



Project to Reduce the Impact of Medication wastage on Environment in  
Community Care (PRIME)  
Matching Donors with Recipients to Reduce Medication wastage  
(MedMatch)  
PRIME\_MedMatch

Challenge brought to you by:



Supported by:



Team Composite:



# Meet Our Multidisciplinary Tripartite Team



**Dr Mohamed Asifulla**  
Senior Physician  
Community Health Team,  
TTSH  
Team Lead



**Deborah Chia**  
Principal Clinical  
Pharmacist, NUH  
Team Lead



**Lim Hong Yee**  
Director, Pharmacy, TTSH  
Pharmacist



**Chew Mei Kwee**  
Community Health Nurse,  
NHG Pop Health Campus



**Eunice Lim Yi Xin**  
Assistant Nurse Clinician,  
NHG Pop Health Campus



**Ong Kai Xin**  
Principal Clinical &  
Community Health  
Pharmacist, TTSH



**Anne Neo**  
Senior Pharmacist,  
TTSH



**Eugene Lim**  
Community Health  
Pharmacist, TTSH



**Loh Chee Pheng**  
Senior Pharmacist, KKH



# Problem statement

Unused medications are a major source of wastage in healthcare systems!



**Public survey: 95%** of participants have excess medication that ended up being wasted

N=400 participants (151 NUH patients, 249 NUS students)



**91% were reusable**, providing a total of S\$5266 in cost savings (over a 3 months period)

Toh MR, Chew L. *Palliative Medicine*. 2017;31(1):35-41. doi:[10.1177/0269216316639798](https://doi.org/10.1177/0269216316639798)



My doc changed my blood pressure meds.. What should I do with my old medicine?

My father just passed away; how can I deal with these medications?



# Survey Insights

## Public Perception of reusing donated medication Currently, no avenues for reuse...

**89%** of participants were **willing to donate** their unused medicine in good conditions. N=700\*



**61%** are willing to use medication that has been dispensed to others. N=59

**94%** were **willing to use donated medications** of good condition if the cost of the medications is >\$2k per month N=67 public



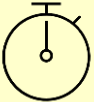
## No Regulations that govern re-dispensing of donated medication


A survey with 100 healthcare professionals as respondents


**89%** of respondents **expressed confidence in reuse of donated medications** if HCPs put in stringent checking procedures to ensure the safety and efficacy.

**Prescription needs, financial needs and drug availability** are **main consideration factors** for redistribution of unused medications.

# Our Solution: MEDMATCH

Phase 1 

Phase 2 

**Develop SOPs** 


for collection, storage and inventory management and distribution of donated medications


**Centralized collection and redistribution sites**



**Design indemnity forms**

to be signed by Donors and Recipients based on existing or similar models




**Carry out a pilot** 

to match patients' donated unused medications (Donor) to suitable patients willing to use them (Recipient)

**Issue and redistribute donated meds**

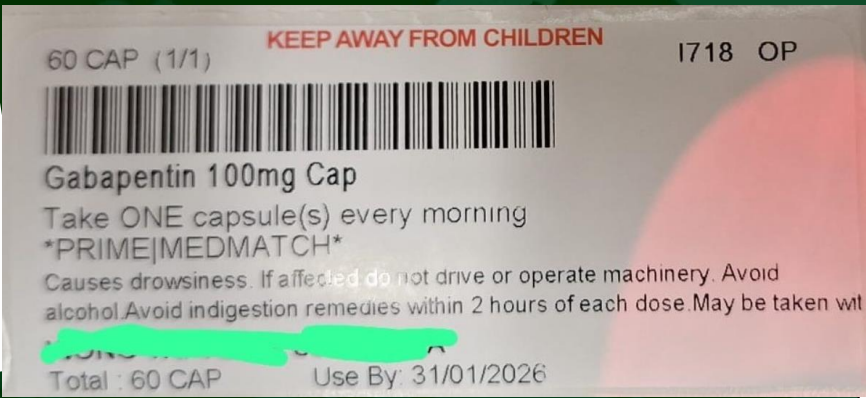
to recipient via newly designed SOP



**GUIDELINES FOR PRIME|MEDMATCH FOR COMMUNITY CARE TEAMS (NATIONAL HEALTHCARE GROUP)**

**PURPOSE**  
1.1 To serve as a guide for healthcare professionals when redistributing donated medications from members of public or other healthcare institutions.

**SCOPE**  
2. 2.1 Guidelines issued by National Healthcare Group Population Health Campus serves as a guide for community health teams to assess donated medications for use.  
2.2 Responsible person at Community Health Team will be responsible for the use of the donated medications in that facility.  
2.3 Doctors/Registered nurses are to ensure collected medications are fit for residents' use. (see Appendix 1)  
2.4 Doctors/Registered nurses/Pharmacists are to ensure that the residents fulfil the eligibility criteria and complete the indemnity form. Pharmacists will safekeep the signed indemnity form. (see Appendix 1)



**INDEMNITY FORM APPENDIX 2**

I, \_\_\_\_\_ (Full Name of patient/next-of-kin) \_\_\_\_\_ (Passport or NRIC No.) \_\_\_\_\_ (Contact Number) or next-of-kin of \_\_\_\_\_ (Passport or Name of patient) \_\_\_\_\_ (Passport or NRIC No.), hereby declare that "I/the patient "am/is aware that the medication "I/the patient will be receiving through this programme was originally dispensed to another patient and has been donated to the PrimeMedMatch for re-dispensing and "I/the patient is participating in this programme of "my/his/her own free will.

"I/the patient "am/is also aware of the risks involved and in consideration of being permitted by PrimeMedMatch to participate in the PrimeMedMatch Donation programme, "I/the patient, for myself "and my successors, personal representatives and assigns:

(a) do hereby absolve, acquit and discharge PrimeMedMatch and its staff from all or any responsibility, actions, causes of action, claims, demands and obligations whatsoever arising from any loss or damage (including, without limitation and to the extent permissible by law, physical injury, loss of life or property damage) caused by or sustained as a result of "my/the patient's participation in the PrimeMedMatch Donation programme; and

