MYDISPENSE GLOBAL SYMPOSIUM 2018

Monash University Prato Centre
15 - 18 July 2018

MyDispense
Shaping Pharmacy Education

Program Handbook

General information

MyDispense Symposium 2018

The Symposium is an opportunity to be part of growing international community, committed to working together to improve pharmacy education. The MyDispense Symposium is a truly global event and a melting pot of culture, expertise and collaboration.

Sunday 15 – Tuesday 17 July

Monash University Prato Centre

The Monash University Prato Centre, Palazzo Vaj, is ideally located in the centre of the old town, only 2-minutes' walk from the city's cathedral and close to both train stations.

The Monash University Prato Centre
Palazzo Vaj, Via Pugliesi, 26 59100 Prato, Italy
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e: info@monash.it
web: http://monash.it/

For details about the Centre's facilities and practical information on Prato, visit the Prato Centre website: www.monash.it

Free, secure wireless network is available throughout the Centre. Computers with internet access are also available in a shared computer space at the Prato Centre.

The Centre is fully air conditioned.

About Monash University

From a single campus in the 70s with fewer than 400 students, Monash has grown into a network of campuses, education centres and partnerships spanning the globe.

From collaborative research opportunities, to building community relationships, our focus is always on how we can empower our people to make a positive impact on the world.

Walking routes from Prato's Central Station and from the station Porta al Serraglio (approx. 10-15 minutes' walk time)

General information

Registration

Registration opens at 5:00pm Sunday 15 July on the first floor of the Prato Centre. You will receive a copy of the Symposium proceedings upon registration, and this will also be available on the Symposium website.

There will be a Welcome Reception with light refreshments and intro from 5.30pm-6.30pm. A Casual Welcome Dinner will be off site from 7pm.

Food and fun

Catering is provided for morning tea, lunch and afternoon tea for the duration of the Symposium.

Symposium Welcome and Opening Reception: Sunday 15 July

The Symposium registration begins at 5 pm on the Sunday. It is followed by a chance to catch up with old friends or make new connections from 5.30pm-6.30pm where there will be a Welcome Reception and introduction activity.

A Casual Welcome Dinner for all delegates will be held at Il Decanter Restaurant, Piazza delle Carceri, 1/2, 59100, Prato (just opposite the Fort so very close, within walking distance).

The Symposium dinner: Monday 16th July, 2018

7.30pm – 10.30pm Conservatorio San Niccolò, Piazza Niccolò Cardinale, 6, 59100 Prato. Within walking distance from the Monash Centre.

Join us for dinner at the magnificent Conservatorio San Niccolò, Monday 16th July 2018.

Dress code for the dinner is smart casual. We hope to see you at the Symposium dinner!

About Prato

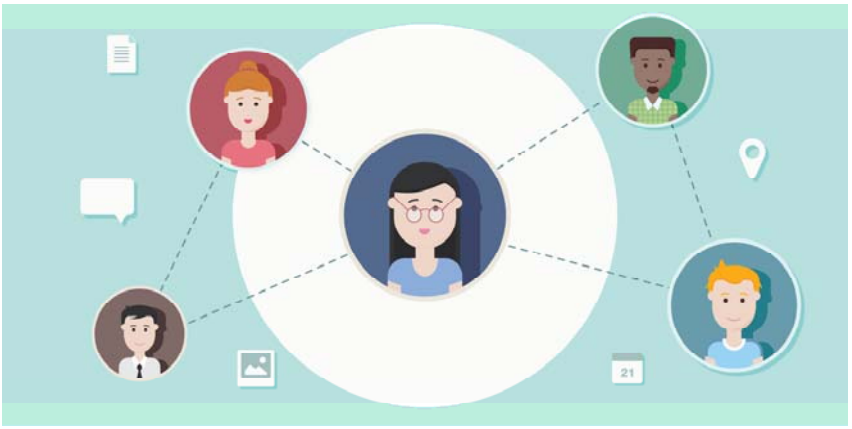
Find full details on getting to Prato, and accommodation, at: https://info.mydispense.monash.edu/community/symposium/mydispense- symposium-2018/travel-and-accommodation/

Additional detail is available in the Prato guide http://monash.it/en/about/guide-students-and-visitors and on the Prato centre website.

There are many historic areas and fascinating places to visit within easy reach of Prato. For information about visiting Prato and the surrounding area, visit: http://monash.it/about/visiting-prato

You may like to buy tickets to the Lucca Summer Festival of music. Lucca, a town about an hour from Prato, holds the festival in its open piazza. See the full schedule at http://www.summer-festival.com/home

PharmAcademy.org



PharmAcademy

Connecting with your pharmacy education colleagues around the world just got very much easier with the release of the new PharmAcademy.

PharmAcademy, the site dedicated to pharmacy education, has undergone a major transformation. In a complete rebuild, the site is now much more like a social network. Think of it as a combination of the best parts of Facebook and LinkedIn, but dedicated to pharmacy educators. It is now so much easier to share your stories, connect with colleagues, find teaching resources (and share them) and set up your own groups. Here is a rundown of the new features:

Social networking

PharmAcademy now behaves much more like the social networking tools you are familiar with. If you use Facebook or LinkedIn then you will find the new PharmAcademy very familiar. You can now easily make posts, see stories, news and updates on your personal feed and connect with others by private messaging. You can also like, share and comment on just about any item of content.

Pharmacy Education Glossary

We are calling this the 'Pharmacy Rosetta Stone'. We have created a glossary tool that demystifies the different terminology that we all use globally. For example, you say 'self-care' products, I say 'over-the-counter' products. The glossary will contain many of the clinical and educational words and phrases, along with their definitions, that are commonly used in the world of pharmacy education. It will be available as a reference for novices and those seeking alternative phrases and also as a source of synonyms for tagging content.

Events calendar

We now have a tool that pulls together all of the conferences, meetings, symposia, journal deadlines and other important dates in our calendar. You can register your interest in events and receive reminders and notifications for important dates like abstract submission deadlines. You can also add your own events to the calendar, either for personal use or to share with the PharmAcademy community.

People matching utility

This is a powerful tool for finding collaborators and partners through mutual interests. You can see who you are potentially linked to by your profile preferences and make contact with people that share your interests.

Accessing PharmAcademy

Simply go to pharmacademy.org in any browser to sign up. If you are an existing PharmAcademy member, your username and password will be the same. If you have any queries about access, membership or any other aspect of PharmAcademy, contact Keith Sewell, keith.sewell@monash.edu.

Program

Sunday 15th July	
From 5.00 pm	Registration
5.30 – 6.00 pm	Get your avatar made
6.00 pm	Welcome Reception

Monday 16th July	
9.00 – 9.30 am	Welcome
9.30 – 10.30 am	Learn how to use MyDispense in your curriculum
10.30 – 11.00 am	Morning tea
11.00 – 12.30 pm	Workshop: Harness the full power of the MyDispense software with the experts
12.30 – 1.00 pm	Lunch
1.00 – 2.45 pm	Workshop: Learn how to use MyDispense for assessment
2.45 – 3.00 pm	Snapshot presentations I *Simulation Teaching Innovation*
3.00 – 3.30 pm	Afternoon tea *Poster Session*
3.30 – 5.00 pm	Be the first to see the new release of MyDispense version 6.
7.30 pm	Symposium dinner *Conservatorio San Niccolò, Piazza Niccolò Cardinale, 6, 59100 Prato.*

Tuesday 17th July	
9.00 – 9.30 am	Snapshot presentations II *MyDispense Research / MyDispense Sharing of Practice*
9.30 – 10.30 am	Workshop: Scholarship / education research
10.30 – 11.00 am	Morning tea *Poster Session*
11.00 – 12.30 pm	Help to set the goals for future developments in MyDispense
12.30 – 1.00 pm	Lunch
1.30 – 3.00 pm	Workshop: Work with colleagues from around the world to create new cases that truly reflect global pharmacy
3.00 – 3.30 pm	Afternoon tea
3.30 – 4.30 pm	Global discussion / workshop
4.30 pm	Closing discussion

Poster Snapshot Sessions

Poster Snapshot Session I: Simulation Teaching Innovation **Monday 16 July: 2.45–3.00 pm**
STIP1. Aksoy, Nilay Economic consideration of patient high fidelity simulation system
STIP2. Savage, Amanda Resources needed to implement a comprehensive assessment of the Pharmacists' Patient Care Process in a simulation-based laboratory course
STIP3. Nazar, Hamde Providing training of the dispensing process and procedures in a high fidelity environment

