Use of a virtual pharmacy simulation (MyDispense) for teaching dispensing skills in first year pharmacy students.

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Introduction

- Facilitating access to medicines, currently through dispensing, is a core component of the patient care process for pharmacists.
- Errors can occur anytime during dispensing and the consequences of these can result in poor patient outcomes. Common dispensing errors are wrong medicine, form, strength, quantity, or incorrect directions on labels.\(^1\)
Vertical Integrated Masters | Design Feature

- The D.E.A.R model:
  
  **Discover** - Pre-class preparation activities.
  
  **Explore** - Interactive lectures to build upon this discovery using engaging activities.
  
  **Apply** - Small group workshops to practice the concepts and receive feedback with trained facilitators.
  
  **Reflect** - Post-class time to connect concepts, identify gaps and consider feedback.
We’re embracing technology to deliver better health outcomes.
Institutions using MyDispense: 55

Medications: 2,498

Virtual patients: 422

Virtual prescribers: 40

Exercises completed: 402,724
Technology-enabled learning - MyDispense

MyDispense information available from: https://info.mydispense.monash.edu
Objective

To determine the completion and accuracy rates of dispensing exercises in first year pharmacy students using MyDispense.
Methods

- **65** prescription exercises
- **97** medicines in total
- **179 students**

MyDispense system tracked completion & accuracy of submission
Results

What was the completion rate?

7,723 first attempts of exercises

10,597 exercises were completed (including resets)

13,154 labels were created

What was the accuracy rate?

99% correct medicine

100% correct patient

97% correct medicine quantity

99% correct prescriber
Results

In assessment, common errors included:

- 91% Incorrect directions on label
  - e.g. i prn → One (1) tablet and when necessary
  - 1 q4 days → One (1) patch every 4 hours
- 84% Incorrect frequency
- 10% Incorrect dose
- 6% Incorrect route

9% Wrong product selection and wrong label placement

- Unrelated product selected
- Multiple items on prescription and wrong label attached to wrong product
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For patches → ‘Take’ instead of ‘Apply’
Discussion

- MyDispense allowed students to practise dispensing medicines in an environment where it is safe to make mistakes and learn from these.

- Students utilise the opportunity and engaged voluntarily with the supportive learning environment.

- Students used the opportunity to practise by repeating the exercises.
Conclusion

There was high completion and accuracy rates. Future studies include to investigate student’s attitudes and values towards the opportunity to practise and engage with the supportive learning environment. In addition, additional study can determine the impact of this dispensing simulation on error rates in the community.
References