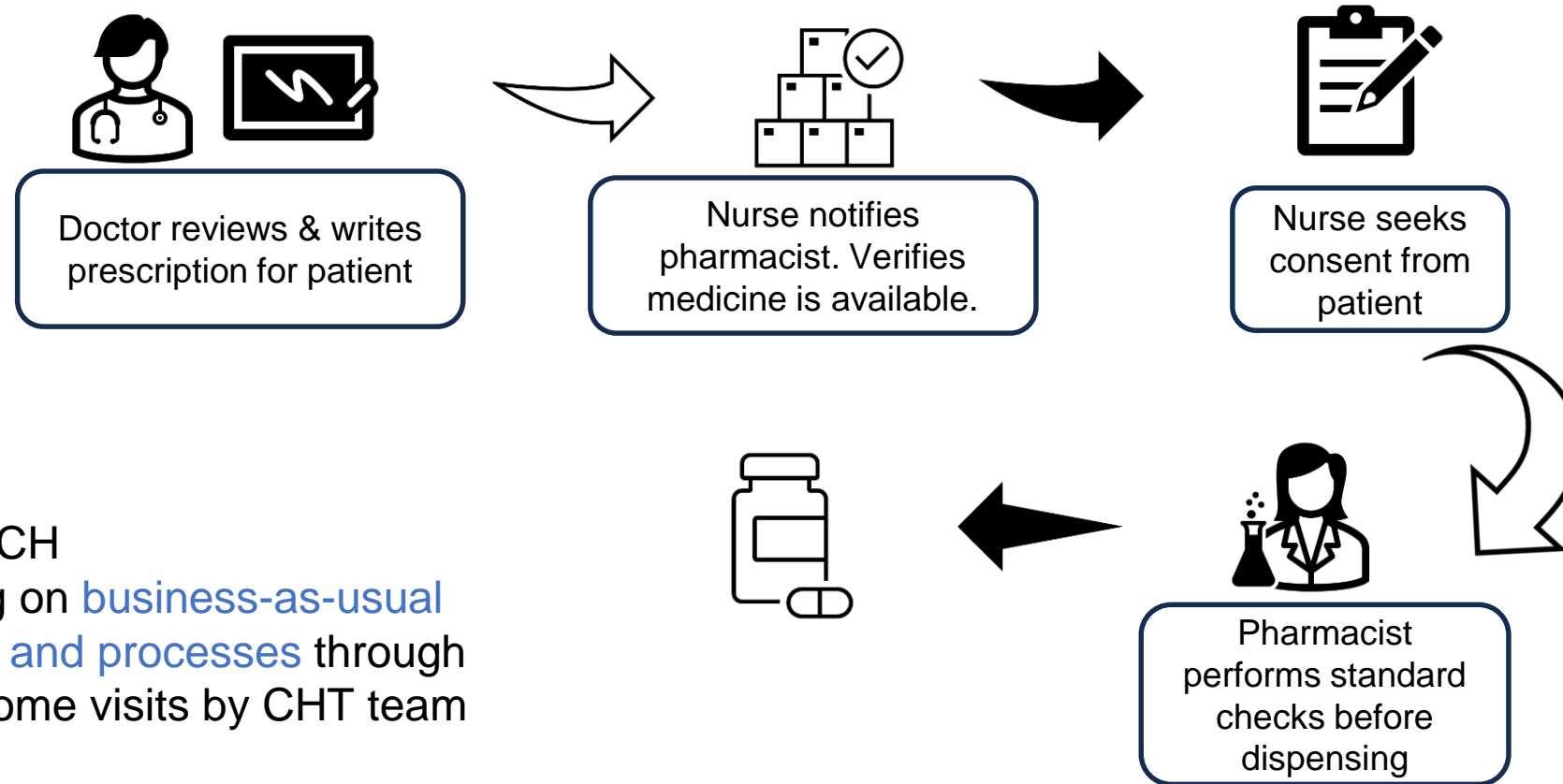
(b) will indemnify and keep indemnified, save and hold harmless PrimeMedMatch and its staff against all losses, claims, demands, actions, proceedings, damages, costs or expenses, including legal fees, and any other liability arising in any way from "my/the patient's participation in the PrimeMedMatch Donation programme.

Additionally, "I/the patient acknowledge the following:

- Grant permission to PrimeMedMatch and its staff to obtain and share the information I have provided for the purposes of determining eligibility for receiving donated medications
- Understand that the PrimeMedMatch Donation programme staff determines my eligibility at their discretion
- Understand that PrimeMedMatch staff has checked the medication according to their agreed work processes.

My signature indicates that all of the information I have provided is true and correct.

# How MEDMATCH works?



## MEDMATCH

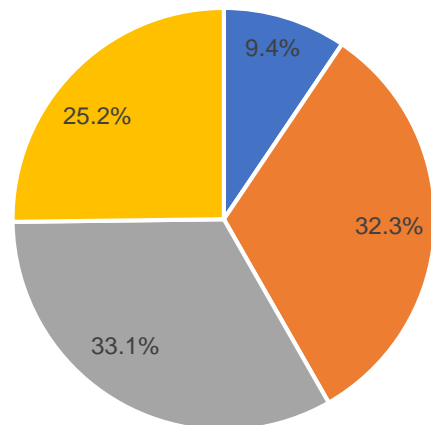
-is tapping on **business-as-usual workflows and processes** through existing home visits by CHT team

-In fact, we are **adding an environmental value** to the CHT home visit

# MEDMATCH Pilot results

**Donated** medications collected from 10 patients = total of **\$3722.05** cost savings

Carbon Footprint Classification of Donated Medications



■ High ■ Low ■ Medium ■ Not available

Determined with Medicine Carbon Footprint (MCF) formulary <https://formulary.yewmaker.com/>

1 week period  
**5 successful matches**  
\$116.30 in cost savings  
Medium carbon footprint savings

## Successful matches

- Senna
- Lactulose
- Omeprazole
- Gabapentin

HCP: "I think it should be done. No reason to waste medication. Will need disclaimer for people picking up these medicine to accept as it is"

Patient 1: "Can reduce waste and cost, why not?"  
Patient 2: "I will be okay if checks are done by professionals or pharmacists"

# Impact of PRIME\_MedMatch



## ENVIRONMENTAL

Reduce pharmaceutical waste

Reduce carbon footprint associated with manufacturing new medications

Reduce environmental pollution due to pharmaceuticals



## SOCIAL

Make healthcare more accessible by enhancing access through redistribution of medications to those in need

Improve public health outcomes and promoting health equity



## ECONOMIC

Reduce wastage of surplus medications at organizational and individual level

Reduce healthcare costs by providing redistributed medications to those in need

Alleviates financial pressure on healthcare systems and patients





# Scaling and Nailing PRIME\_MedMatch (Phase 3)

## Longevity of Solution

- Expand to **high-cost medications** (e.g. oncology/ transplant medications)
- Expand **Recipient pool to the region** e.g. Through NGOs
- Obtain endorsement to **legalize** the safe reuse of donated medications
- **Charge nominal fee** for matching, storage and transport to recipients for legalized facility
- **Run MedMatch service** in Singapore enabled by **Digital Platform**

## Key Enablers



Digital Platform for MedMatch



SOPs for Reuse of Medications



Drug Inventory & Labelling System



Regulatory body endorsement

ReMediSG

**Give Your Unused Medications**  
Help those in need by donating your unexpired medications.

**For Healthcare Providers**

Steps to Donate Medications

- Step 1. Review Medication Inventory**  
Identify surplus meds
- Step 2. Complete ReMedi Formulary**  
Provide medication details
- Step 3. Schedule Pickup**  
Arrange for collection
- Step 4. Verify Donation**  
Confirm donation submission