Poster Snapshot Session I: MyDispense Research /MyDispense Sharing of Practice **Tuesday 17 July: 11.00–11.30 am**
MRP1. Komperda, Kathy Effects of virtual simulation on students' ability to assess self-care patient cases.
MRP2. Fjortoft, Nancy Integration of MyDispense in a Doctor of Pharmacy Curriculum in the U.S: Lessons Learned
MRP3. Seubert, Liza Connecting two pieces of separate puzzles: A MyDispense experience
MRP4. Holle, Lisa Integration of MyDispense in an experiential education program to improve student preparedness of prescription processing and medication safety
MRP5. Holle, Lisa Use of MyDispense pharmacy simulation program in integrated review of pharmacy law
MRP6. Silkstone, Victoria Implementation of a virtual dispensing system (MyDispense) into the Mpharm curriculum at the University of Manchester
MR7P. Kelling, Sarah Use of online simulation in a required self-care therapeutics course
MRP8. Nicolazzo, Joseph Use of MyDispense to dispense extemporaneously-prepared formulations
MRP9. Monera-Penduka, Tsitsi Collaborative development of a virtual Pharmacy Practice skills laboratory at the University of Zimbabwe School of Pharmacy
MRP10. Kebodeaux, Clark Student Pharmacist Performance on an Objective Structured Clinical Examination (OSCE) using Community Pharmacy Simulation (MyDispense)

Abstracts

STIP1: Economic consideration of patient high fidelity simulation system

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Presenting author: Nilay Aksoy

Keywords: simulation, economic, apprenticeships, education, pharmacy

Aim
The effective use of simulation in medical education was approved by many studies.[1] The advantages of the simulation system encourages its usage in the innovative pharmacy education system. Less ethical concerns, controlled and safe education environment and clinical site response are main logical advantages of this system. Whereas increase in self-confidence, decrease in performance stress, increase in knowledge and subsequently decrease in medication error are the desired educational outcomes.[2] The study aims to evaluate the economic impact of using simulation system in clinical pharmacy apprenticeships.

Methods
Calculate the cost/student/day for the real field clinical apprenticeship using data from the financial Office of Altinbas University and compare it with the cost of simulation system (METI Man HPS (CAE)).

Results
The cost of real field clinical apprenticeship is 12$/student/day. For 100 students the cost for 60 days (the mandatory apprenticeship) for one year was 72,000 $. The cost of METI Man HPS (CAE) is 200,000$.[3]

Conclusion
The results show that the cost of high fidelity simulation system is a worthwhile investment for long term. The average cost of the unit can be covered within three years and after these years the cost of apprenticeship will be nearly free.

References
1. Okuda, Y., Bryson, E.O., DeMaria, S., Jacobson, L., Quinones, J., Shen, B. &Levine, A.I., (2009). The utility of simulation in medical education: what is the evidence?. Mount Sinai Journal of Medicine: A Journal of Translational and Personalized Medicine, 76, 330-343. 2. Carroll, J.D. & Messenger, J.C., (2008). Medical simulation: the new tool for training and skill assessment. Perspectives in Biology and Medicine, 51, 47-60. 3. Lapkin, S. a & Levett-Jones, T., (2011). A cost–utility analysis of medium vs. high-fidelity human patient simulation manikins in nursing education. Journal of Clinical Nursing, 20, 3543-3552.

STIP2: Resources needed to implement a comprehensive assessment of the Pharmacists' Patient Care Process in a simulation-based laboratory course

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Keywords: pharmacy education, simulation training, patient care

Aim
To describe the resources needed to implement a comprehensive assessment of the Joint Commission of Pharmacy Practitioners Pharmacists' Patient Care Process (PPCP) in a required simulation-based laboratory course.

Abstracts

Methods
First year student pharmacists enrolled in a laboratory course were taught to apply the PPCP through weekly-simulated activities and individualized assessments using two longitudinal patient cases. The comprehensive final assessment involved a single patient case and students sequentially progressed through six PPCP stations. The stations included: 1) electronic health record, 2) patient interview, 3) assessment and plan, 4) presentation to preceptor, 5) medication education, and 6) documentation. The exam was administered over two 10-hour days. Students completed two stations on day 1 and were given a full day to develop an assessment and plan before completing the remaining stations on day 2. Individual student time commitment was 2 hours each day. Live assessments were performed in simulated patient exam rooms with standardized patients/preceptors. Resources needed to implement this assessment were evaluated.

Results
144 students completed the assessment. On day 1, implementation resources included: 2 faculty, 1 administrative staff, 12 post-graduate teaching assistants (TAs), 4 student TAs, 8 standardized patients (SPs), 8 patient care rooms, and 3 classrooms. On day 2, implementation resources included: 2 faculty, 2 administrative staff, 12 post-graduate TAs, 2 student TAs, 7 SPs, 14 patient care rooms, and 2 classrooms.

Conclusion
While a comprehensive assessment of the entire PPCP is resource intensive, it is a unique teaching method to enhance student learning and prepare for patient encounters during initial clinical experiences.

STIP3: Providing training of the dispensing process and procedures in a high fidelity environment high fidelity simulation experiential learning

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Keywords: high fidelity simulation, experiential learning

Aim
To describe the implementation of high fidelity training in a live hospital dispensary to teach about medication dispensing processes and procedures in an undergraduate Pharmacy programme.

Methods
The live dispensary of a large teaching hospital served as the location, setting and resources to provide undergraduate Pharmacy students the opportunity to develop skills and knowledge. Students were required to undertake legal and clinical checks and process mock patient hospital prescriptions using true-to-life dispensing systems and medications. Students were required to record their experiences in their professional portfolio in the form of blogs. Blog entries were analysed via content analysis to investigate the nature of student observations and reflections. Students are debriefed by academic staff on the dispensing sessions. At this stage no further online simulated materials or platforms, e.g. MyDispense, have been employed to support learning.

Results
102 blog entries were retrieved from the professional portfolios from 48 students across four dispensing sessions. Observations and experiences reflect the specific dispensing activities but also demonstrate evidence of students developing their understanding of professional identity.

Conclusion
The high fidelity teaching of students about the dispensing process in a live dispensary supports the development of knowledge and skills. The work-based nature of this approach provides experiential learning opportunities for students to observe and participate in the professional community of practice.

Abstracts

MRP1. Effects of virtual simulation on students' ability to assess self-care patient cases.

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Keywords: simulation, pharmaceutical education, evaluation

Aim
To evaluate the effectiveness of virtual simulation on students' ability to assess and formulate a plan for patients seeking self-care and to describe student perceptions of virtual simulation in self-care pharmacy education.

Methods
In a third-year course, students are assessed on their ability to make a recommendation for a patient seeking self-care. This assessment is a standardized patient (SP) case graded using a checklist. Previously, students prepared by participating in workshops and lectures only. This year students continued workshops and lecture but MyDispense was also assigned. Student performance after using MyDispense (Class of 2019) was compared to the previous year (Class of 2018). Six cases were used for the SP assessment. Maximum possible score was 20. A survey was administered to the Class of 2019. Statistics used were chi-square, Fischer's exact, t-test and descriptive as appropriate.

Results
Data from 135 students in the Class of 2019 were compared to 175 students in the Class of 2018. No differences were detected between the mean total scores of all cases when the Class of 2019 was compared to Class of 2018 (16.89 vs 17.22, respectively). A significant difference was only detected for Case 4 (15.91 vs 18.02, 2019 vs 2018 respectively, $p<0.001$). Significant differences on the checklist were identified for 6 items ($P<0.05$). Survey response rate was 12.5%. Over 90% of students agreed or strongly agreed they will be able to apply what they learned in MyDispense to their future practice.

Conclusion
Virtual simulation may impact students' ability to make self-care recommendations. However, not all changes identified were positive. Students did positively review MyDispense and felt it was useful as they prepared for future practice.

MRP2. Integration of MyDispense in a Doctor of Pharmacy Curriculum in the U.S: Lessons Learned

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Keywords: curriculum, instruction

Aim
To determine if MyDispense was the appropriate technology to teach prescription processing in the community practice setting in a Doctor of Pharmacy program. To determine appropriate placement in the curriculum for this learning, and to implement the technology and evaluate outcomes.

