

COVID-19 SPECIAL COLLECTION

SHORT REPORT

Design and implementation of online patient-facing experiences for an integrated pharmacy programme

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Keywords

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Abstract

Objectives: This report describes the design and ongoing implementation of online patient-facing experiences within an undergraduate pharmacy programme, redesigned from classroom activities due to the SARS CoV-2 (COVID-19) pandemic. **Methods:** Two patient-facing experiences were pre-recorded for sharing with students online in the academic year 2020-21. Live webinars with the patients will accommodate questions and answers. Aligned case-based workshops have been redesigned from in-class activities to online workshops. Stufflebeam's CIPP model of evaluation has been employed as an overall framework of evaluation. Roddy's 'four pillars' for student success in online teaching were used to evaluate the online component. The perspectives of two participating patients regarding the online experience were obtained through semi-structured telephone interviews using suggested discussion themes. **Results:** Classroom-based patient-facing experiences in both cardiology and diabetes have been redesigned for an online format. Potential problems and resolutions were identified against the 'four pillars' to support students. Evaluation of patients' perspectives highlighted their motivations for participation and the importance patients place on pharmacists' communication skills. Student perceptions of all components will be evaluated through anonymous online surveys upon roll-out. **Conclusion:** The COVID-19 pandemic has necessitated pedagogical modifications. The educational benefits of patient-facing experiences can continue through online activities, while protecting vulnerable groups.

Introduction

The regulator of the pharmacy profession in Ireland, and the accrediting body for pharmacy education and training, is the Pharmaceutical Society of Ireland (PSI). A patient-centred pedagogical approach is a requirement for higher education institutions delivering pharmacy education and training in Ireland (PSI, 2014). The PSI's accreditation standards require the design of all pharmacy curricula to produce graduates meeting the Core Competency Framework for Pharmacists in Ireland, whose

first competency focusses on 'patient-centred care' (PSI, 2013). Furthermore, the accreditation standards require schools of pharmacy to 'include practical experience of working with patients, carers and other health care professionals'. Patient-centred learning is a fundamental component of the undergraduate pharmacy programme in the School of Pharmacy and Pharmaceutical Sciences (SoPPS), Trinity College Dublin, (Ryan *et al.*, 2019).

The importance of direct patient involvement in the delivery of undergraduate healthcare programmes is

widely recognised (Grimes *et al.*, 2013; Towle *et al.*, 2010). Specific to pharmacy education, the utilisation of real patients and role-plays has been shown to be influential in the development of professionalism in undergraduate students (Bell *et al.*, 2006; Schafheutle *et al.*, 2012). Best practice for online teaching and learning has been well explored within the literature (Kebritchi *et al.*, 2017; Roddy *et al.*, 2017) and the benefits with regard to pharmacy education have been well described and critiqued (Grimes *et al.*, 2013; Salter *et al.*, 2014). The use of e-learning activities in general is commonplace, with many programmes using simulated or virtual patients to develop communication and patient care skills in pharmacy students (Mesquita *et al.*, 2010; Smith & Benedict, 2015; Wallman *et al.*, 2013). While the need to further embrace online teaching methodologies due to current COVID-19 restrictions has been recognised by pharmacy educators (BMJ_Blog, 2020; Fuller *et al.*, 2020; Lyons *et al.*, 2020), most of the literature specifically describing online patient involvement is outside pharmacy practice (Chao *et al.*, 2020; Pennell *et al.*, 2020).

This paper describes the redesign, due to the COVID-19 pandemic, of classroom-based patient-facing activities into an online format. A novel aspect of this research is the evaluation of online patient-facing activities in a pharmacy context, using Stufflebeam’s context, input, process and product (CIPP) model of evaluation (Stufflebeam, 2007) and Roddy’s ‘four pillars’ to support students (Roddy *et al.*, 2017).

Methods

Ethics approval was granted by the SoPPS’ Research Ethics Committee, Trinity College Dublin (reference 2020-08-02). Two patient experiences were video-recorded for

modules in Years 2 and 3 of the programme (Year 2, n = 83 students; Year 3, n = 78 students). These videos will be shared with students through the virtual learning environment (VLE) in the academic year 2020-21. Live question and answer-focused webinars involving each patient and students will follow, moderated by academics. Stufflebeam’s CIPP model of evaluation has been employed as an overarching framework to evaluate the online component, Figure A (Stufflebeam, 2007). Potential problems and resolutions with an online format were evaluated against the ‘four pillars’ to support student success in online learning (Roddy *et al.*, 2017). The perspectives of two participating patients regarding the online experience were obtained through semi-structured telephone interviews using six suggested discussion themes (family history; event/diagnosis; hospitalisation and discharge; community pharmacy care; lifestyle changes and psychological factors). Students’ perceptions of all activities will be determined through anonymous online surveys upon roll-out.