ReMediSG

**Give You Unused Medications a Second Life**

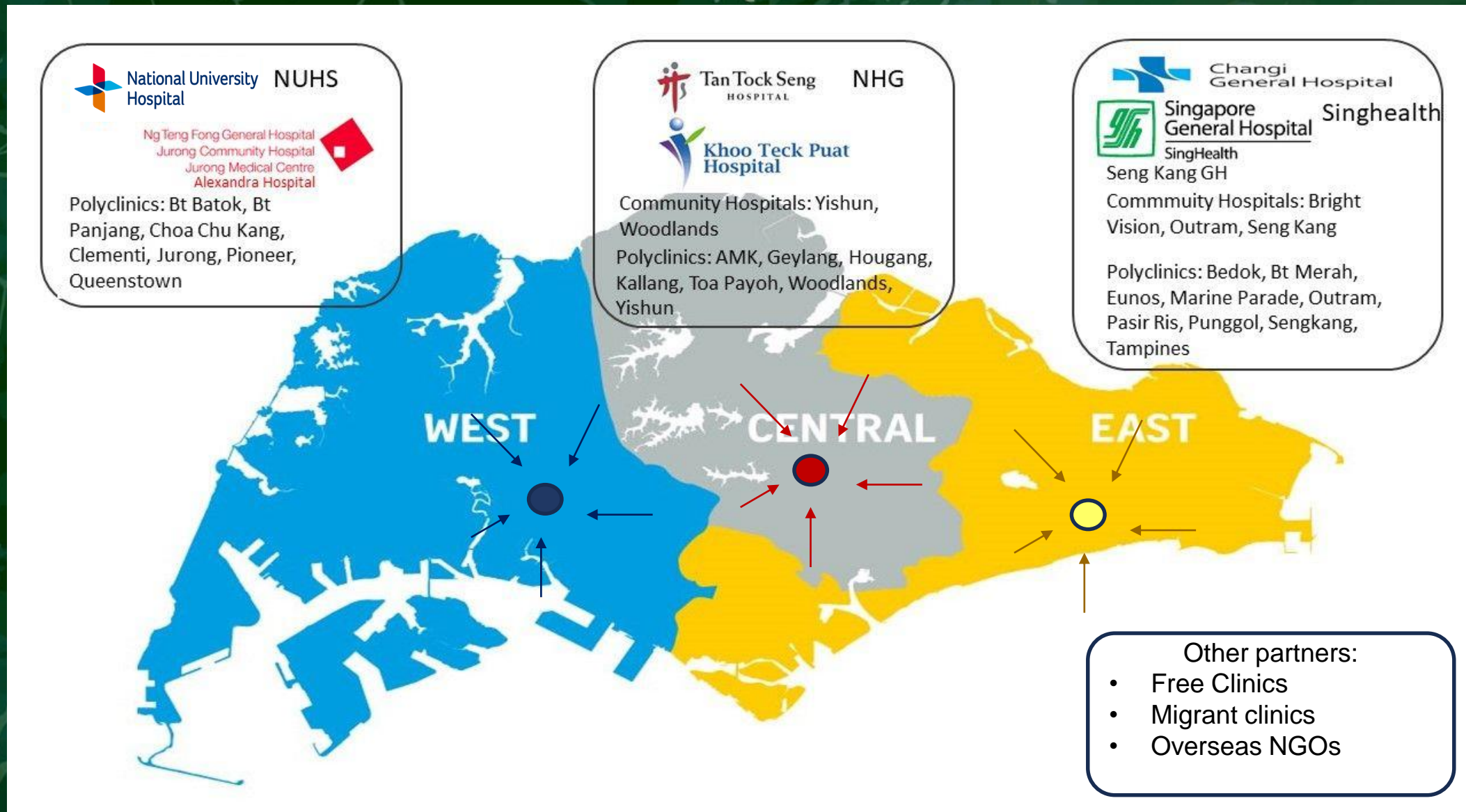
[Donate Medication](#) [Request Medication](#)

**Medication Donation Guidelines**  
Before you donate to your unused medications, use this guide to determine whether your medications can be donated.

- Check Expiry Date**  
Make sure medications are unexpired
- Verify the Packaging**  
Ensure medications are sealed and intact

A  
C  
D  
R

# Scaling and Nailing PRIME\_MedMatch (Phase 3)





# Vote for us! PRIME\_MedMatch Pte Ltd

Team Composite:



# QnA



# PRIME | Medmatch Work Process

## How to ensure medication safety for pilot trial

Trust



**Guidelines for handling of donated unused medications**  
(clinical governance is specific to cluster/ institution)

**Checklist** for checking of donated medication by pharmacists

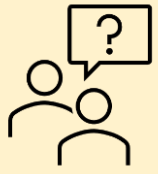
**Proper Storage**  
Observed at patient home by TEAM;  
Proper storage and inventorization of donated medication

Acceptance



**Matching workflow** carried out by healthcare professionals

**Indemnity form** signed by willing recipients of donated medications



# PRIME | Medmatch Work Process

## Guidelines for handing donated medications

### GUIDELINES FOR PRIME|MEDMATCH FOR COMMUNITY CARE TEAMS (NATIONAL HEALTHCARE GROUP)

#### 1. PURPOSE

1.1 To serve as a guide for healthcare professionals when redistributing donated medications from members of public or other healthcare institutions.

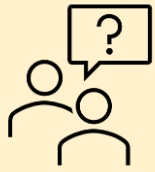
#### 2. SCOPE

2.1 Guidelines issued by National Healthcare Group Population Health Campus serves as a guide for community health teams to assess donated medications for use.

2.2 Responsible person at Community Health Team will be responsible for the use of the donated medications in that facility.

2.3 Doctors/Registered nurses are to ensure collected medications are fit for residents' use. (see Appendix 1)

2.4 Doctors/Registered nurses/Pharmacists are to ensure that the residents fulfil the eligibility criteria and complete the indemnity form. Pharmacists will safekeep the signed indemnity form. (see Appendix 2)



# PRIME | Medmatch Work Process

## Checklists

### APPENDIX 1

#### CHECKLIST ON COLLECTION OF UNUSED MEDICATIONS FROM DONORS

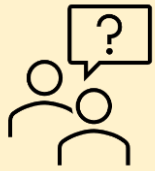
	CRITERIA	YES	NO	REMARKS
1	Do supplied medications have an expiry date of at least 3 months?			
2	Are the supplied medications in its original packaging (i.e. unopened bottles or blister strips)?			
3	Are the medications in good condition (i.e. no leakage or discolouration) based on visual inspection?			
4	Are the batch number clearly visible on the medications packaging (e.g. blister strips)?			
5	<p>Are the medications under any of the following categories:</p> <ul style="list-style-type: none"> <li>i. Eye/nose/ear drops or ointments (opened)</li> <li>ii. Creams/ointments (opened)</li> <li>iii. Mixtures/Syrups (opened)</li> <li>iv. Gargles/Inhalers (opened)</li> <li>v. Loose tablets/capsules (opened)</li> <li>vi. Fridge items</li> <li>vii. Cytotoxic drugs</li> <li>viii. Controlled drugs and Benzodiazepines</li> </ul> <p>If Yes for any of the above, please dispose accordingly.</p>			

\*Please note list is not exhaustive. If in doubt, dispose.

### APPENDIX 2

#### CHECKLIST ON RECIPIENT ELIGIBILITY FOR PRIME|MEDMATCH

	CRITERIA	YES	NO	REMARKS
1	Does the patient have an existing CHT H2H package of at least 2 weeks?			
2	Does the patient have a valid prescription from a CHT doctor?			
3	Has the patient signed on the indemnity form?			