Methods
Faculty built the infrastructure, learned the program, developed learning units, and pilot tested the learning units. Additional learning units were added to additional courses after the pilot test. Evaluation of the technology included a short survey to students and informal conversations with faculty.

Abstracts

Results
Students indicated a high level of satisfaction with the learning technology and demonstrated reasonable usage of the practice and graded assessments. Faculty comments indicated further integration of the technology in the curriculum was warranted. Additional courses and learning units were identified and developed.

Conclusion
MyDispense was effective in teaching prescription processing in the community setting. In addition, learning units were developed to teach students how to provide over-the-counter medication recommendations to patients. Sufficient faculty and staff resources are critical to successful implementation.

MRP3. Connecting two pieces of separate puzzles: A MyDispense experience

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Presenting author: Liza J Seubert

Keywords: simulation, pharmacy

Aim
Our Master of Pharmacy students apply their learning and hone skills in simulated learning (SL) tutorials. Clinical tutors role-play prescription based scenarios with students who, as the pharmacist, greet the 'patient', gather information and determine appropriateness then dispense and supply the medicine with advice to the 'patient'. Simulating dispensing environments on campus raised issues not faced in community pharmacy: •maintaining 20 computers and label printers with regular dispensing software updates and recurrent networking issues • maintaining medicine stock that was current in sufficient quantities We decided to trial MyDispense to address these issues. The multi-device support provided by MyDispense allows students program access on their own devices on and off campus. It also eliminates the need for printers and holding medicine stock.

Methods
System capabilities and limitations in order to meet tutorial learning outcomes were identified. IT set up of 'single sign on' capability. Existing scenario information was transferred to suit MyDispense format then beta tested. A training workshop was developed and delivered to tutors to familiarise them with MyDispense. Similarly, a workshop was developed and delivered to students to walk them through the MyDispense dispensing process. Students were provided with a number of sample cases to practise with prior to the first SL tutorial.

Results
We reflected on the two models post trial. Students and tutors adapted quickly to MyDispense preferring it to the old model. The change encouraged us to re-evaluate tutorial learning outcomes.

Conclusion
This year we will trial separating the procedural aspect of dispensing from cognitive and communication skill development

Abstracts

MRP4. Integration of MyDispense in an experiential education program to improve student preparedness of prescription processing and medication safety

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Presenting author: Lisa Holle

Keywords: pharmaceutical education, pharmacy, simulated environment

Aim

Evaluate student preparedness for community introductory pharmacy practice experiences (IPPEs) using MyDispense at UConn School of Pharmacy.

Methods

First-year pharmacy students and their assigned community IPPE pharmacist preceptors were eligible to participate. Students were divided into 4 groups based on previous community pharmacy experience (> or < 50 hours) and randomized to complete 40 MyDispense exercises before starting IPPE or after 24-32 hours of IPPE. Preceptors were blinded to their student's group and completed a 6-item readiness survey after the student completed 24-32 IPPE hours. Following exercise completion, students were to complete an anonymous 8-item survey evaluating their performance and use of MyDispense. All surveys were administered using Qualtrics. Descriptive statistics were used to characterize data.

Results

Two cohorts enrolled in consecutive years: Cohort I (88 students, 27 preceptors) and Cohort II (22 students, 19 preceptors). In both cohorts, students felt confident in their ability to manage assigned tasks with median Likert scores of 3-4 (5-point scale). Preceptors displayed less confidence in students with varying median scores of 2-6. In first cohort, preceptors rated students lower than the students themselves on dispensing activities ($p<0.001$), but not counseling activities. Students who completed the exercises before rotation received higher preceptor scores for patient counseling than those who did exercises after starting rotation ($p<0.0047$); results of Cohort II and combined data will be presented at symposium.

Conclusion

MyDispense can be an effective teaching tool for students before beginning community practice rotations. Refinement and implementation of MyDispense into this course will be discussed.

MRP5. Use of MyDispense pharmacy simulation program in integrated review of pharmacy law

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Keywords: pharmacy, pharmaceutical education, law related education

Aim

At UConn School of Pharmacy, students receive formal pharmacy law instruction in the second professional year and a review immediately before graduation; yet feel unprepared for licensing examination. The aim of this study was to evaluate student perceptions on need for additional law instruction and use of MyDispense for this instruction.

Methods

This Institutional Review Board–approved study was conducted in a case study class attended by all eligible professional year 3 students. Students were required to complete eight MyDispense exercises individually before class and five exercises within groups during class. Participating students completed a survey on the use of MyDispense for pharmacy law review, including the timing of review, exercise content, and applicability/comprehensiveness of exercises. The survey was administered through Qualtrics.

Abstracts

Results
Thirty-eight students (41%) completed the survey. Overall, students felt exercises improved their understanding of pharmacy laws and were more challenging than previous lectures; mean scores > 3 (4-point Likert Scale). Additionally, most students felt MyDispense improved recall (86.5%) and was more enjoyable (71%). Student-recommended future topics include state laws versus pharmacy policies; and suggested removal of prescription verification exercises. Students felt certain topics were not suited for simulation (eg. prescription fraud) and some were irrelevant to practice experiences.

Conclusion
Pharmacy practice law is a valuable topic for review after formal instruction and before licensing examination. Using MyDispense for this review was well-received with room for improvement to content and answer explanations. In the future, MyDispense will be used in conjunction with lecture-based law reviews.

MRP6. Implementation of a virtual dispensing system (MyDispense) into the Mpharm curriculum at the University of Manchester

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Presenting author: Victoria Silkstone

Keywords: pharmacy, simulation

Aim
The Manchester MPharm curriculum teaches the fundamental knowledge and skills of law and dispensing in the 2nd year of the programme, via the 'Pharmacist' unit. This unit is integrated so that the teaching of the relevant law is aligned with dispensing classes where students get to apply their knowledge to simulated prescriptions in a safe environment. Student feedback suggests that although they are satisfied with the teaching and learning experience they would value additional experience of the processing of prescriptions. Our aim, therefore, was to increase prescription processing opportunities within the MPharm through the introduction of the MyDispense virtual dispensing system.

Method
Staff are working with academics from other UK Schools of Pharmacy along with the developers in Monash to develop an authentic system to simulate prescription processing in the UK. Second year students have the opportunity to undertake prescription validation and simulated dispensing activities following each dispensing class to consolidate their learning. At the end of each semester student engagement with the system will be analysed via the completion rates for each of the activities.

Results
Data from the first half of the academic year suggests that more than three-quarters of students have engaged with the MyDispense system and more than half are regularly undertaking the simulated activities.

Conclusion
Informal feedback suggests that students enjoy learning in this way at a time convenient to them. We now intend to survey the students at the end of the unit about their engagement with MyDispense and the correlation between student performance in end of year exams and their MyDispense usage will be explored.

Abstracts

MRP7. Use of online simulation in a required self-care therapeutics course

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Keywords: simulation, pharmacy, classroom research

Aims

To incorporate an online simulation (OS), MyDispense, in a first-year self-care therapeutics course and evaluate student perceptions and confidence in providing self-care recommendations.

Methods

Students completed 31 cases during the semester (4 were randomly selected to be graded), 3 cases as part of the final exam, and an online survey at the end of the semester. Results were analyzed using descriptive statistics and independent-samples t-tests and p-value <0.05 was significant. This project was exempt by the Institutional Review Board.

Results

85 students used the OS in winter 2017. Most students were 20-24 years old (n=71, 83.5%) and female (n=57, 67.1%). Many students (n=52, 61.2%) had experience working in a community pharmacy. Student reported mixed feelings about whether the OS was a valuable tool for learning the course material (agree, n=40, 47.1%; neutral n=22, 25.9%); however, they agreed that it aligned with course material (n=72, 84.7%). Cases often took 41-50 minutes to complete. Average grades increased from 80.9% for case 1 to 99.4% for case 4 and students earned an average of 96.5% on the OS portion of the final exam. At the end of the semester, students with community pharmacy work experience had higher confidence related to collecting data, assessing data, and selecting a medication regimen, but not providing patient education, triaging patients to the correct level of care, or creating a follow-up plan (table 1).

Conclusion

Students had mixed perceptions about using OS to learn self-care material; however, their ability to accurately complete cases increased throughout the semester.

