To Improve Patient Understanding of Prescription Drug Label Instructions While Ensuring Dispensing Efficiency at Bukit Batok Polyclinic Pharmacy

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Mission Statement

To improve inefficiency in handwritten instructions and patient understanding of drug labels

Outcomes	Targets	Timeframe
Time spent on translation of drug label instructions	Reduce by 50% *Stretch goal:* 60%	6 months
Patient satisfaction with pictogram labels	75% of patients with satisfaction score of ≥ 4* on Likert scale *Stretch goal:* 85% of patients	6 months
Sustained increase in pictogram usage at Bukit Batok Polyclinic Pharmacy	50% increase over one year *Stretch goal:* 60%	12 months upon completion

*as measured on a 5-point Likert scale, 1-very poor, 2-poor, 3-satisfactory, 4-good, 5-excellent

Team Members

Team Leaders: Esther Bek, Hai Wei Ying
Team members: Cherlyn Chua, Lee She Ink, Belinda Lee, Siah Kah Ying, Yang Jun Ying

Evidence for a Problem Worth Solving

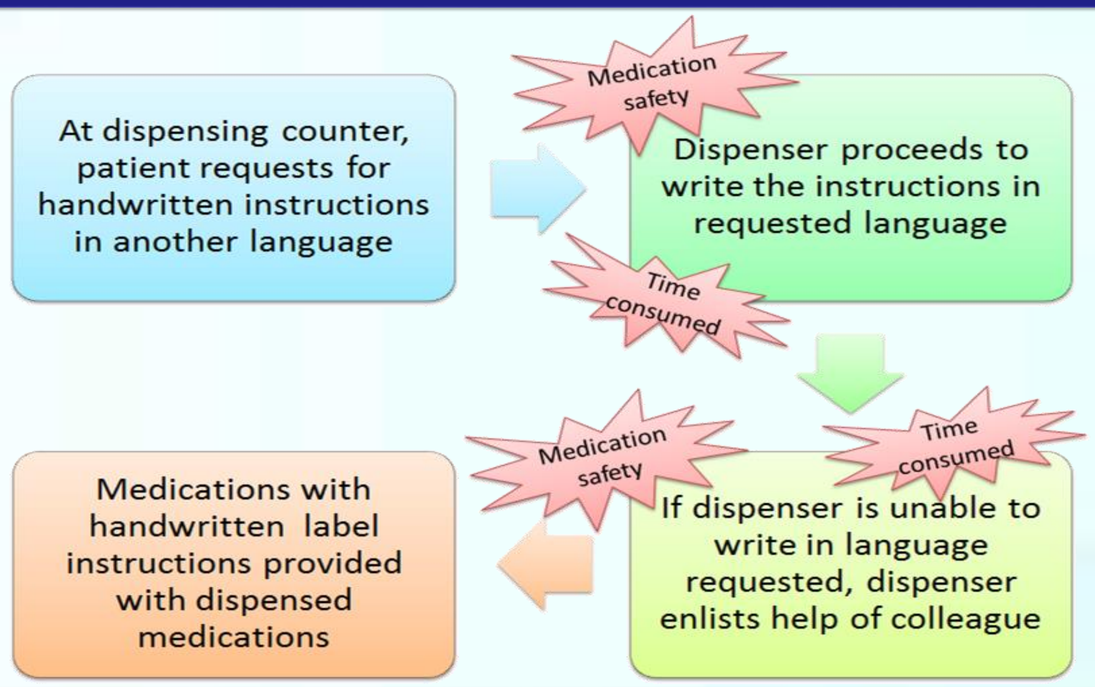
Patients often rely on printed labels on their medications to ensure that they are taking their medications as prescribed. Many of our elderly are unable to read English. However, current printed drug labels are only available in English.

As such, patients often request for label instructions to be translated and handwritten in preferred language (eg Malay or Mandarin). Handwriting drug label instructions is time consuming and carries the risk of incorrectly translating and/or writing the label instructions.

