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INTRODUCTION

Mental health and developmental conditions have a global prevalence of 16% in children.¹ Many of these conditions require psychotropic medications that are controlled substances with side effects. Coordination of dosage titration and refill is labour-intensive and carries risks for communication errors.

Clinicians who routinely prescribe psychotropic medications in the Child Development Unit (CDU) agreed on the following problems:

- 1 Titration of medication dosage could not be assessed by clinicians **every 2-7 days**, although guidelines recommended such frequency^{2,3}
- 2 **Lack of education materials** about medication titration and lack of clinic time to discuss dosage conversion during titration
- 3 **No standardized form** for families to communicate titration progress, many discontinued the medicine due to concerns of side effects

OBJECTIVES

- This project aims to achieve the following within 12 months:
- **>90% of families use the medication titration materials**
 - **>50% are comfortable communicating dosage titration**
 - Days needed to reach the effective dose are reduced to **30 percent of the baseline interval**

METHOD

We collected characteristics of children who were on psychotropic medication(s) from May to October 2021 (Table 1).

Table 1. Patient baseline characteristics

Variable	Descriptive Data
Gender No. (%)	Male 88 (67.7%)
Diagnosis No. (%)	Mood Disorder: 10 (7.7%) ADHD: 113 (86.9%) Autism Spectrum Disorder: 4 (3.1%) Co-morbid Mood Disorder and ADHD: 3 (2.3%)
Medication type No. (%), not mutually exclusive	SSRI: 12 (9.2%) Antipsychotics 3 (2.3%) Methylphenidate 117 (90.0%) Alpha agonists 18 (13.8%) Others 3 (2.3%)
Families communicated about progress No (%)	23 (8.9%)
Child age in years (SD)	8.89 (4.40)
From index visit to effective dosage in days (SD)	112.38 (50.11)
From index visit until refills were prescribed in days (SD)	94.77 (82.02)

Every 3 months, we extracted data on **1) % families using QI materials**, **2) % communicated about titration**, **3) # days from index visit to effective dose**, and **4) # days for refills to be prescribed**.

INTERVENTION STRATEGY

On **1 October 2021**, we initiated the use of education infographic (Fig 1) to address Problems 1 & 2. We also implemented a standardised reporting and refill form (Fig 2) to address Problem 3.