MRP8. Use of MyDispense to dispense extemporaneously-prepared formulations

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Presenting author: Joseph Nicolazzo

Keywords: extemporaneous, MyDispense, labels

Aims

To develop approaches for students to dispense and prepare labels for prescriptions of extemporaneous formulations using MyDispense.

Methods

Prescriptions for solutions, suspensions, creams and ointments were developed in MyDispense and released to students at least 1 week prior to the practical class to allow dispensing and printing of labels in advance of the class. Special programming was developed to ensure most components of dispensing an extemporaneous formulation were captured (e.g. formulation name, dosing instructions) and to ensure an appropriate label size could be generated as a PDF.

Results

All students engaged with MyDispense and prepared their labels prior to entry to the laboratory class. Over a 6-week period, more than 1000 labels for extemporaneous formulations were created. Informal student feedback suggests the process was seamless and built upon dispensing activities in Year 1.

Abstracts

Conclusion
MyDispense is a useful tool which can be adapted for dispensing prescriptions for extemporaneously-prepared formulations.

MRP9. Monera-Penduka, Tsitsi Collaborative development of a virtual Pharmacy Practice skills laboratory at the University of Zimbabwe School of Pharmacy

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Presenting author: Tsitsi G Monera-Penduka

Keywords: pharmacy education, skills, virtual classroom, teacher collaboration

Aim
To improve the clinical skills and confidence of pharmacy graduates at the University of Zimbabwe, a virtual pharmacy software was collaboratively developed with the University of Monash.

Methods
MyDispense® software was customised by activating or adding drug products that are registered with the national drug regulatory authority (NDRA) and included in the essential medicines list (EMR). Detailed drug picture profiles were created. Patient profiles were also created, and a custom face assigned to each profile. Practice exercises meeting the objectives of third and fourth year Pharmacy Practice courses were then developed. A randomly selected group of third year students who gave consent, were given a Pharmacy Practice pre-test and then given access to the customised version of MyDispense® for two weeks.

Results
Of the 2437 active drug profiles on MyDispense®, 42 were found on the NDRA register and included in the local instance. Another 188 drug profiles incorporating alternative dosage forms, strength and brands were developed from EML drugs available in retail pharmacies in Harare. Twenty-one unique patient profiles were then created, differentiated by disease, age, sex ethnicity, residential location and common name variations. Nineteen of the 20 students who took the pre-test managed to access MyDispense® via Wi-Fi or broadband. Despite connectivity problems during peak times, 82% of the students felt that the exercises helped in preparing them for practice in the real world.

Conclusion
Collaborative programming can be implemented successfully to scale-up and improve quality of Pharmacy Education in resource-limited countries. Pharmacy students in developing countries like Zimbabwe are capable and eager to engage with ICT methods of teaching.

MRP10. Student Pharmacist Performance on an Objective Structured Clinical Examination (OSCE) using Community Pharmacy Simulation (MyDispense)

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Keywords: pharmaceutical education, pharmacy, computer simulation, clinical experience, learning activities

Aim
To evaluate student performance on an Objective Structured Clinical Examination (OSCE) using MyDispense to measure competency on the medication use process.

Abstracts

Methods

MyDispense is an international community pharmacy simulation designed to provide students opportunity to learn the medication use process.[1] MyDispense has been implemented at multiple colleges of pharmacy in the United States to provide opportunity for student pharmacists to develop dispensing skills in the medication use process for community pharmacy practice.[2] To date, MyDispense has been integrated across the 6-semester Patient-centered Care Experience (PaCE) simulation sequence at the University of Kentucky College of Pharmacy. In Fall 2017, MyDispense was included on the OSCE assessment for 285 students (137 PY1; 148 PY2). Aggregate, anonymous administrative data will be used to identify metrics for high student performance. Analysis will be conducted with SPSS (IBM Corporation, Armonk, NY, Version 23).

Results

The analysis is currently a work in progress. Analysis planned includes comparison of PY1 versus PY2 students on aggregate OSCE performance including competency while identifying metrics significantly correlated with assessment performance.

Conclusion

The authors plan to identify student metrics that predict success in meeting competency on an OSCE evaluating medication use process using MyDispense.

References

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ECONOMIC CONSIDERATION OF PATIENT HIGH FIDELITY SIMULATION SYSTEM

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Background

The effective use of simulation in medical education was approved by many studies (Okuda et al, 2009). Although its,unrealistic and somewhat expensive program, the advantage of using simulation system encourages its usage in the innovative pharmacy education system. Less ethical concerns, controlled and safe education enviroment and clinical site response are main logical advantages of this system. Whereas increase in self confidence, decrease in performance stress, increase in knowledge and subsequently decrease in medication error are the desired educational outcomes (Carroll et al, 2008).

Aim

The study aims to evaluate the economic impact of using simulation system in clinical pharmacy apprenticeships.

Method

Calculate the cost/student/day for the real field clinical apprenticeship using data from the financial Office of Altınbas University and compare it with the cost of simulation system (METI Man HPS (CAE)).

Results

The cost of real field clinical apprenticeship is 12$/student/day. For 100 students the cost for 60 days (the mandatory apprentceship) for one year was 72,000 $. The cost of METI Man HPS (CAE) is 200,000$ (Lapkin et al, 2011).

Conclusion: The results show that the cost of high fidelity simulation system is a worthwhile investment for long term. The average cost of the unit can be covered within three years and after these years the cost of apprenticeship will be nearly free.

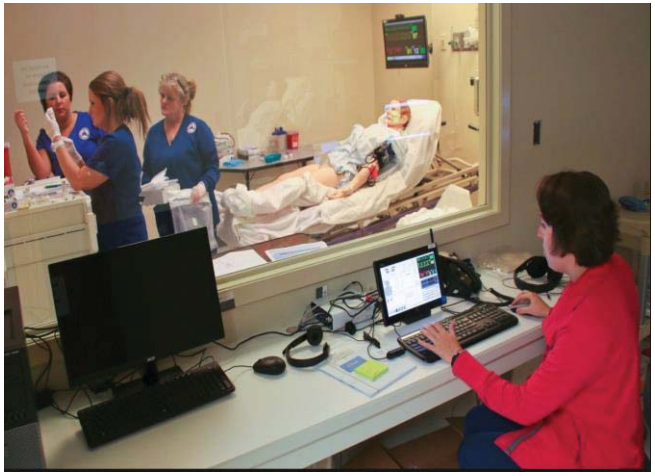

Figure1:High-fidelity Simulators

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RESOURCES NEEDED TO IMPLEMENT A COMPREHENSIVE ASSESSMENT OF THE PHARMACISTS' PATIENT CARE PROCESS IN A SIMULATION-BASED LABORATORY COURSE

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BACKGROUND

- First professional year students are required to take a simulation-based laboratory course to prepare for patient interactions.
- The intent of the course is to develop foundational knowledge and skills and teach students a consistent approach to patient centered care.

FIGURE 1: Joint Commission of Pharmacy Practitioners Pharmacists' Patient Care Process[1]

AIM

- The objective of this project is to describe the resources needed to implement a comprehensive assessment of components of the Joint Commission of Pharmacy Practitioners Pharmacists' Patient Care Process (PPCP) in a required first professional year simulation-based laboratory course.

METHODS

- Student pharmacists enrolled in the lab course in 2017 were taught to apply the PPCP in the context of commonly encountered disease states
- Weekly-simulated activities and individualized assessments throughout the semester using two longitudinal patient cases were utilized.
- The comprehensive final assessment was centered on a single patient case and students sequentially progressed through six individualized PPCP stations.
- Live assessments were performed in simulated patient care exam rooms in the presence of standardized patients/preceptors.
- Facility and personnel resources needed to implement this assessment were evaluated.

TABLE 1: Description of Assessment Stations

Station 1 (Day 1)	EMR / Patient Work Up Written Time: 30 minutes	(Collect) Students answer questions using the electronic medical record for patient.
Station 2 (Day 1)	The Patient Interview Live Time: 15 minutes	(Collect) Students complete medication history interview and physical assessment with standardized patient (hired actors).
Station 3 (At home)	Assessment & Plan Written Time: 24 hours	(Assess, Plan, Monitor, Evaluate) Students develop an assessment and plan for the patient based on information collected on Day 1
Station 4 (Day 2)	Presentation to Preceptor Live Time: 10 minutes	(Implement) Students present findings, assessment, and plan for patient to a standardized pharmacist preceptor (post-graduate TAs).
Station 5 (Day 2)	Medication Education Live Time: 15 minutes	(Implement) Students provide medication education on a new medication to a standardized patient.
Station 6 (Day 2)	Medical Record Documentation Written Time: 30 minutes	(Document) Students document the care plan for the patient in the electronic medical record using the SOAP format.