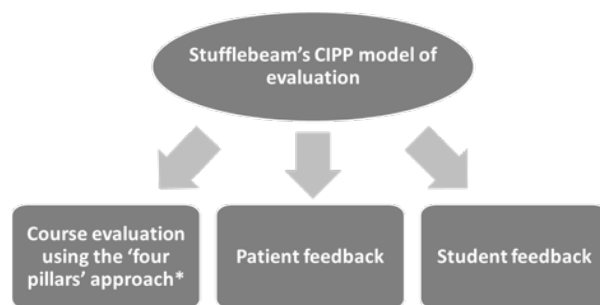


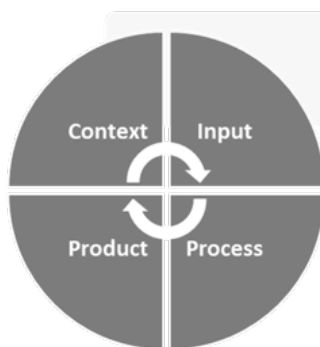
Figure A: Overview of the evaluation of the online component using Stufflebeam’s context, input, process and product (CIPP) model of evaluation as a framework (Stufflebeam, 2007)

GOALS

- **Beneficiaries** – students and patients
- **Needs** – accreditation standards require patient-facing classes
- **Assets** – patient group contact already established
- **Problems** – potential problems to be identified through Roddy’s ‘four pillars’ model

OUTCOMES

- **Impact** – patient feedback already gathered; student feedback pending
- **Effectiveness** – student assessment against learning outcomes
- **Sustainability** – considered at annual review of curriculum



PLANS

- **Stakeholders** – students, staff and patients
- **Strategies** – online video presentation of patient followed by discussion forum and workshop
- **Budget** – IT resources already in place
- **Research** – changes to online delivery are supported by healthcare pedagogical literature

ACTIONS

- **Implementation** – patient videos recorded for pending delivery
- **Monitor** – patient and student feedback
- **Feedback** – annual review of module and curriculum at School level

Figure B: Stufflebeam’s context, input, process and product (CIPP) model of evaluation, as applied to the online component (Stufflebeam, 2007)

Table I: Outcomes of evaluation of online patient-facing component against the ‘four pillars’ to support student success in online learning*

‘Four pillars’ to support student success*	Online component and associated support	Challenges and resolutions
Academic support	Patient video – scaffolded by integrated module content	Challenge – patients’ unfamiliarity with technology. Resolution – recruiting new patients and ensure socially distanced video recording of patient.
	Workshop – aligned to integrated module content	
Sense of community	Patient video – introducing external capacity into the programme	Challenge – patients’ ability to structure the online content when alone. Resolution – provide suggested discussion themes to patients as guidance prior to video recording.
	Question and answer forum – learning from peers’ questions	
	Workshop – small-group peer learning	Challenge – online student engagement. Resolution – use small breakout groups, additional facilitators and student prompts.
Technology support	Patient video – asynchronous streaming will facilitate student engagement	Challenge – inequities in student technology access. Resolution – recording of the patient presentation to be made available for a long lead-time prior to the online discussion forum. Resolution – University support with technology. Resolution – students to email questions in advance if unable to attend online.
	Question and answer forum – option to email questions in advance will facilitate student engagement	
	Patient videos and workshop – School instructional design support	
Health and wellbeing	Patient video – introduces students to patients in a safe environment	Challenge – COVID-19 social distancing restrictions. Resolutions – student and patient engagement facilitated online.

* (Roddy *et al.*, 2017)

Results

To date, two classroom-based patient-facing experiences focusing upon cardiology (Year 2) and diabetes (Year 3) have been redesigned into online format. Figure B shows the outcome of evaluation against Stufflebeam’s CIPP model, as applied to the online component.

Using Stufflebeam’s model as an overarching guide to evaluation, Table I summarises the evaluation of the online component against the ‘four pillars’ to support student success in online learning (Roddy *et al.*, 2017), including the challenges and resolutions identified. Qualitative patient feedback is shown in Table II. As stated, implementation is ongoing, with student roll-out and feedback in 2020-21.