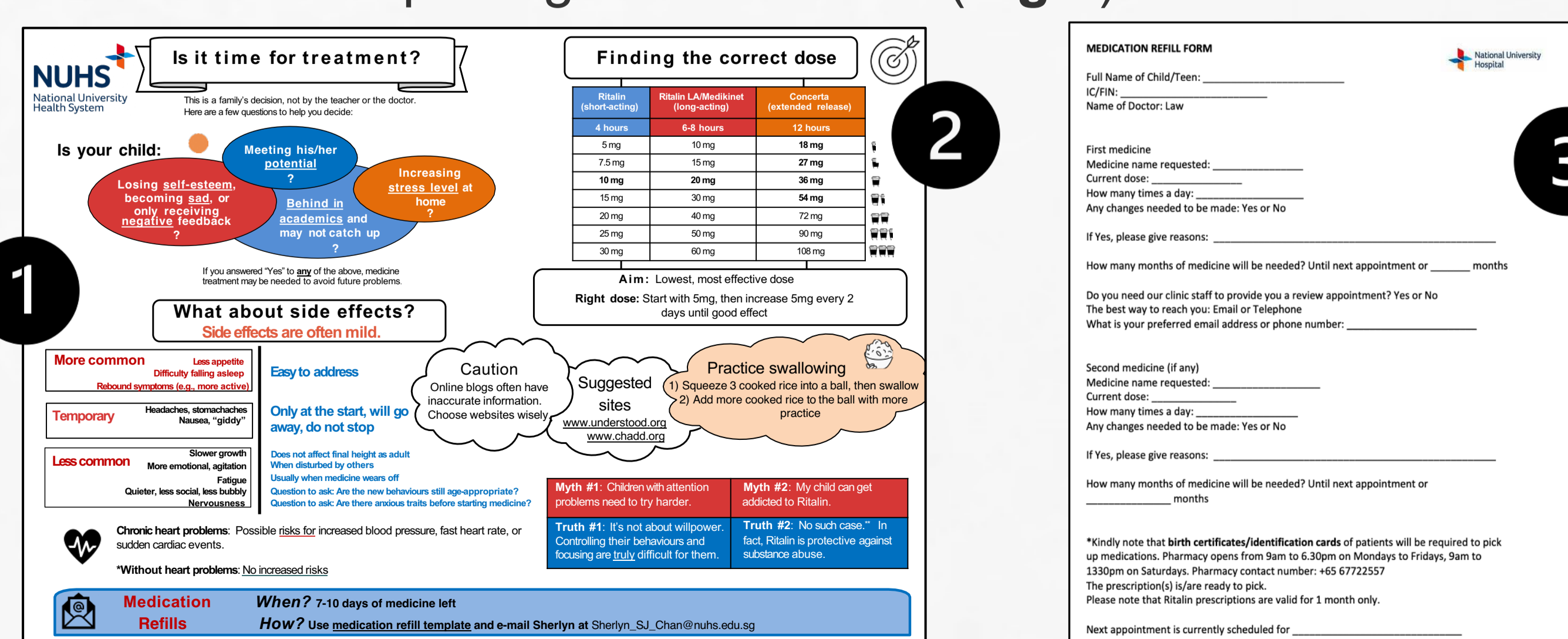


Fig 1. Education materials on medication titration Fig 2. Report / Refill form

RESULTS

At 12-months post intervention, 93.8% of families were using the QI materials and over two-thirds of families communicated about their titration process before their clinic review visit. The number of days until effective dosage was reduced from 122.0 (SD 29.8) to 34.1 (22.0) days, while the days needed for families to obtain refills decreased to a mean of 2.0 (SD 1.8) days.

Fig 3. Percentage of patients on psychotropic medications using recommended processes

