



Polyclinics

A PERsonalized Medication List for our patients

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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.



Scan the QR code to access **PERMELIS**

Links

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



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.

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 13chind out more about your medication about enter the neume of your medication about behaving the medication in the encod desage of your medication in the helpful measurement leader (Breachailer) 1 How to Use an Inhaler (Breachailer) 2 Select the agregative medication in encod desage of your medication in out the helpful resources on the out the helpful resources on the right. 2 How to Use an Inhaler (Breachailer) 3 How to Administer Eye Drops S How to Weer an Eye Shield G weet of Clear our Field 3 How to Weer an Eye Shield	Amaryl Generic 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:
perlinks to the Admin Entry Tab and an email Idress to contact if additional assistance is quired.	Polyclinics Singleath
or Physicians: irect access to search bar that takes in Drug ame. or Patients: irect access to helpful resources, with images icluded for easy identification and a hyperlink o the SingHealth YouTube channel. Thus, a seful guide for patients with regards to the	Staff Login Staff ID Password Submit
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. Choose to either delete an old entry.
Climepiride	modify it or add a new one.
	Sogrado
	No Entry Img Brand Generic Cost
mepinde(2mg)	2 Climepiride (2mg) 2.png Amaryl Climepiride 42.50
	3 Climepiride (3mg) 3.png Amaryl Climepiride 52.50
Puinewa	
epiride(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.
- 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
I am satisfied with using the personalized medication list (PERMELIS).	5 (4 to 5)	OTF
The PERMELIS was easy to understand and use.	5 (4 to 5)	STICK ON THE W
As a result of using PERMELIS, I feel that I am better able to understand my medications.	5 (4 to 5)	KEEP WITH THE MEDICAT
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, "Strong	Note: The maximum score for each question is 5 ("Strongly Agree": 5, "Strongly Disagree": 1).	

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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