

Project Title

PERMELIS - A PERsonalized Medication List for our patients

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Organisation(s) Involved

SingHealth Polyclinics, SingHealth Health Services Research Centre, Singapore University of Technology and Design

Healthcare Family Group(s) Involved in this Project

Pharmacy

Applicable Specialty or Discipline

Pharmacology

Aim(s)

 To develop an application to easily and efficiently generate personalized medication lists (PMLs) as well as to determine polyclinic patients' receptiveness to use PMLs generated from the application

Background

See poster appended/ below

Methods

See poster appended/ below



Results

See poster appended/ below

Conclusion

See poster appended/ below

Additional Information

Singapore Healthcare Management Congress 2022 – Merit Award (Patient Experience category)

Project Category

Care Continuum, Preventive Care, Patient Education

Care & Process Redesign, Value-based Care, Patient Satisfaction

Technology, Digitalisation, Systems/Platforms

Keywords

Personalised Medication, Medication Counselling, Patient Education, Medication Understanding, Medication Adherence, Safe Use of Medication

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Polyclinics

A PERsonalized Medication List for our patients

Singapore Healthcare Management 2022

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Aim

To develop an application to easily and efficiently generate personalized medication lists (PMLs), as well as to determine polyclinic patients' receptiveness to use PMLs generated from the application.



• Use of PMLs has been shown to improve patients' understanding of their medications.^[3]

Links



Scan the QR code to access the video demonstration

Motivation

- Patients' understanding of their medications is key to continued adherence and safety.^[1]
- In Singapore, medication understanding is sub-optimal, especially among patients with multiple medications prescribed.^[2]

Methodology

1. Conceptualization

Operational concept sketch (right) mapped out application requirements, architecture and layout.

2. Design Thinking

Design concept was conceived based on user personas of pharmacists, doctors, nurses and patients.

3. Agile Development

Functionality and design were refined continuously based on iterative feedback from pharmacists, doctors, nurses and patients till the final version.

4. Deployment

Application was deployed on Amazon Web Services (AWS) to make access ubiquitous via the Internet.

5. Survey

Pilot ran in SHP-Bedok for 1 month with 30 patients surveyed.

User selects either the Catalogue Tab or Admin Entry Tab upon entry	for the selected medication.
2 If the Catalogue Tab is chosen:	Glimepiride
Enter Drug Name	Glimepiride (Img)
Cuide to Catalogue Helpful Resources To find out more about your medication, enter the nearms of your medication about 2 Solect the aggregative medication in the enter the asserts must learn the tright. 3 How to Use an Inhaler (Respinal) 2 How to Use an Inhaler (Respinal) 3 How to Use an Inhaler (Respinal) 3 How to Administration of the enter the medications, chick 4 How to Administration of the medications, thick 4 How to Weel an Eye Drops 5 How to How Eye Drops 5 How to How Eye Drops 5 How to How Eye Drops	Brand Name: Amaryl Generic Name: Glimepiride Unit Cost: \$32.50
For additional assistance, contact us	Search for other medications as well by changing the name in the search bar.
or All Users: uick guide to using the website, with	5 If the Admin Entry Tab is chosen:
yperlinks to the Admin Entry Tab and an email ddress to contact if additional assistance is equired.	Polyclinics Singleath
or Physicians: Direct access to search bar that takes in Drug lame. Or Patients: Direct access to helpful resources, with images included for easy identification and a hyperlink to the SingHealth YouTube channel. Thus, a seful guide for patients with regards to the	Staff Login Staff ID Password Submit
Ministration of their medications. Once the drug name is entered into the search bar, select the appropriate dose.	Directs user to Staff Entry portal to ensure only registered users can make changes to the database.
Climepiride Q	modify it or add a new one.
	Rojectnics Stepfenth
limepiride(2mg)	No Entry Img Brand Generic Cost 1 Climepiride (Img) 1.png Amaryl Climepiride 32.50
matyf 2., CE	2 Climepiride (2mg) 2.png Amaryl Climepiride 42.50
	3 Glimepiride (3mg) 3.png Amaryl Glimepiride 52.50
water and a second seco	
and the second se	
mepiride(3mg)	Save Changes