TABLE 2: Snapshot of Assessment Schedule on Days 1 and 2

Day 1				
Students	Arrival Time	Station 1	Station 2	
Group 1A (8 students)	7:50am	8:00–8:30am	8:35–8:50am	
Group 1B (8 students)			8:55–9:10am	
Group 2A (8 students)	8:30am	8:40–9:10am	9:15–9:30am	
Group 2B (8 students)			9:35–9:50am	
Day 2				
Students	Arrival Time	Station 4	Station 5	Station 6
Group 1 (7 students)	8:30am	8:45–8:55am	9:00–9:15am	9:20–9:50am
Group 2 (7 students)	8:50am	9:05–9:15am	9:20–9:35am	9:40–10:10am

RESULTS

"The final was excellent, I was extremely impressed. Each of the 6 parts/stations was coherent and related to the others. The final was built to be a comprehensive assessment of everything we did in the semester and I felt that it did a good job measuring the entire patient care process as well as disease state knowledge. I felt that covering common disease states contributed a lot to my learning as these are diseases we will see very frequently. That aspect of the course made PHCY 516 the most useful course in my mind."

PharmD Student
Class of 2020

TABLE 3: Summary of Implementation Resources by Exam Day

	Day 1	Day 2
Students	144	144
Facilities		
Classrooms	5	2
Patent Care Simulation Rooms	8	14
Personnel		
Faculty	2	2
Administrative Staff	1	2
Post-Graduate Teaching Assistants (TAs)	12	12
PharmD Student Teaching Assistants (TAs)	4	2
Standardized Patient Actors	8	7
Time		
Assessment Time	10 hours	10 hours
Individual Student Time Commitment	1 hour 20 minutes	1 hour 20 minutes

CONCLUSION

While a comprehensive assessment of the entire Pharmacists' Patient Care Process is resource intensive, it is a unique assessment method to enhance student learning and prepare them for patient encounters during initial clinical experiences.

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1. Joint Commission of Pharmacy Practitioners. Pharmacists' Patient Care Process May 29, 2014. https://www.pharmacist.com/sites/default/files/files/PatientCareProcess.pdf. Accessed June 5, 2017.

Providing training of the dispensing process and procedures in a high-fidelity clinical environment

H.Nazar, L. Lindsey, L. Rook, J. Fletcher A. Todd, A. Husband

Educational objective: A live dispensary of a large teaching hospital was used to train undergraduate pharmacy students on the process and procedures of medication dispensing and checking. Students were required to undertake legal and clinical checks and process anonymised hospital prescriptions. Students recorded their experiences in their professional portfolio as blogs. These blogs were subject to content analysis to investigate the student experience.

Results: Content analysis of blog entries demonstrated students reporting observations and experiences mapping to the three components of communities of practice: the domain of pharmacy practice; the working dynamics of a community of professionals within the workplace and the commonality of practice and shared repertoire of resources.

Conclusions: The high-fidelity training on the dispensing and checking process in a live dispensary environment supports knowledge and skills development. The work-based approach also provides experiential learning opportunities for students to observe and participate in the professional community of practice.

Effects of Virtual Simulation on Students' Ability to Assess Self-Care Patient Cases

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BACKGROUND

- At Midwestern University, 3rd year students are enrolled in a course where they are assessed on their ability to develop a care plan for a patient seeking a self-care recommendation.
- In years past, students participated in lectures and workshops as they prepared for making self-care recommendations.
- Class of 2019 students continued with lectures/workshops and utilized MyDispense with 4 over the counter exercises (cold, cough, back pain, and allergies) before they were assessed in class with a standardized patient (SP) encounter.

AIMS

- To evaluate the effectiveness of virtual simulation exercises on the ability of students to make an assessment and formulate a plan for patients seeking a self-care recommendation.
- To describe student perceptions regarding the use of virtual simulation in self-care education.

METHODS

- Student performance on the SP encounter from Class of 2018 (who did NOT use MyDispense) was compared to data from students in Class of 2019 (who did use MyDispense).
- Class of 2019 students were invited to participate in a questionnaire.
- Descriptive statistics, Chi-square test, Fischer's exact test or t-test were used as appropriate.

RESULTS

- 135/207 (65%) students in the Class of 2019 consented.
- All data from the Class of 2018 (N=178) was available for comparison.

Table 1: Mean Scores on SP Assessment (Possible Max = 20 pts)

Class of	All Cases	Case 1	Case 2	Case 3	Case 4*	Case 5	Case 6
2018	17.2 (N=178)	17.3 (N=11)	16.4 (N=27)	17.1 (N=41)	18.0 (N=42)	17.7 (N=30)	16.4 (N=27)
2019	16.9 (n=135)	18.0 (N=26)	16.8 (N=21)	16.8 (N=17)	15.9 (N=22)	17.5 (N=21)	16.4 (N=28)

*p-value < 0.001

Table 2: Select Comparison of Individual Items on Faculty Checklist

Checklist Item	All Cases		Case 1		Case 6	
	% with Item Correct on Checklist					
	2018 (n=178)	2019 (n=135)	2018 (n=11)	2019 (n=26)	2018 (n=27)	2019 (n=28)
Asked OTC, herbal, vitamin use	69.7*	40.0*	81.8*	38.5*	66.7*	35.7*
Asked allergies	76.4	69.6	72.7	76.9	85.2*	57.1*
Appropriate product recommended	82.0*	94.8*	81.8	100	51.9*	92.9*
Correct dose and directions	93.8*	80.7*	100	92.3	85.2	64.3
Counseled on side effects	60.7	53.3	72.7	65.4	63.0	60.7
Counseled on non-drug therapy	56.2	60.7	36.4*	80.8*	77.8	75
Not cause pt harm	87.1	92.6	90.9	100	66.7*	89.3*

*p-value < 0.05

RESULTS (cont.)

- 26/207 (12.5%) students completed the survey.
- Majority of respondents (≥ 88%) agreed or strongly agreed:
  - Will apply what I learned in MyDispense to future practice
  - MyDispense was a positive learning experience
  - MyDispense prepared me for the SP encounter

CONCLUSIONS

- Overall, the use of MyDispense did not result in a significant increase in student scores.
- Inquiring about patient details was lower in the class which used MyDispense. This may be a limitation of virtual simulation since students select pre-defined questions.
- However, appropriate OTC recommendations were higher in the class which used MyDispense which is a large focus of the feedback in the virtual exercises.
- Majority felt MyDispense was a positive learning experience, prepared them for the assessment and will be able to apply it to future practice.
- In conclusion, virtual simulation exercises may impact a student's ability to make self-care recommendations; however, not all changes identified were positive.

DISCLOSURES

Authors have no conflicts of interest to disclose.
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Integration of MyDispense in a Doctor of Pharmacy Curriculum in the U.S.: Lessons Learned

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Aims

- To determine if MyDispense was the appropriate technology to teach prescription processing in a community practice setting in a Doctor of Pharmacy program.
- To determine appropriate placement in the curriculum for this learning.
- To implement the technology and evaluate outcomes.

Background

Students embrace technology as a learning tool. Faculty identified that teaching prescription processing skills to students could benefit from simulation activities.

Methods

Infrastructure

- Sought University Information Technology review.
- Faculty invested in learning the functions and capabilities of MyDispense.

Placement in the Curriculum

- Faculty identified skill sets within the curriculum, and then courses in which these skills are taught.
- Faculty modified or created exercises for the American market.

Pilot Test

- MyDispense was piloted in fall 2016. MyDispense was used for practice and graded activities. A survey was administered to students to determine their usage and perceptions.
- A second pilot was conducted in Fall 2017 in the same course. Enhancements were made to exercises based on student and faculty feedback and observations.
- Third pilot in winter 2017-18, new exercises in over-the-counter (OTC) recommendations

Full Implementation

- MyDispense integrated into two courses in the College's new curriculum.
    - Fundamentals of Pharmacy Practice
    - Clinical Skills and Simulation I
- Used to reinforce, verify prescriptions and dispense prescriptions, and OTC medication recommendations.
- Faculty created practice and graded activities.