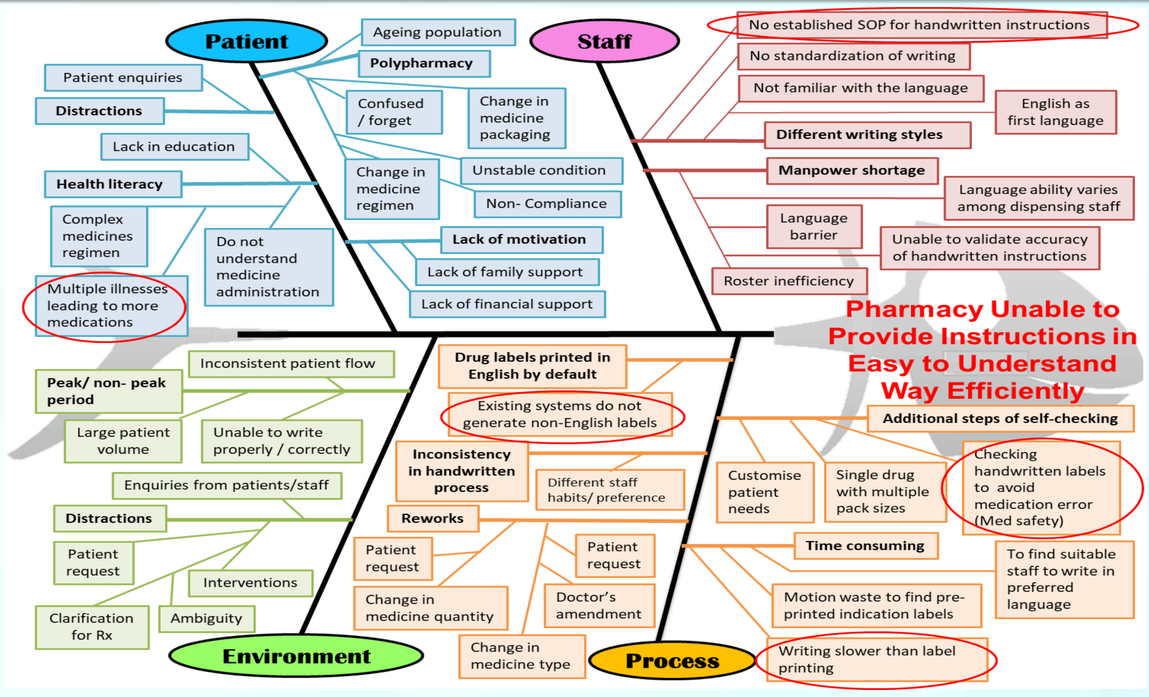
Current Performance of a Process

An average of 63 patients per week request for label instructions to be handwritten in preferred language at Bukit Batok Polyclinic (BBK). Handwritten label instructions that were incorrectly translated resulted in 4 medication errors in 2016 in NHGPh. Handwritten instructions takes an average of up to 3 minutes per prescription.