# PRIME | Medmatch Work Process

## Indemnity Form

Patient verbatim: "Form is okay"

### INDEMNITY FORM

I, \_\_\_\_\_ (Full Name of patient/\*next-of-kin) \_\_\_\_\_ (Passport or NRIC No.) \_\_\_\_\_ (Contact Number) or \*next-of-kin of \_\_\_\_\_ (Full Name of patient) \_\_\_\_\_ (Passport or NRIC No.), hereby declare that \*I/the patient \*am/is aware that the medication \*I/the patient will be receiving through this programme was originally dispensed to another patient and has been donated to the ~~PrimaMedMatch~~ ~~PrimaMedMatch~~ for re-dispensing and \*I/the patient is participating in this ~~programme~~ of \*my/his/her own free will.

\*I/the patient \*am/is also aware of the risks involved and in consideration of being permitted by ~~PrimaMedMatch~~ to participate in the ~~PrimaMedMatch~~ Donation programme, \*I/the patient, for myself \*and my successors, personal ~~representatives~~ and assigns:

(a) do hereby absolve, acquit and discharge ~~PrimaMedMatch~~ and its staff from all or any responsibility, actions, causes of action, claims, demands and obligations whatsoever arising from any loss or damage (including, without limitation and to the extent permissible by law, physical injury, loss of life or property damage) caused by or sustained as a result of \*my/the patient's participation in the ~~PrimaMedMatch~~ Donation programme; and

(b) will indemnify and keep indemnified, ~~save~~ and hold harmless ~~PrimaMedMatch~~ and its staff against all losses, claims, demands, actions, proceedings, damages, costs or expenses, including legal fees, and any other liability arising in any way from \*my/the patient's participation in the ~~PrimaMedMatch~~ Donation programme.

Additionally, \*I/the patient acknowledge the following:

- Grant permission to ~~PrimaMedMatch~~ and its staff to obtain and share the information I have provided for the purposes of determining eligibility for receiving donated medications
- Understand that the ~~PrimaMedMatch~~ Donation programme staff determines my eligibility at their discretion
- Understand that ~~PrimaMedMatch~~ staff has checked the medication according to their agreed work processes.

My signature indicates that all of the information I have provided is true and correct.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

In the presence of:

\_\_\_\_\_  
Signature of Witness

\_\_\_\_\_  
Name & Passport/NRIC No. of  
Witness

\*Please delete accordingly.

Is the patient allergic to any medication? Yes/ No

If yes, please list out the allergies: \_\_\_\_\_

Has the patient/next-of-kin verified the allergies? Yes/ No

Name of redistributed medication	Batch Number	Expiry Date	Quantity

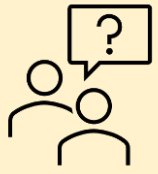
National Board Pharmacy, American Medical Association has regulations in place to allow re-dispensing of oral chemo too

### GOOD SAMARITAN DRUG AND MEDICAL SUPPLY DONATION ACT

#### American Legislative Exchange Council

The purpose of this Act is to **encourage the donation of** medical supplies and **drugs** by the private sector to nonprofit organizations for distribution to **needy individuals without the threat of liability**. The Act protects a person, corporation, partnership, organization, association, or governmental entity from the civil or criminal liability arising from the nature, age, packaging, or condition or drugs or medical supplies that the entity donates in good faith to a nonprofit organization for ultimate distribution to needy individuals. The immunity would not apply to an injury to or death of a recipient that shall result from an act or omission of the donor constituting gross negligence or intentional misconduct.



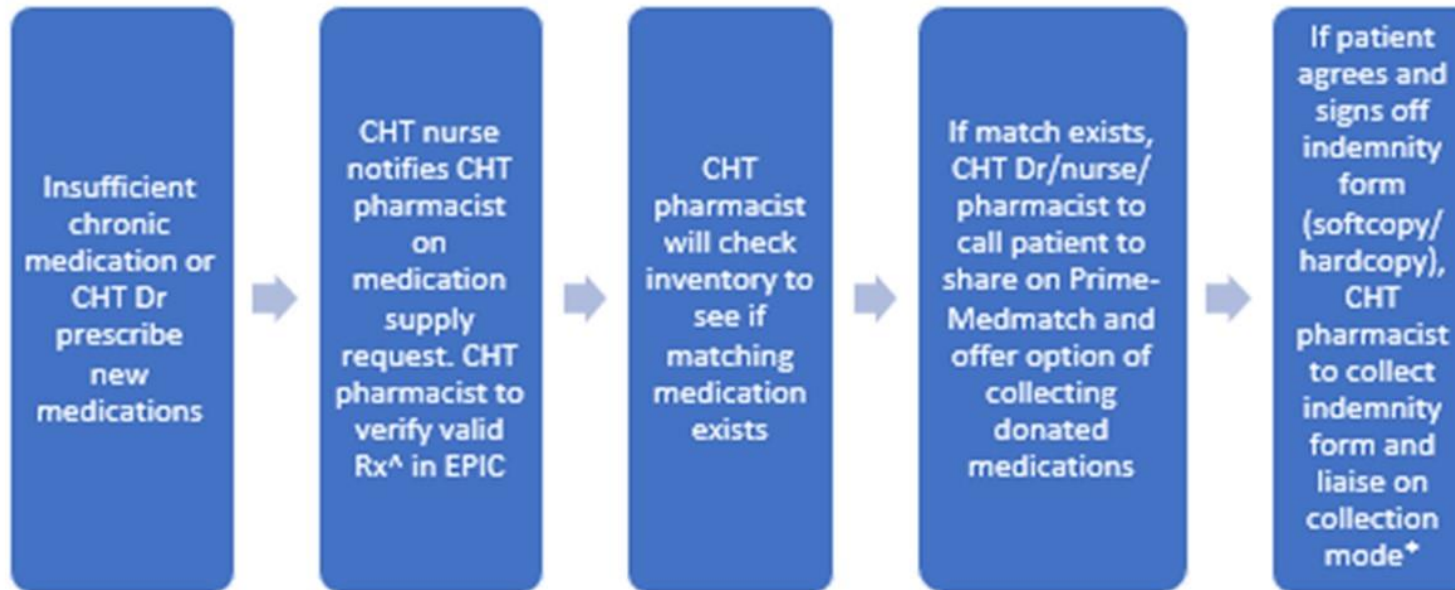


# PRIME | Medmatch Work Process

## Pilot Trial

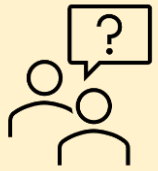
APPENDIX 3

### PROPOSED PRIME|MEDMATCH WORKFLOW



^Prescription to state "trial – Prime-Medmatch. Patient has supply" in side remarks