Results

Table 1.Students' responses to satisfaction survey

Item	SA/A N (%)	Neutral N(%)	SD/D N(%)
Practice exercise prepared me for the quiz	130(81.3)	27(16.9)	3(1.8)
Practice exercises simulated realistic encounters	135(84.3)	19(11.9)	6(3.8)
Made me aware of the proper steps to follow for dispensing a medication	139(86.8)	15(9.4)	6(3.8)
Helped me understand the importance of the community pharmacist in the dispensing process	130(81.3)	22(13.7)	8(5.0)
Was a positive learning experience	136(85.0)	21(13.1)	3(1.9)
Will be able to apply what I learned to my future practice	133(83.1)	19(11.9)	8(5.0)
Should be used more in the pharmacy curriculum	123(76.9)	27(16.9)	10(6.2)
Should be used earlier in the curriculum	148(92.5)	10(6.30	2(1.2)

Conclusions and Lessons Learned

- MyDispense was easy to use for both students and faculty.
- It added value to the learning process.
- The College needs to devote the resources needed for faculty to devote the time needed for effective implementation.
- There needs to be a University Information Technology champion to assist faculty in using this resource.
- The College needs to better utilize support staff in implementing this teaching tool.
- Time is needed in courses to teach MyDispense functionality to students.

Disclosures

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation – All authors: no relevant disclosures.

Connecting two pieces of separate puzzles: a MyDispense experience

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THE UNIVERSITY OF WESTERN AUSTRALIA

BACKGROUND

Simulated dispensing, counselling and communication tutorials are a fundamental part of the UWA Master of Pharmacy course. In this student centred approach, clinical tutors work one-on-one with students to role-play prescription and primary care scenarios.

These campus-based simulated learning tutorials raised issues that would be unrealistic for a pharmacist to face in common practice that detracted from students' educational experience. This included:

- maintaining 20 computers and label printers
- maintaining medicine stock
- creating an environment to mimic a pharmacy setting
- allowing students to practise their dispensing process out of class

AIM

To trial the use of MyDispense in the simulated learning tutorials to determine if it addressed the issues encountered with the existing model.

METHOD

1. Discover MyDispense capabilities & limitations

2. IT set-up and configuration

3. Adapt existing scenarios

4. Develop training: videos online, tutor workshop & feedback

5. Enhanced training incl. student workshop

6. Simulated tutorials

Figure 1: Workflow of integrating MyDispense into the UWA program

RESULTS

We reflected on the two models post trial. Students and tutors adapted quickly to MyDispense preferring it to the old model, perhaps due to advancing technological capabilities. MyDispense limits logistical barriers and maximises the time students spend with tutors, contributing to an optimal educational experience for students. The change encouraged us to re-evaluate tutorial learning outcomes.

CONCLUSION

MyDispense removes many of the practical issues we had with our previous dispensing model and allows students to focus the problem solving component. This year, 2018, we will trial separating the procedural aspect of dispensing from cognitive and communication skill development.

INTEGRATION OF MYDISPSENSE IN AN EXPERIENTIAL EDUCATION PROGRAM TO IMPROVE STUDENT PREPAREDNESS OF PRESCRIPTION PROCESSING AND MEDICATION SAFETY

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Background Technology is increasingly used in professional curricula; however whether it is effective in increasing knowledge is unknown. Limited literature is evaluable on evaluation of simulation technology in pharmacy education. Until this study, e-learning for community pharmacy education was not done at UConn School of Pharmacy (SOP).

Aim Evaluate student preparedness for community introductory pharmacy practice experiences (IPPEs) using "MyDispense" at UConn SOP.

Methods First-year professional students and assigned community IPPE preceptors were eligible. Students were divided into 4 groups based on previous experience (</>50 hours) and randomized to complete 40 exercises before starting IPPE or after 24-32 hours of IPPE. Preceptors were blinded to student's group and completed 6-item readiness survey after student completed 24-32 IPPE hours. Following exercise completion, students completed anonymous 8-item survey evaluating performance and MyDispense use. Student surveys were based on 5-point Likert scale; preceptor surveys were based on 6-point Likert scale. Both surveys were administered using Qualtrics. Descriptive statistics used to characterized data; Mann-Whitney U test used to calculate *P* values.

Results Two cohorts enrolled in consecutive years: Cohort I (88 students, 27 preceptors) and Cohort II (22 students, 21 preceptors). In both cohorts, students felt confident in their ability to manage assigned tasks (median 3-5). Overall, preceptors displayed less confidence in students with varying median scores of 2-4). Students found MyDispense straightforward, realistic, and appreciated ability to practice in safe, community patient-care environment.

Student Previous Experience	Number (%)				
	Group A (n=26)	Group B (N=35)	Group C (n=22)	Group D (n=27)	Total (n=110)
Community pharmacy	18 (69)	10 (29)	18 (8)	0 (0)	46 (42)
Independent	5 (19)	1 (3)	5 (23)	0 (0)	11 (10)
Chain	13 (5)	1 (3)	13 (59)	0 (0)	27 (25)
Multiple	3 (12)	0 (0)	2 (9)	0 (0)	5 (5)
Institutional pharmacy	1 (4)	4 (11)	2 (9)	1 (4)	8 (7)
Other*	2 (8)	1 (3)	0 (0)	0 (0)	3 (3)
Preceptors	5 (10.4)	17 (35.4)	12 (25)	14 (29.2)	48 (100)

*Pharmaceutical industry (2), compounding pharmacy.

Cohort I (2015):
- **Preceptors rated students lower than the students themselves on dispensing activities ($p<0.001$), but not counseling activities**

Cohort II (2016):
- **Preceptors rated students lower than the students themselves on both dispensing and counseling activities ($p<0.001$)**

Combined Cohorts (2015 & 2016):
- **Students who completed the exercises before rotation received higher preceptor scores for patient counseling ($p<0.044$)**

Conclusions MyDispense can be an effective teaching tool for students before beginning community practice rotations. Refinement of MyDispense is ongoing, including editing of exercises and further development of formulary. Full implementation of MyDispense before IPPE assignments will occur in Fall.

USE OF MYDISPENSE PHARMACY SIMULATION PROGRAM IN INTEGRATED REVIEW OF PHARMACY LAW

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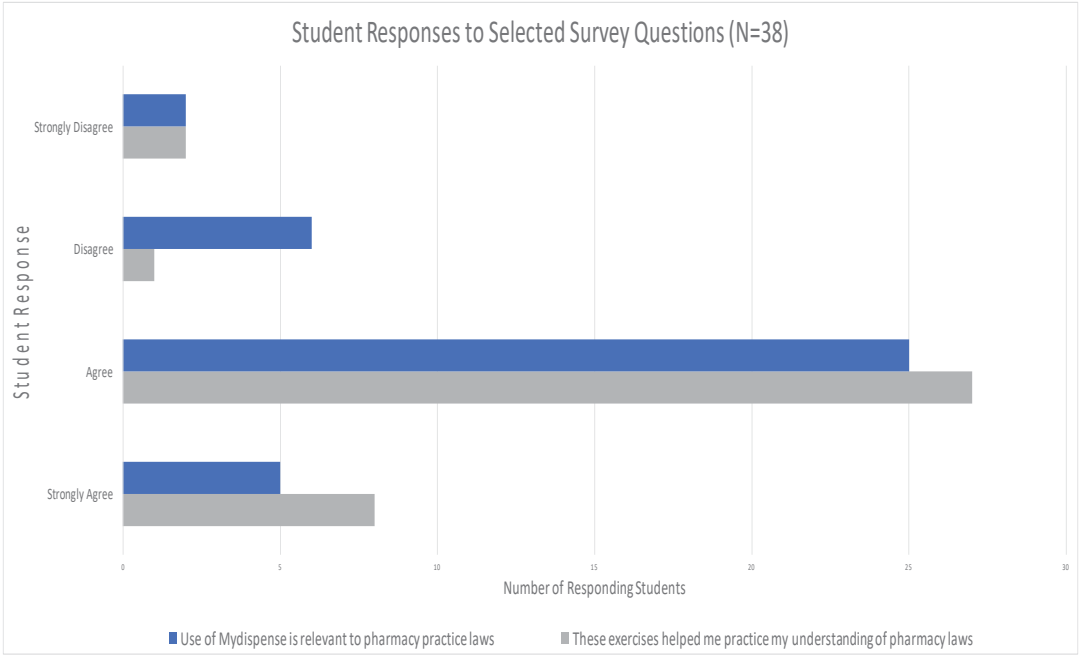
Background At UConn School of Pharmacy, students receive pharmacy law instruction during the spring semester of the second professional year, followed by a law review class immediately before graduation. With this instruction, students still feel unprepared for licensing examinations.