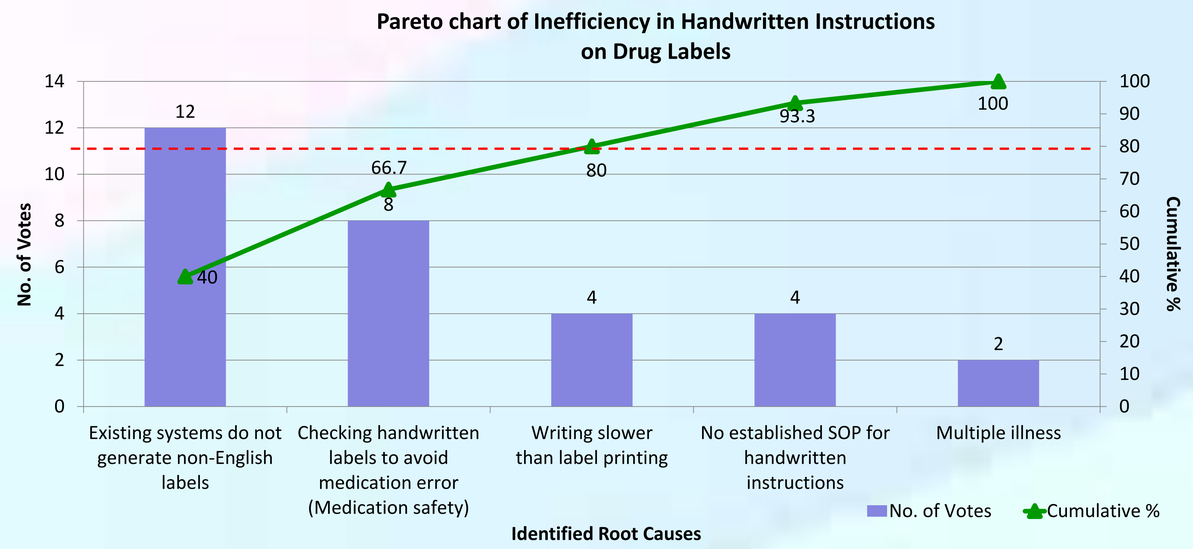
Flow Chart of Process



Cause and Effect Diagram



Pareto Chart

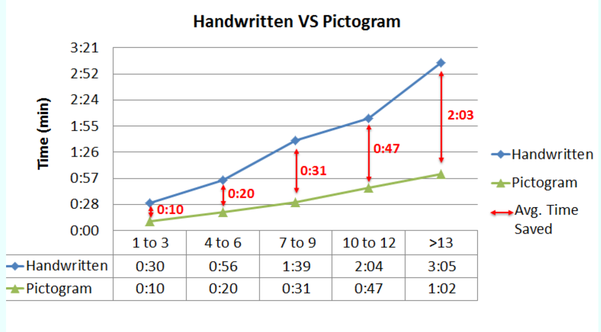


Implementation

Problem	Intervention	Date of Implementation
Existing systems do not generate non-English labels	**Pictogram labels** • Installed software for option to print pictogram labels in multi-languages	1/6/2017
Medication Safety • Handwritten labels are usually not checked for translation errors	**Pictogram labels** • Printed labels ensures no translation errors	1/6/2017
Writing slower than label printing	**Pictogram labels** • Printing labels are faster than writing by hand	1/6/2017

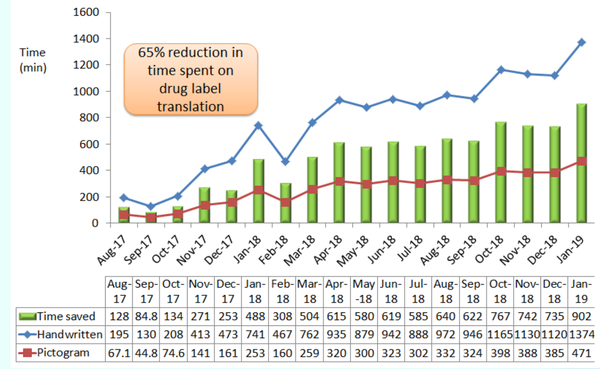
Time Savings

Average time used (min) for Handwritten Labels vs Pictogram Labels (N = 10)



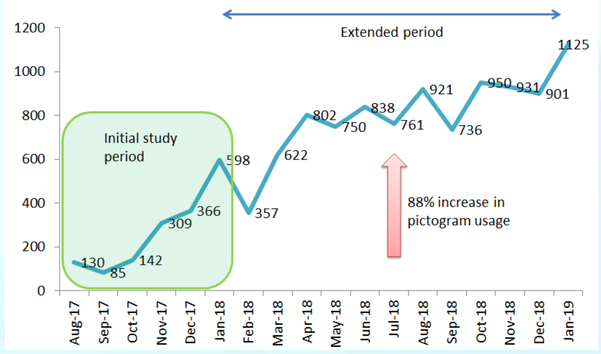
	1 to 3	4 to 6	7 to 9	10 to 12	>13
Handwritten	0:30	0:56	1:39	2:04	3:05
Pictogram	0:10	0:20	0:31	0:47	1:02

Total Time Saved

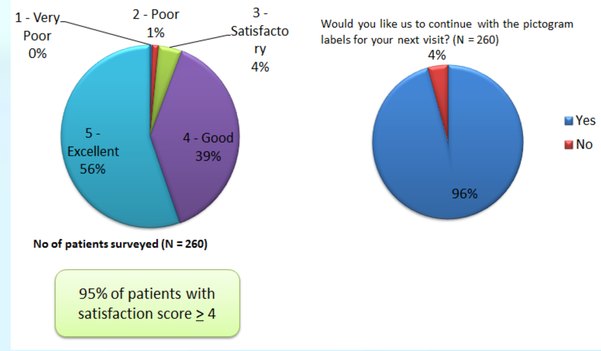


	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19
Time saved	128	84.8	134	271	253	488	308	504	615	580	619	585	640	622	767	742	735	902
Handwritten	195	130	208	413	473	741	467	762	935	879	942	888	972	946	1165	1130	1120	1374
Pictogram	67.1	44.8	74.6	141	161	253	160	259	320	300	323	302	332	324	398	388	385	471

No. of patients provided pictogram labels at dispensing



Patient satisfaction



95% of patients with satisfaction score ≥ 4

Problems Encountered

- Limitations to corrective IT measures
  - Font size limited to size of label
  - Step-orders cannot be translated
  - Pictograms for topical medications unable to show frequency of application
- Minority of elderly patients still prefer handwritten instructions due to small font size
- First time use of pictogram labels more time consuming as each patient needs initial additional step of annotating language preference
- Unable to determine impact of pictograms on patient adherence

Strategies to Sustain

- Print pictogram labels at packing area rather than on –demand at dispensing counter to reduce time
- Continued feedback from end-users (pharmacy staff and patients) to informatics team on how to improve pictograms
- Continue to educate minority of patients who still prefer handwritten instructions on how to read pictogram labels