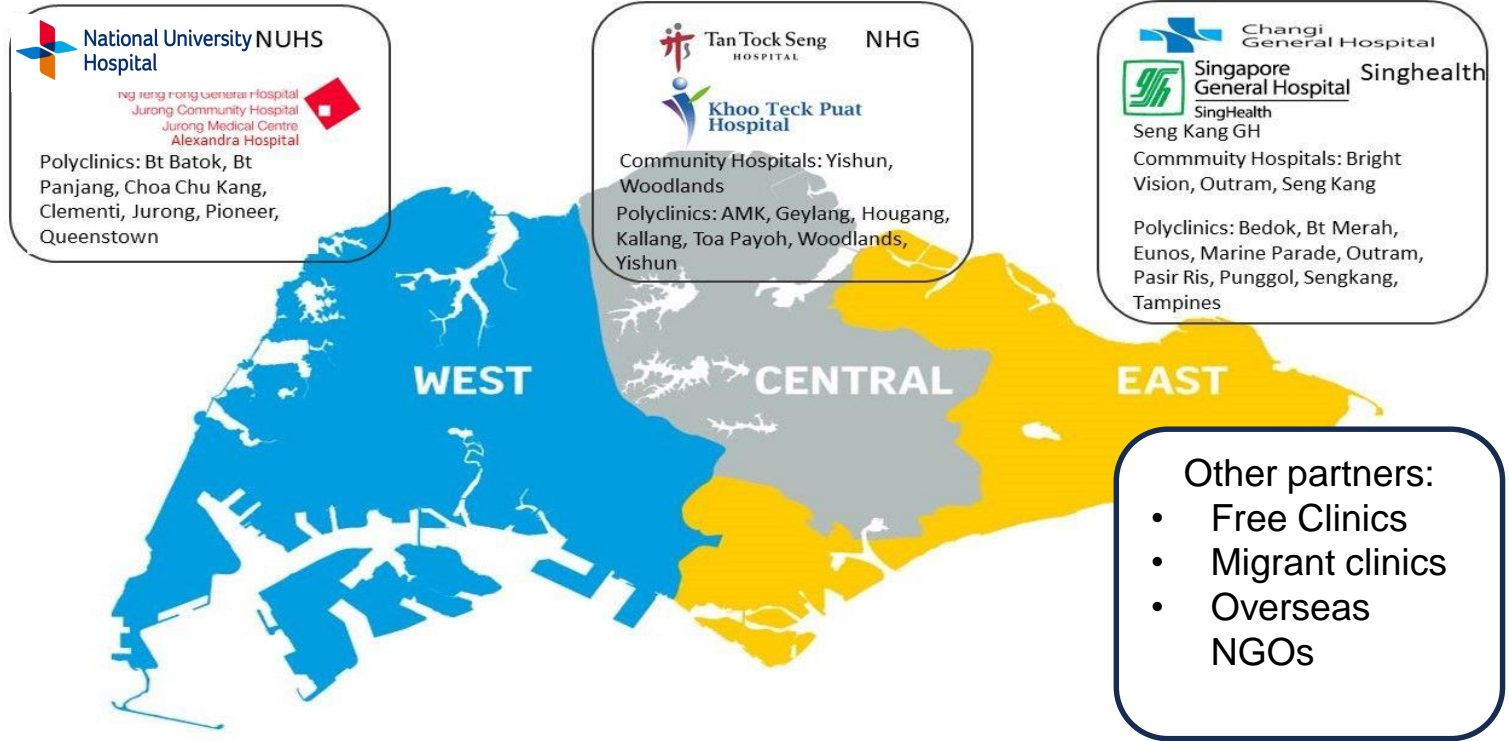
\*Collection modes: CHT home visit (if there are any other requirements eg, checking compliance/pillbox packing, blood draws etc) or self-collection at TTSH



# Scaling up (Phase 3)

## Strategies for PRIME\_MEDMATCH sustainable value

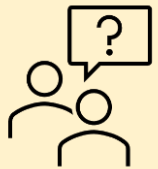
- Optimize logistics: work with logistics partner to optimize delivery routes, match delivery with home visit (if applicable)
- Use renewable energy vehicles
- Use sustainable packaging in repacking of donated medications
- Implement digital solutions to track and reduce carbon footprint through data analytics
- Educate stakeholders involved in program about sustainable practices



Medication management to be governed by clinical governance specific to clusters (optimized through geographical segmentation)

- **Centralised** locations for collecting donated medications
- **Nominal fee** from recipients to defray operational costs

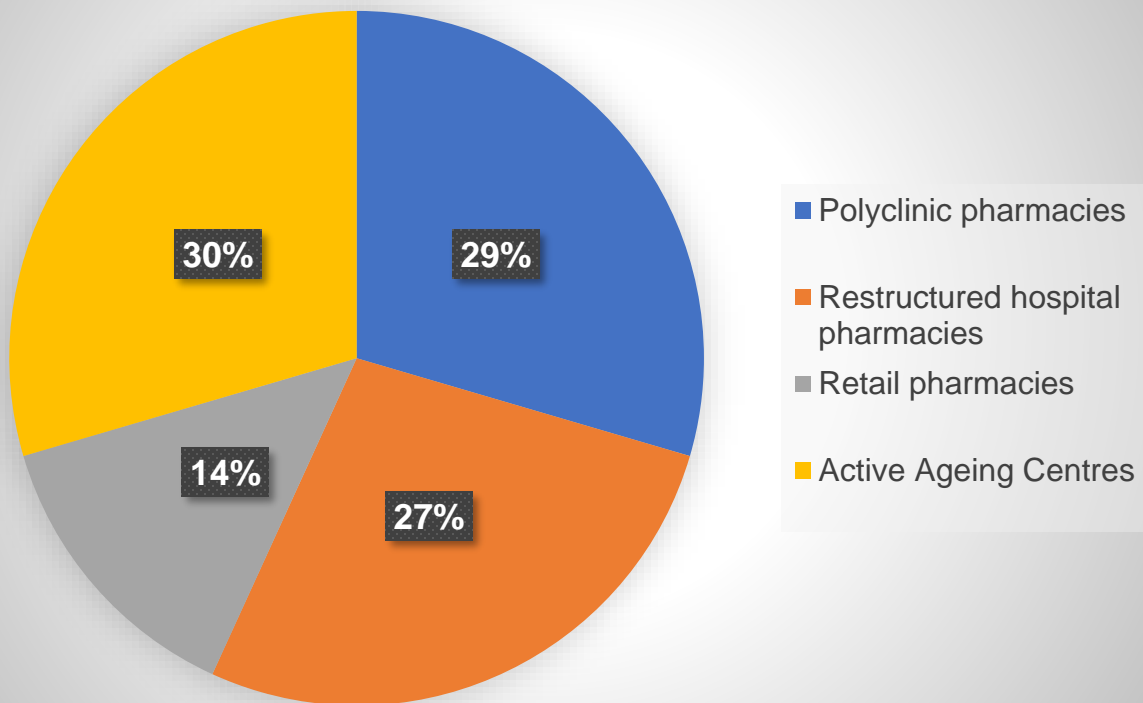
“Free clinics, hospices, and migrant clinics were willing to use redistributed **unused medication with 1 to 3 months of shelf life**, if in good condition.”