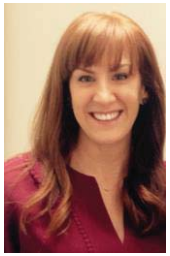
Aim The aim of this study was to determine student perceptions on the need for additional law instruction and the use of MyDispense for this instruction.

Methods This study was conducted in a case study class for third professional year students. For the session, students were required to complete 8 exercises prior to and 5 exercises during class. Exercises focused on common issues in pharmacy law such as prescription fraud, medication substitution, and federal recordkeeping requirements. Participating students completed a survey regarding the use of MyDispense for law review. This included content and comprehensiveness of the exercises, and applicability to law instruction, and correlation to practice experiences.

Results Thirty-eight students (41%) participated in the survey. With mean scores over 3 (4-point Likert Scale), students felt MyDispense was more enjoyable than a lecture-based format and focused on challenging areas of practice law. Additionally, most students felt the exercises improved recall (86.5%) and were helpful in practicing understanding of laws (92.1%). A series of short-answer questions regarding applicability and changes to exercise content or focus were included. Responding students (n=16) felt that DEA recordkeeping requirements (n=4) and controlled substance prescriptions (n=4) were the most applicable subject areas. In correlation, responding students (n=22) wanted more exercises on controlled substance-related activities (n=6) and documentation requirements (n=6). Students (n=16) wanted less focus on prescription fraud and verification (n=7). Other responses included the need for an additional formal law review prior to scenario-based instruction with MyDispense.



Conclusions This study highlights the value of pharmacy law review following formal instruction and prior to licensing review. MyDispense as a platform for review was well-received by students with room for improvements to exercise content and the clarity of answer explanations. In the future, MyDispense will be used in conjunction with lecture-based law reviews.



IMPLEMENTATION OF A VIRTUAL DISPENSING SYSTEM (MYDISPENSE) INTO THE MPHARM CURRICULUM AT THE UNIVERSITY OF MANCHESTER

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Background

The Manchester MPharm curriculum teaches the fundamental knowledge and skills of law and dispensing in the 2nd year of the programme, via the 'Pharmacist' unit. This unit is integrated so that the teaching of the relevant law is aligned with dispensing classes where students get to apply their knowledge to simulated prescriptions in a safe environment. Student feedback suggests that although they are satisfied with the teaching and learning experience they would value additional experience of the processing of prescriptions.

Aim

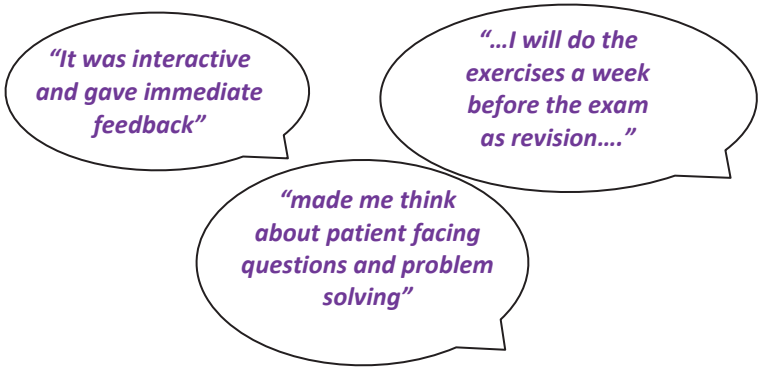
To increase prescription processing opportunities through the introduction of the MyDispense virtual dispensing system based upon previous good practice (McDowell et al 2016).

Method

Teaching staff created formative **validation** and simulated **dispensing** exercises aligned to the theme of each of the specific taught dispensing classes. Exercises were then released following the class and students have the opportunity to undertake these activities to consolidate their learning. Student engagement with the system, via completion rates, was analysed and the students completed a short feedback evaluation at the end of taught course.

Results

- The vast majority of students (**80.0%**) reported that they found the MyDispense activities **useful for their learning**
- Over two-thirds (**71.1%**) agreed that the **number frequency of activities was right**
- How students used MyDispense was variable; 27.4% completed the activities soon after the taught session, 43.4% used it as a revision aid near to the final exam and 29.2% using it both after the class as well as near to the exam
- All students have engaged to some extent with the MyDispense system, however, this was variable and decreased towards the end of the academic year



Conclusion

Student feedback suggests that students enjoy learning in this way at a time convenient to them. However, a number of students reported that the classes were sufficient for their learning and prioritised other, compulsory, work over these formative activities. Surprisingly, students reported that they preferred the simple validation over the dispensing exercises. This may be due to reported difficulties in using the system. We now intend to interrogate the data to understand how we can use the MyDispense system to support student learning.

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UNIVERSITY OF MICHIGAN

USE OF ONLINE SIMULATION IN A REQUIRED SELF-CARE THERAPEUTICS COURSE

Nada Rida, PharmD Candidate 2019; Ming-Hei Tai, PharmD Candidate 2019; Kristin Klein, PharmD; Heidi Diez, PharmD; Trisha Wells, PharmD; Kellie Kippes, PharmD; Sarah Kelling, PharmD, MPH

Background

- Health professions education programs are increasingly using simulation in order to provide a realistic and safe environment for student learning.[1-7]
- MyDispense is an online simulation that allows students to practice dispensing prescription and over-the-counter products.[8]

Aims

- To incorporate MyDispense in a first-year self-care therapeutics course
- To evaluate student perceptions and confidence in providing self-care recommendations

Methods

- All first-year pharmacy students were enrolled in the course and completed
  - 31 MyDispense cases during the semester (4 cases were randomly selected to be graded)
  - 3 cases as part of the final exam
  - Qualtrics survey at the end of the semester
- Results were analyzed using descriptive statistics, and independent-samples t-tests and p-value < 0.05 was significant.
- Project was exempt by the Institutional Review Board.

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Results

- All students (n=85) used MyDispense in winter 2017.
- Most students were 20-24 years of age (n=71, 83.5%) and female (n=57, 67.1%).
- Two-thirds of students worked in a community pharmacy (n=52, 61.2%).
- Most students believed the cases aligned with course material (n=72, 84.7%).
- Students reported mixed feelings about whether MyDispense was a valuable tool for learning the course material (Figure 1).
- Students reported that cases took 41-50 minutes on average to complete.
- Average grades increased from 80.9% for case 1 to 99.4% for case 4 and the final exam average was 96.5% for the MyDispense portion of the exam.
- At the end of the semester, students with community pharmacy experience had higher confidence related to collecting data, assessing data, and selecting a medication regimen (Table 1).

Figure 1. Student perceptions regarding MyDispense to learning course material

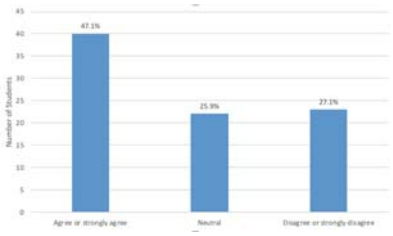

Table 1. Student confidence in self-care skills based on community pharmacy work experience

	Community pharmacy work experience		No community pharmacy work experience		
	M	SD	M	SD	t-test
Collect data	1.47	0.60	1.82	0.77	2.28*
Assess data	1.61	0.62	1.93	0.47	2.37*
Triage to correct level of care	1.72	0.56	1.89	0.50	1.39
Select medication regimen	1.82	0.54	2.18	0.77	2.46*
Provide patient education	1.79	0.59	2.04	0.58	1.82
Create follow-up plan	1.70	0.73	1.96	0.64	1.62

M = mean, SD = standard deviation, 1= Very confident, 4 = Not confident at all
*P<0.05.