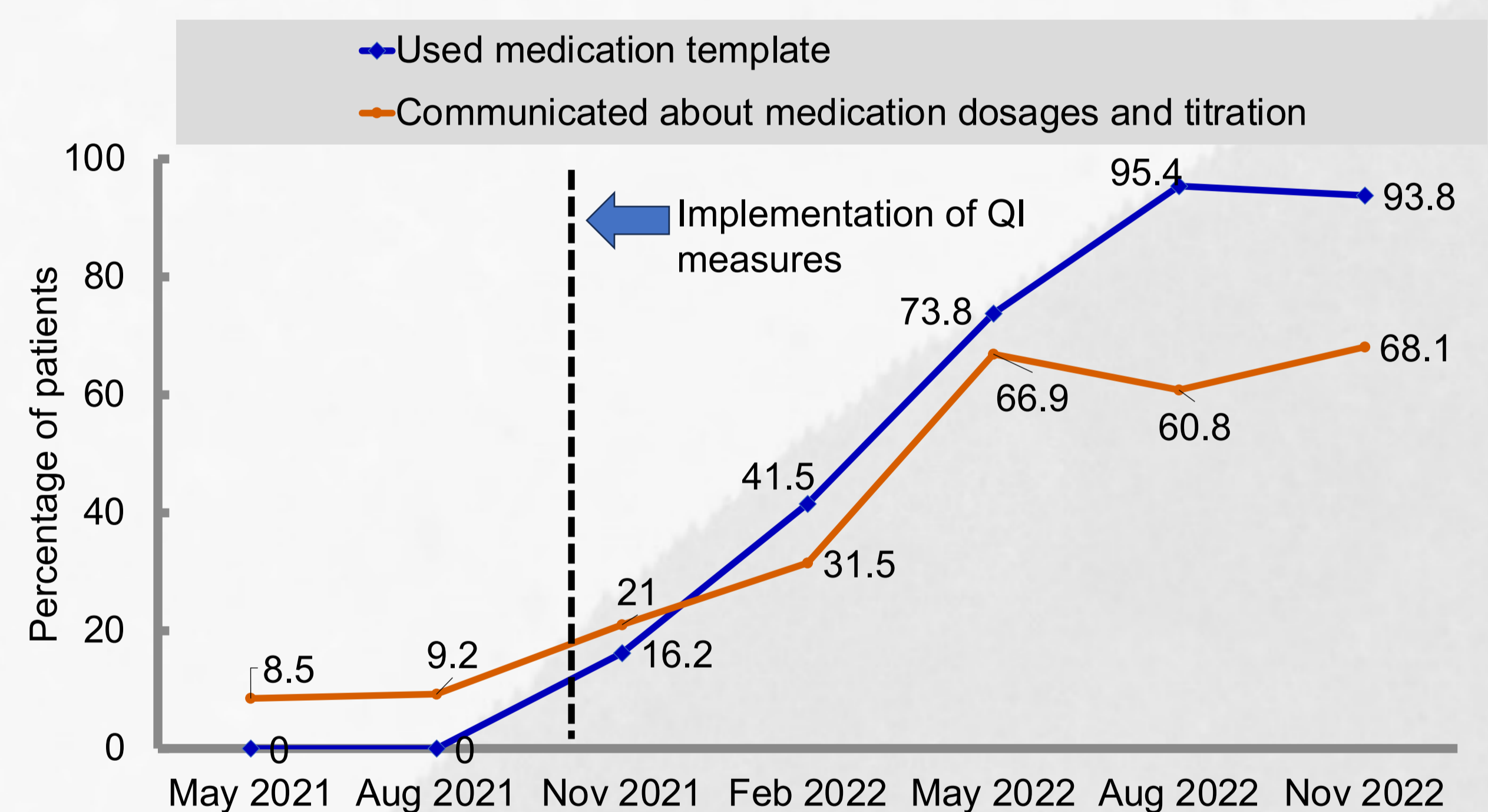
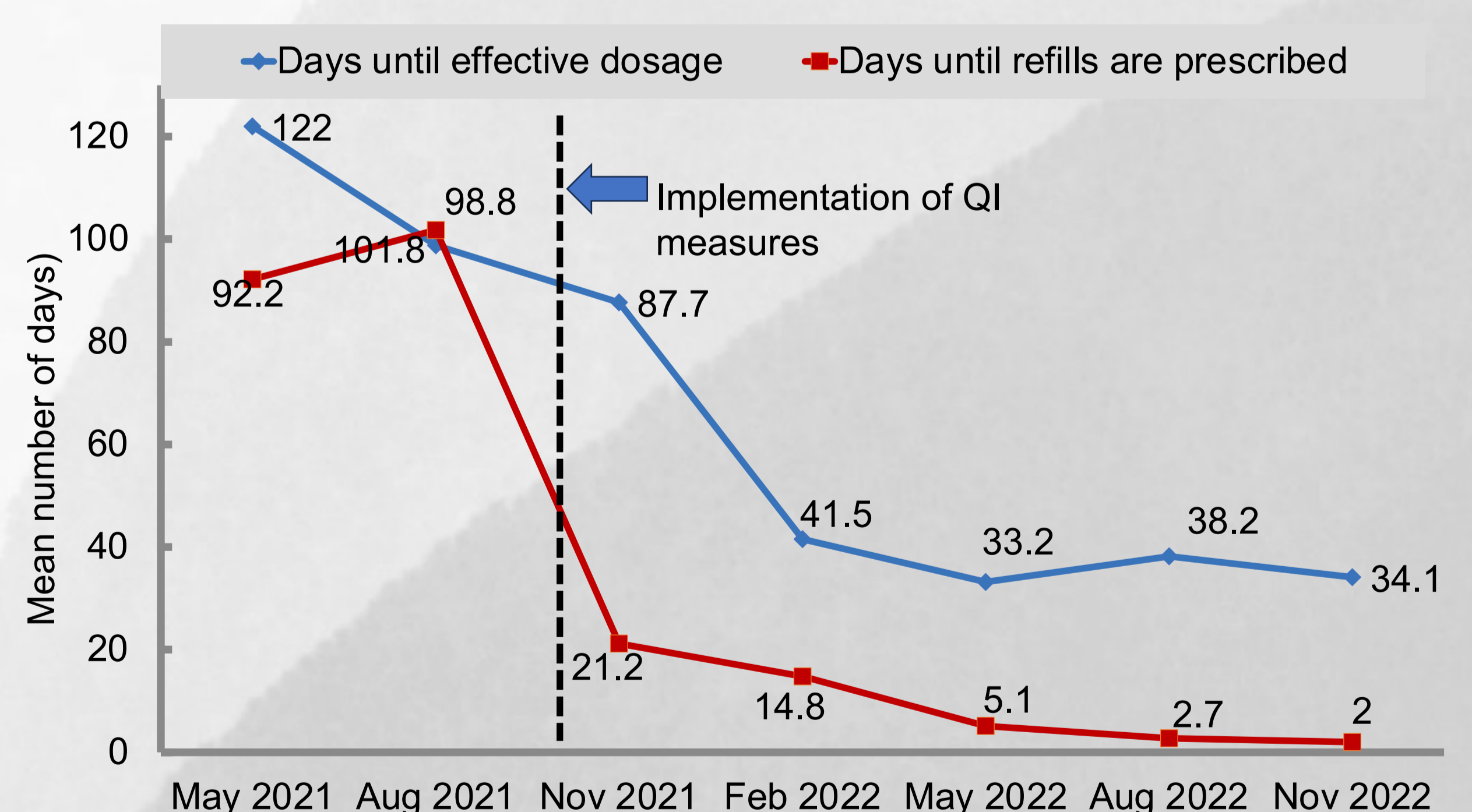


Fig 4. Time to the most effective medication dosage



CONCLUSION

The provision of **(a) easy-to-understand education materials** and **(b) standardised reporting/ refill forms** empowered families to conduct medication titration at home and reduced the days needed to reach the most effective dosage. Obtaining a refill takes a mean of 2 days for families, which may increase medication continuity.

References: 1. Olusanya BO, Kancherla V, Shaheen A, Ogbo FA, and David AC, on behalf of the Global Research on Developmental Disabilities Collaborators (GRDDC). (2022) *Front Public Health*. DOI: 10.3389/fpubh.2022.977453. 2. Academy of Medicine of Singapore – Ministry of Health Clinical Practice Guidelines on Attention-Deficit/Hyperactivity Disorder (ADHD). May 2014. Singapore: Ministry of Health. ISBN 978-981-09-0767-9. 3. Wolraich ML, Hagan JF, Allan C., Chan E, et al. (2019) *Pediatrics*. Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents. DOI:10.1542/peds.2019-2528.