# Survey results

## Scaling up Phase 3

Donation sites perceived to be accessible (n=16)



Survey on community patients, May 2024

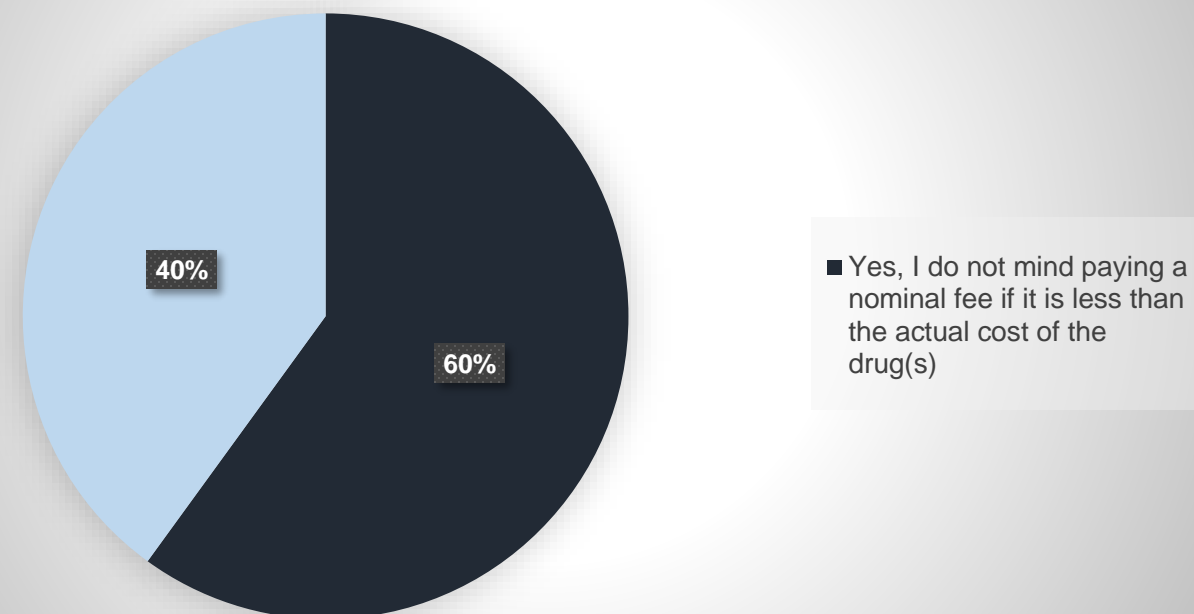
How can the public benefit from donations?  
Lower cost or free medication for the elderly and low-income individuals?

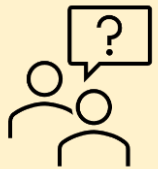
Environmental concerns alone aren't enough for me to go out of my way to donate.

I would be interested to donate but haven't found the opportunity. How can we ensure that all donated medication has been properly stored, including during transport to the donation point?

I always thought it was wasteful that unopened and unexpired medication couldn't be accepted locally. These could help those in need, especially when medication is expensive.

Willingness to pay a nominal fee for receiving donated medications (n=15)





# Scaling up (Phase 3)

## Longevity of solution

### Integration plan for the solution with Business-as-usual needs

- **Improve health literacy** of public (knowledge of balance meds at home) and encourage appropriate HCP prescribing habits
- Strategies to **increase trust** amongst general public to the use of donated medications
- **Change management:** Collection of suitable donated medications via checklists, workflow changes for HCP
- **Future model:** Self- help digital platform @ MedMatch for patients to place request. MedMatch will match request with available donated medications > improves access and efficiency

PRIME MEDMATCH

#### Envisioned final goal

- Run MedMatch service in Singapore, staffed by Pharmacists and Pharmacy support staff.
- Charge nominal fee for matching and storage to donees.
- Expand to high-cost medications (e.g. oncology/ transplant medications)

#### Expand collaboration with overseas partners

- Explore export of donated medications to needy countries via NGOs

5 year plan

04

#### Expand local collaboration with community partners and PHIs

- Collaborate with community partners (senior activity center, RC) to deposit unused medications and nurse home as collection sites
- Work with PHI (ALPS) or GP to divert short expiry medications for donations to reduce write offs

3 year plan

03

#### MEDMATCH Optimization & target upstream solutions

- Optimize matching process, including creating indemnity forms to protect the interests of Prime-MEDMATCH members, donors and donees
- Secure storage location for donated medications
- Improve patients and caregiver's health literacy towards medication management (being aware of balance at home and not hoarding) through outreach
- Work with prescribers to tackle upstream issues to reduce overprescribing, deprescribing.

1 year plan

02

#### Project Proposal Write up

- Establish SOP for medication donation and reuse among TTSH home team patients

Here Now!

Q2 '24



# Scaling up (Phase 3)

## Addressing upstream issues

**Medication Supply Balance Form: Remaining Supplies At Home**

1. Please fill in this form if you have remaining supply of **unexpired** medications at home and wish to purchase less medication.  
2. It is preferred that the form is filled **after the last dose** of medication, **right before the next visit** to the pharmacy.  
3. **On your next visit**, submit this form to the pharmacy staff when you obtain your queue ticket.  
4. If you have any enquiries please contact us at 6357 2040.

Patient's Name / NRIC : \_\_\_\_\_  
Form Written By : \_\_\_\_\_

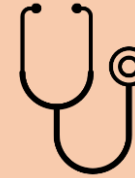
Current Medications at Home

Name of Medication	Strength of Medication (mg, mcg, g)	Quantity (no. of capsules, tablets)

To minimise medication wastage upstream, we propose tools such as **balance supply forms** (refer to picture):

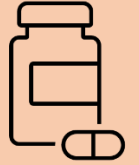
- Patients can be empowered to **track their home supply** of their medications and collect sufficient till next doctor's appointment
- Doctors and pharmacists can also use the form to **avoid prescribing and dispensing excess quantities** of medications

**Doctors**



Avoid over prescribing

**Pharmacists**



Minimize excessive dispensing of meds

Reducing Medication Waste

**Patients**



Empowerment through education to track home balance and collect what is needed

**Healthcare team**



Deprescribing of unnecessary medications

# (ANNEX)PRIME\_MEDMATCH

## Problem Statement

Unused medications are a major source of wastage in healthcare systems!

## Why?



Huge problem of unused and reusable medications in Singapore!



No avenues to reuse medications  
80% of participants were willing to donate their unused medicine in good conditions.



No Regulations that govern re-dispensing of donated meds

## How? MedMatch

Develop framework with SOPs for the collection and distribution of donated medications to ensure the legality of re-dispensing

Carry out a pilot to match donated unused medications to suitable recipients

Centralise collection and redistribution sites

Craft Indemnity forms to be signed by donors and recipients

Digitalize MedMatch

## What? Longevity of Solution

- Run MedMatch service in Singapore, staffed by Pharmacists and Pharmacy support staff enabled by Digital Platform
- Charge nominal fee for matching, storage and transport to recipients
- Expand to high-cost medications (e.g. oncology/ transplant medications)
- Obtain endorsement to legalize the safe reuse of donated medications – critical for health professional buy-in