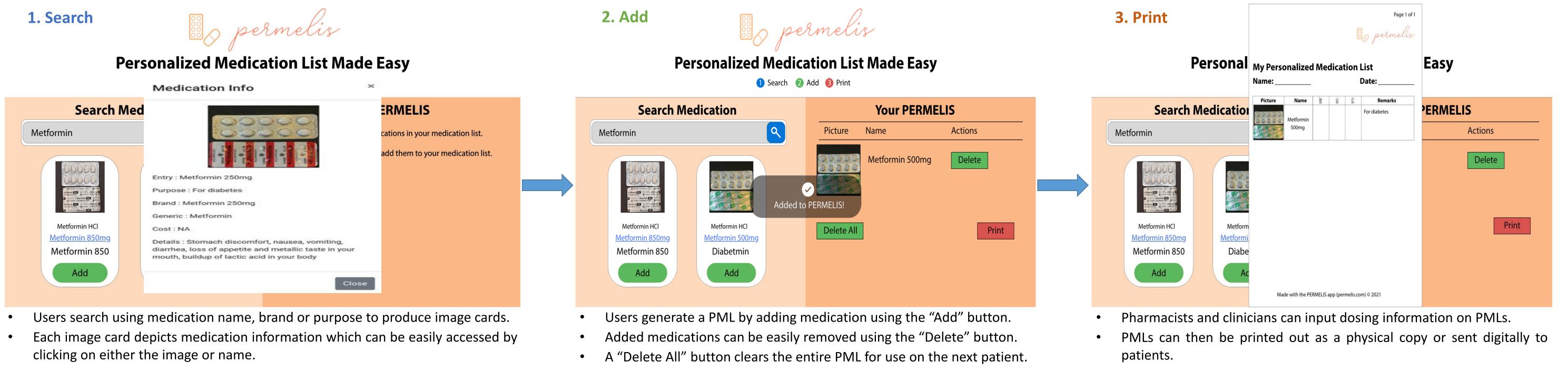




Results

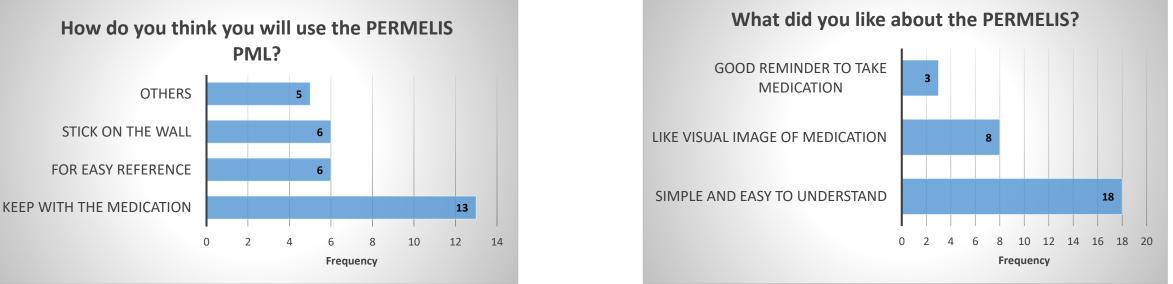
PERMELIS is a lightweight web application that contains information and images of over 450 medications from the polyclinic formulary.

- It enables pharmacists and clinicians to efficiently generate PMLs featuring pictograms using a "Search-Add-Print" flow. \bullet
- An administrator's panel allows for easy updating of medication information, such as the addition of new medications or changes in brands and images.



Patients provided highly positive reviews regarding their satisfaction with PERMELIS and would like to continue receiving PMLs in their future visits.

Question	Median (IQR)	How do you th
I am satisfied with using the personalized medication list (PERMELIS).	5 (4 to 5)	OTHER
The PERMELIS was easy to understand and use.	5 (4 to 5)	STICK ON THE WAL
As a result of using PERMELIS, I feel that I am better able to understand my medications.	5 (4 to 5)	KEEP WITH THE MEDICATION
As a result of using PERMELIS, I feel that I am better able to cope with my medications as prescribed by my doctor/nurse.	5 (4 to 5)	



How can we improve the PERMELIS PML to better meet your needs?

I would like to continue receiving PMLs in my future visits.	5 (4 to 5)	HAVE CONTACT PERSON 1 HAVE IN MULTIPLE LANGUAGES 2
Amount I am willing to pay (SGD)	0.50 (0.125 to 1.00)	MORE DETAILS ON MEDICATION/ 3 NO COMMENT/ NO IMPROVEMENT 11
Note: The maximum score for each question is 5 ("Strongly Agree": 5, "Strongly Disagree": 1).		LARGER FONT/ LARGER PICTURE 13 0 2 4 6 8 10 12 14
		Frequency

Conclusion

- PERMELIS enables pharmacists and clinicians to easily and efficiently generate patients' PMLs, which can be used to guide patients on the use of their medications and supplement their medication counselling.
- Time saved from the ease of generating PMLs using the application can be used to provide more comprehensive medication counselling for the patients, thereby improving safe use of their medications and medication adherence.
- Patients had positive experiences with the PMLs generated by PERMELIS and they would like to continue receiving PMLs in their future visits.

References	Acknowledgements
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