Conclusion

- Students had mixed perceptions about using MyDispense to learn self-care material
- Students ability to accurately complete cases increased throughout the semester
- Further research is needed to determine if MyDispense can be used to increase self-confidence among students with no community pharmacy work experience

Use of MyDispense to dispense extemporaneously-prepared formulations

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Background: A core competency of Australian Pharmacy graduates is to be able to prepare extemporaneous formulations such as solutions, suspensions, creams, and ointments. Traditionally, Year 2 Pharmacy students prepared handwritten labels for these formulations, however, this was considered a step backwards given they used MyDispense to generate labels for prescription medicines in the first year of their degree. An approach to dispense prescriptions and print labels within MyDispense was therefore considered essential for extemporaneous formulations.

Aims: To develop approaches for students to dispense and prepare labels for prescriptions of extemporaneous formulations using MyDispense.

Methods: Prescriptions for solutions, suspensions, creams and ointments were developed in MyDispense and released to students at least 1 week prior to the practical class to allow dispensing and printing of labels in advance of the class. Special programming was developed to ensure most components of dispensing an extemporaneous formulation were captured (e.g. formulation name, dosing instructions) and to ensure an appropriate label size could be generated as a PDF.

Results: All students engaged with MyDispense and prepared their labels prior to entry to the laboratory class. Over a 6 week period, more than 1000 labels for extemporaneous formulations were created. Informal student feedback suggests the process was seamless and built upon dispensing activities in Year 1.

Conclusions: MyDispense is a useful tool which can be adapted for dispensing prescriptions for extemporaneously-prepared formulations.

COLLABORATIVE DEVELOPMENT OF A VIRTUAL PHARMACY PRACTICE SKILLS LABORATORY AT THE UNIVERSITY OF ZIMBABWE SCHOOL OF PHARMACY

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1. School of Pharmacy, University of Zimbabwe College of Health Sciences, Harare, Zimbabwe, 2. Department of Computer Science, University of Zimbabwe, Harare, Zimbabwe, 3. Monash University Faculty of Pharmacy and Pharmaceutical Science, Australia

Background: Due to large undergraduate student numbers at the University of Zimbabwe (UZ), the dispensing course is currently taught and assessed in the classroom setting.

Aim: To improve the clinical skills and confidence of pharmacy graduates at the University of Zimbabwe, a virtual pharmacy software was collaboratively developed with the University of Monash.

Methods: MyDispense® software was customised by activating or adding drug products that are registered with the national drug regulatory authority (NDRA) and included in the essential medicines list (EMR). Detailed drug picture profiles were created. Patient profiles were also created, and a custom face assigned to each profile. Practice exercises meeting the objectives of third and fourth year Pharmacy Practice courses were then developed. A randomly selected group of third year students who gave consent, were given a Pharmacy Practice pre-test and then given access to the customised version of MyDispense® for two weeks.

Results: Of the 2437 active drug profiles on MyDispense®, 42 were found on the NDRA register and included in the local instance. Another 188 drug profiles incorporating alternative dosage forms, strength and brands were developed from EML drugs available in retail pharmacies in Harare. Twenty-one unique patient profiles were then created, differentiated by disease, age, sex ethnicity, residential location and common name variations. Nineteen of the 20 students who took the pre-test managed to access MyDispense® via Wi-Fi or broadband. Despite connectivity problems during peak times, 82% of the students felt that the exercises helped in preparing them for practice in the real world.

Conclusions: Collaborative programming can be implemented successfully to scale-up and improve quality of Pharmacy Education in resource-limited countries. Pharmacy students in developing countries are capable and eager to engage with ICT methods of teaching.

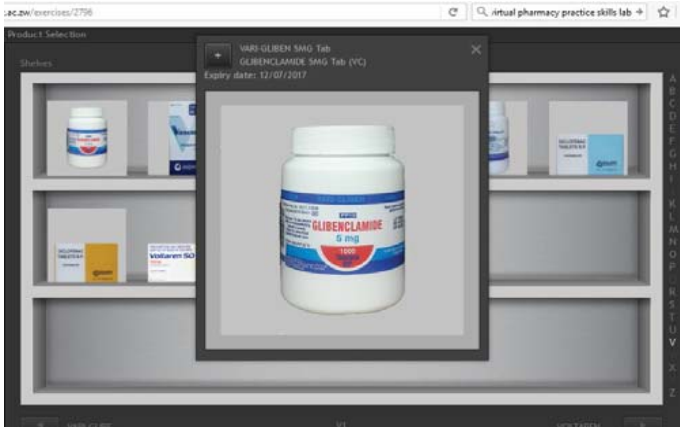

Figure 1: Local Glibenclamide brand added to MyDispense®

Student Pharmacist Performance on an Objective Structured Clinical Examination (OSCE) using Community Pharmacy Simulation (MyDispense)

Clark Kebodeaux, Pharm.D., BCACP[1]; Sophia Brown, Pharm.D. Candidate 2019[1]; Aric Schadler, MS[1]; Keith Sewell MSc.[2]; Keenan Beaumont, BIT[2]

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UKCoP Beyond the Script

STUDY BACKGROUND

- MyDispense is an international community pharmacy simulation designed to provide students opportunity to learn the medication use process[1].
- MyDispense has been implemented at multiple schools and colleges of pharmacy across the US[2]. To date, MyDispense has been integrated across the 6-semester Patient-centered Care Experience (PaCE) simulation sequence at the University of Kentucky College of Pharmacy.

AIMS

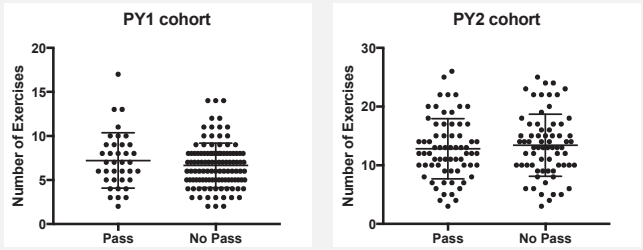
- To evaluate student performance on an Objective Structured Clinical Examination (OSCE) using MyDispense to measure competency on the medication use process.

METHODS

- In Fall 2017, MyDispense was included on the OSCE assessment for 285 students (137 PY1; 148 PY2). Analysis was conducted with SPSS (Version 23).

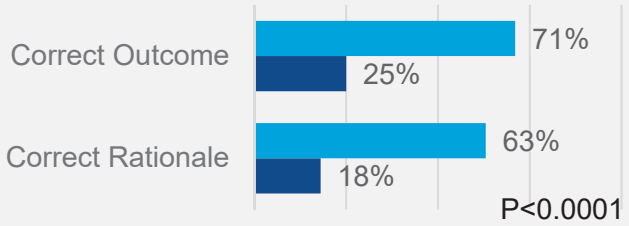
RESULTS

Exercises Completed



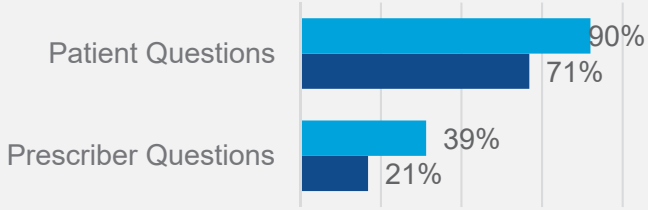
P=0.5043 P=0.2769

Outcomes



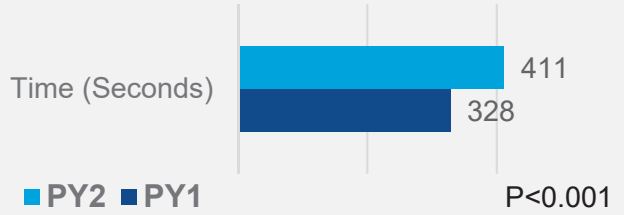
P<0.0001

Patient/Prescriber Communication



P<0.001

Time



P<0.001

ACKNOWLEDGEMENTS

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CONCLUSIONS

- Student metrics including patient fact finding, prescriber fact finding, and accurate outcome and rational significantly affected OSCE performance in the PY1 & PY2 cohort.

1. Costelloe, M.T. (2017). MyDispense: Lessons from Global Collaboration in Developing a Pharmacy Educational Simulation Tool. INNOVATIONS in pharmacy, 8(1), p.10.

2. Ferrone, M., Kebodeaux, C., Fitzgerald, J. and Holle, L. (2017). Implementation of a virtual dispensing simulator to support US pharmacy education. Currents in Pharmacy Teaching and Learning, 9(4), pp.511-520.