## KEY ENABLERS



Digital Platform for MedMatch



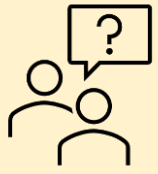
SOPs for Reuse of Medications



Drug Inventory & Labelling System



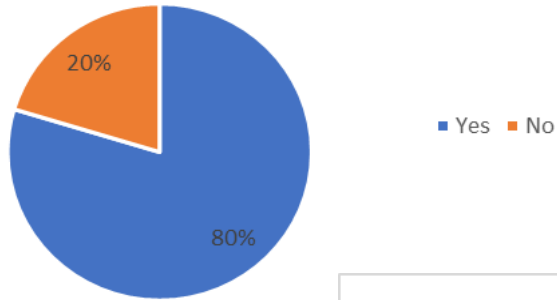
Regulatory body endorsement



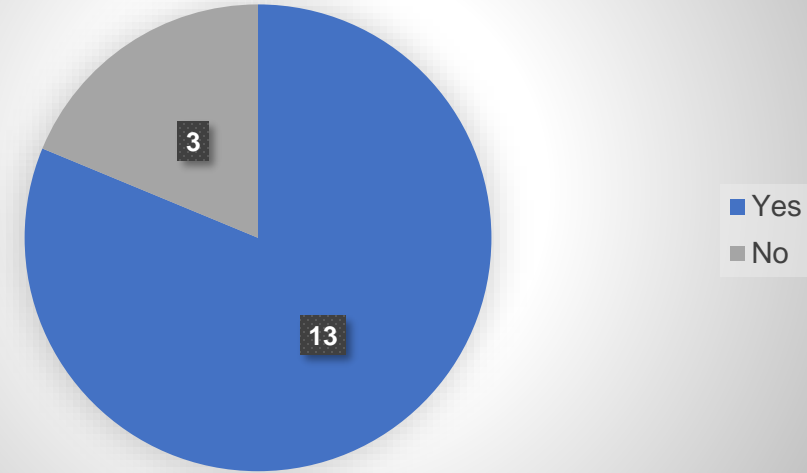
# Survey results (Public perception)

## Willingness to donate unused medications

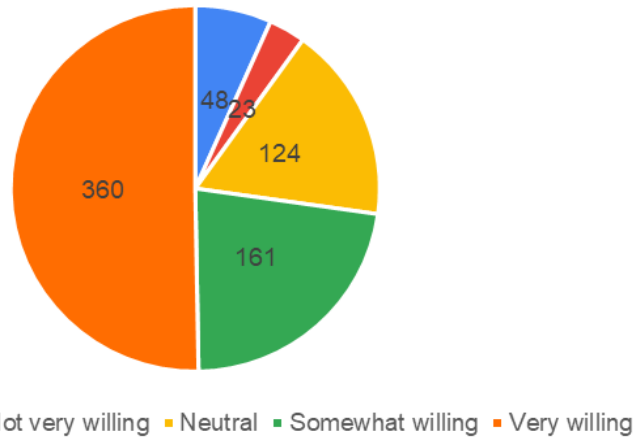
Willingness to donate meds (in good condition)(n=59)



If you could donate your excess and non-expired medications, would you do so? (n=16)



Respondent's willingness to donate your excess unexpired and unopened medication?(n=716)



Survey on community patients, May 2024

\*RemediSG Survey May/June 2024

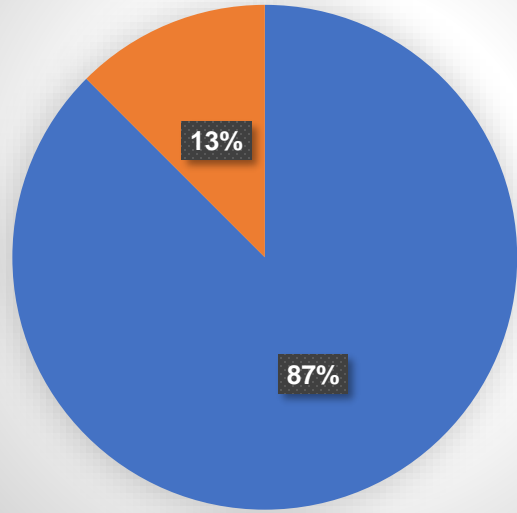
- 73-81% of respondents (N=716) are willing to donate excess medications



# Survey results (Public perception)

## Willingness to use unused medications

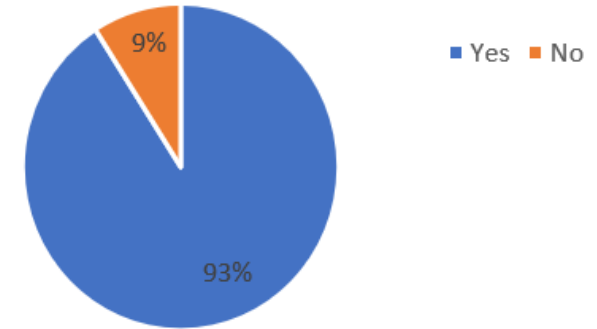
Willingness to receive donated medications that are not expired and in good condition (n=16)



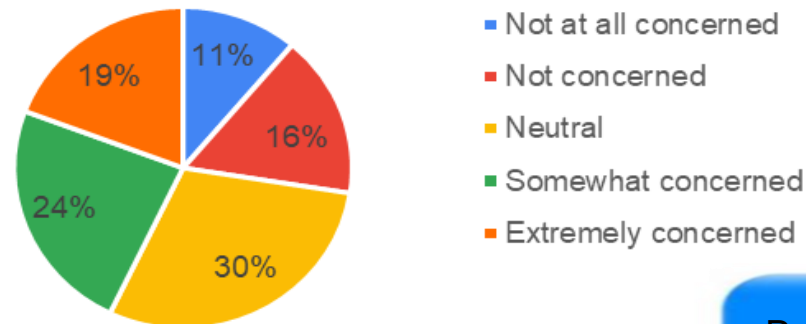
- Majority are willing to receive donated meds in good condition, more so if medications are costly (>\$2k/mth)

■ Yes  
■ No

Willing to use donated meds (in good condition) if cost of medication is >\$2K per month? (n=54)



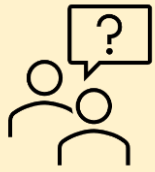
How concerned would you be if a licensed healthcare provider dispenses donated medication, which they have verified to be safe and of good quality, to you or your family members? (n=716)



■ Not at all concerned  
■ Not concerned  
■ Neutral  
■ Somewhat concerned  
■ Extremely concerned

Patient 1: "Can reduce waste and cost, why not?"





# Concerns of medication stability/efficacy

## HSA Guidelines on assaying medication stability

ii. Stability studies should generally be conducted under the following storage condition:

STUDY/TYPE OF CONTAINER	STORAGE CONDITION
Long term (for products in primary containers semi-permeable to water vapour)	30°C ± 2°C/75% RH ± 5% RH
Long term (for products in primary containers impermeable to water vapour)	30°C ± 2°C /RH not specified
Accelerated	40°C ± 2°C/75% RH ± 5% RH
Stress testing*	40°C ± 2°C/75% RH ± 5% RH or at more stressful conditions

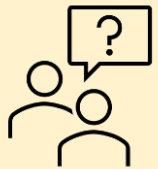
\* Stress testing is necessary for analytical method validation, pharmaceutical formulation, identifying and monitoring potential degradants during stability testing.