Discussion

The outbreak of the COVID-19 pandemic in Ireland in March 2020 required the SoPPS to adapt its teaching approach, yet ensure programme integrity while meeting national social distancing guidelines. To provide structure to the patient video recordings, School academics suggested themes to discuss with patients (these included: family history, event/diagnosis, hospitalisation and discharge, community pharmacy care, lifestyle changes and psychological factors), as a holistic and

Table II: Qualitative patient feedback transcripts following video recordings

<p>Motivations for agreeing to participate</p> <ul style="list-style-type: none"> Graduate of the university (not a pharmacist). Desire to help future pharmacists interact with patients. Addressing the communication disconnect between patients and pharmacists.
<p>Ease/difficulty of discussing their experience</p> <ul style="list-style-type: none"> Not terribly difficult as it was a personal and a ‘lived experience’. Discussion guidance provided by the School was perfect as a starting point. Discussion guidance themes were well thought out and very useful.
<p>Previous contemplation of pharmacists’ role in their healthcare</p> <ul style="list-style-type: none"> No, not really. Pharmacists are seen as very much ancillary to a patient’s healthcare treatment and not an integral part of a patient’s treatment plan. Yes. Most important thing when moving house was sourcing a G.P. surgery which had a good relationship with a pharmacy. For a person with a chronic condition, communication and relationship with pharmacist is critical.
<p>Benefits of participation to the participating patients</p> <ul style="list-style-type: none"> A good opportunity to reflect on my treatment and my experiences – that was useful. Love trying to educate people the about Type 1 diabetes and the technology involved ... and what it’s actually like to have Type 1.
<p>Issues patients wished to emphasize to the students</p> <ul style="list-style-type: none"> The importance of communication skills and giving a newly presenting patient an opportunity to discuss their condition. Knowing when to give more time to a patient who is presenting to their pharmacy with a new and serious medical issue compared to a patient who has a lot of experience of their condition and treatment. Communication.
<p>Any specific focus desired for the live webinar component?</p> <ul style="list-style-type: none"> No, happy to discuss any topics. I just want to be open and honest with any question.

patient-centred approach which facilitates development of a 'shared understanding' and quality healthcare provision (Naughton, 2018). To ensure an authentic experience for students, participating patients had the scope to discuss freely their own experiences of their respective conditions (Towle *et al.*, 2010). Nonetheless, from patient feedback discussion guidance has proved valuable to our patients in structuring their approach.

While the use of virtual patients has been shown to be beneficial in pharmacy curricula, here it was decided to try to maintain the fidelity of the experience for students by utilising real-life patients. A systematic review has identified some disadvantages to using virtual patients, including their being less true to life, resulting in some students not focussing on their verbal communication skills when interacting with virtual patients (Jabbur-Lopes *et al.*, 2012). Direct online patient involvement will therefore help to develop pharmacists' communication skills, which was found to be an important motivation for participation by our patients. Shah and colleagues found similar altruistic reasons for patients' participation: a desire to contribute to the education of pharmacy graduates of the future and to share their personal expert view of their condition (Shah *et al.*, 2005). Also described by Jabbur-Lopes and colleagues is the inability of virtual patients to provide additional unscripted information in response to students' questions (Jabbur-Lopes *et al.*, 2012). It is anticipated that the use of real-life patients online will overcome such potential barriers, as a willingness to engage with students was strongly reflected in our patient feedback data.

Regarding benefits to the patient, one patient expressed that participation provided them with an opportunity to reflect on their treatment and experiences, a patient benefit not reported in a previous study (Grimes *et al.*, 2013). The desire and opportunity to educate students was another patient benefit reported in our patient interviews and is reflective of findings by Grimes where it was reported that patients like to feel valued and are given a 'voice'. Planning for the online component in the 2020-21 academic year will involve live patient participation in the question and answer discussion forum, which follows from the patient video. The benefits to students of direct patient involvement, such as a true to life experience and the opportunity to learn from what goes wrong (Grimes *et al.*, 2013), will continue to be experienced in the currently required environment of socially-distanced learning. Linked case-based workshops, redesigned from classroom to online, will complete the component, where small break-out rooms will strive to ensure student engagement, which was identified as a potential challenge (Table I).

Evaluation of student perceptions of the online component will be undertaken after roll-out. This will be based upon the challenges identified in evaluating the online component against the 'four pillars' to support student success. As noted by Becket and colleagues, evaluation of the positive and negative outcomes of patient involvement in pharmacy education is important in developing this approach to teaching (Becket *et al.*, 2014).

Conclusion

The COVID-19 pandemic has placed a requirement on pharmacy educators to redesign pedagogical methodologies. The educational benefits of patient-facing experiences can continue to be achieved online, while protecting vulnerable groups.

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