treatment Room

Asthma flare → successful rescue therapy\*\*



Our TLC nurses at their workstations delivering TLC service

### Health Counsellor

- Explain TLC-ART workflow
- Arrange appointment for call
- Explain charges
- Confirm contact number
- Enrol into TLC-ART

### TLC Nurse

TLC nurse call patients after 3-5 days post rescue therapy to review using SPRAY acronym:

1. Symptoms resolution
2. Prednisolone usage
3. Reliever usage
4. Appointment reminder to return to clinic for medical review
5. Yellow zone (WAAP) compliance for 2 weeks

**Recovering well:**  
Reinforce WAAP and early 2 weeks asthma review

**Still symptomatic:**  
Advise patient to return ASAP for review. If symptoms worsen, advice A&E.

\*\*Patients who do not respond adequately or require escalation of care at the hospital will not be recruited into TLC-ART.

## Conclusion

This initiative helped to address patients' non-adherence to post asthma exacerbation management. More importantly, it allowed healthcare providers to follow-up the medical status of the patient much earlier via a remote care touch point as compared to none previously.

Our remote touch point allowed the early pick up of patients with non-adherence to post exacerbation treatment plan, which if continued may result in recurrence of exacerbation and poor asthma control.

This TLC-ART service was rolled out to all SingHealth Polyclinics since April 2018 and is now a standard of care for post rescue therapy asthma exacerbations.

Our next plan is to study if telecare can be an option for patients who are unable to attend the 2 weeks early asthma exacerbation review.

### Acknowledgements

We would like to thank Dr Ian Phoon for initiating the pilot programme and Dr Gilbert Tan for overseeing the Programme.

Photo Credit : SSN Tye Yee Mee