\*Section 4.7, ASEAN Guideline on Stability study for drug product Revision 2, 2018

### 4.7.8. Generic Products

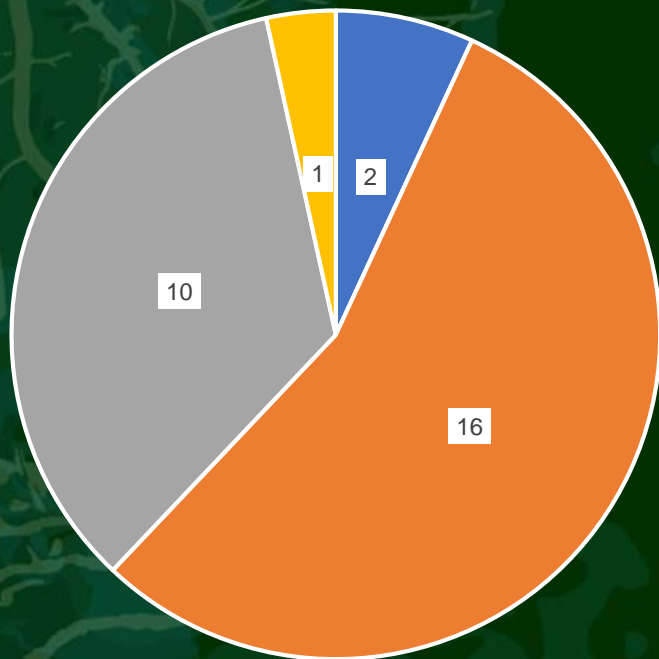
Study	Storage Condition	Minimum Time Period Covered by Data at Submission	Number of Batches
Long term	30°C ± 2°C/75% RH ± 5% RH	6 months	Min. 2 For conventional dosage form and stable drug substances
		12 months	Min.3 For critical dosage form or unstable drug substances
Accelerated	40°C ± 2°C/75% RH ± 5% RH	6 months	Min. 2 For conventional dosage form and stable drug substances
			Min.3 For critical dosage form or unstable drug substances

- HSA mandates testing of drugs to the following conditions as stated above (up to 40+/- 2 degrees Celsius) for 6 months prior drug registration (for supply) in Singapore



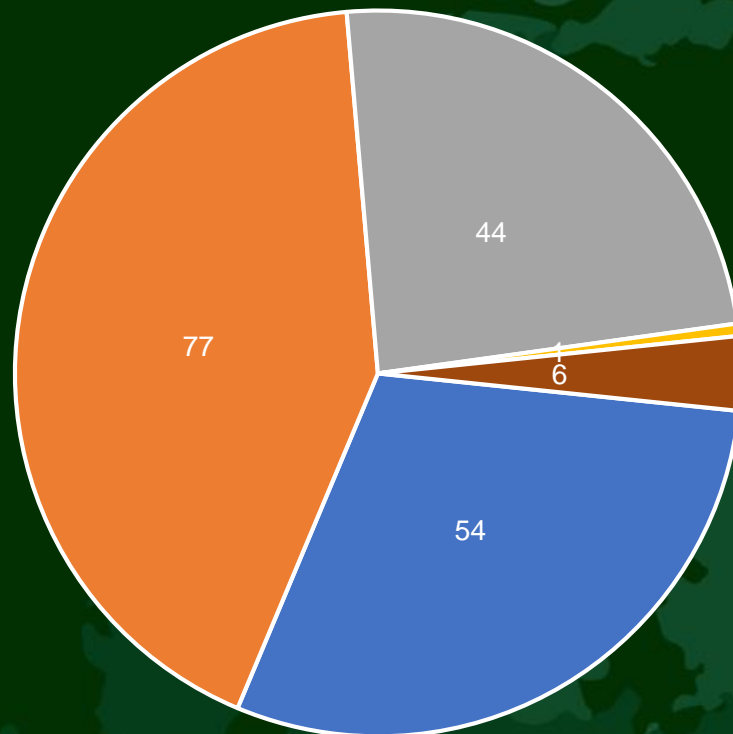
# Survey results (Healthcare professionals' perception)

Confidence level of current workplace procedures to ensure safety and efficacy of unused/returned medications (n=29)

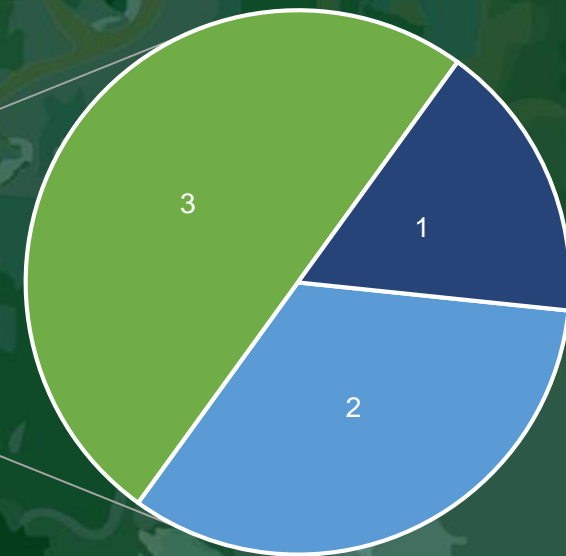


- Very confident
- Somewhat confident
- Neutral
- Not very confident

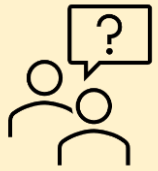
Consideration factors for medication redistribution (n=100)



- Availability
- Prescription needs
- Others: packaging integrity intact
- Others: if patients/next-of-kins are agreeable

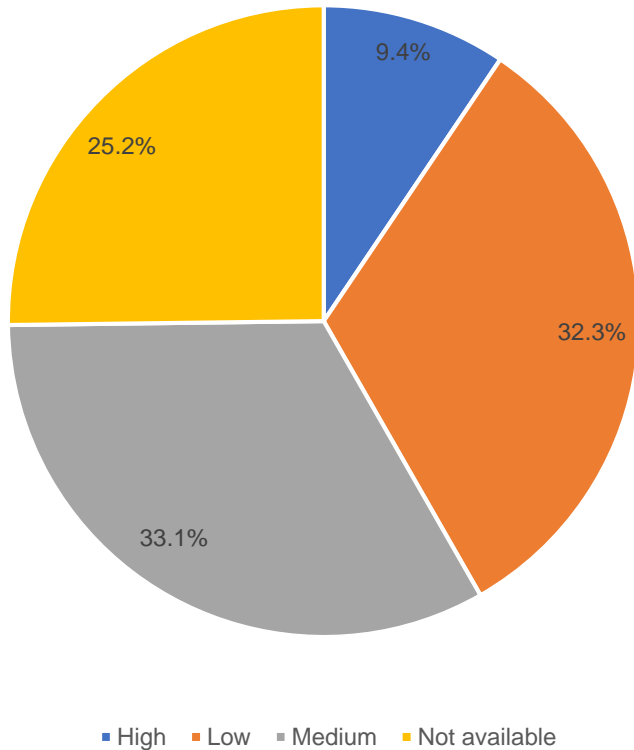


- Financial needs
- Others: Reducing healthcare cost
- Others: not supportive of redistribution



# Carbon Footprint Ratings via MCF formulary as carbon footprint of all medications are not readily available

Carbon Footprint Classification of Donated Medications



The **M**edicine **C**arbon **F**ootprint Formulary gives standardised per dose carbon footprint ratings for thousands of medicines. Watch the [Quick Start video](#) to learn more.

Start typing to find a medicine

MCF Formulary is designed to provide an accessible, user-friendly interface to explore the per dose carbon footprints of thousands of medicines, categorised into one of four MCF Ratings - LOW, MEDIUM, HIGH, and VERY HIGH.

### Creators and Contributors

MCF Classifier and Formulary were co-created by physician-scientist Nazneen Rahman and data scientist Haroon Taylor, from YewMaker, supported by diverse contributors, collaborators, advisors, and funders.

<https://formulary.yewmaker.com/>

SIT carbon footprint calculator--- no information available for individual drugs at the moment