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RESEARCH ARTICLE

Using multiple lenses to explore how an undergraduate curriculum supports pharmacy students' patient-centred competency development

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Abstract

Background: This study explores how a Bachelor of Pharmacy curriculum supports students' holistic patient-centred competency development. **Methods:** This mixed-method exploratory study identified patient-centred care themes through a literature review. The themes were mapped to a curriculum. They also informed staff and student focus groups, and student, intern, and preceptor surveys. Qualitative data were thematically analysed, descriptive statistics were generated from quantitative data and the findings triangulated. **Results:** Six themes and 22 subthemes were identified and mapped. Attributes synthesised from subthemes, were explored via surveys. Eight staff and 20 students participated in four focus groups. The influence of people, immersive learning experiences and learning variety were identified as key facilitators for competency development. 51 students, 18 interns and 51 preceptors completed the questionnaires. The responses validated the themes and attributes and identified curricular strengths and gaps. **Conclusion:** A multi-step study incorporating triangulation generated a comprehensive and confirming overview of curriculum components, which led to pharmacy students' development of patient-centred competencies.

Introduction

Person or patient-centred practices empowering individuals to manage their own health and wellbeing are recognised in New Zealand and worldwide as pivotal to health professionals providing high quality healthcare (Constand *et al.,* 2014; Minister of Health, 2016a, 2016b; Ministry of Health, 2016). The term patient-centred care has evolved into person-centred care in recent years. However, the term patient-centred care is used throughout this study, as it was the term most commonly used in New Zealand at project inception. Culturally safe and inclusive practices are integral elements of truly patient-centred care that are sometimes considered separately. However, patient-centred practices in pharmacy include the provision of inclusive, responsive, and culturally safe and accessible pharmacy services to optimise medicine use and facilitate medicine-related equitable health outcomes. Moreover, healthcare that does not accommodate the diversity of patient needs can result in health inequities (National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division, 2017).

Care that is not patient-centred or inclusive can contribute to inequitable health outcomes that are avoidable, unfair and unjust (Ministry of Health, 2019). Regrettably, internationally and in New Zealand, inequities are experienced by a range of cultural groups, such as disabled people and transgender people (Ministry of Social Development, 2016; Goodyear-Smith & Ashton, 2019; Editorial Board, 2020; Tan *et al.,* 2020). In the New Zealand setting, Māori, the indigenous

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people of New Zealand, and those identifying with one or more Pacific Island ethnicities are particularly disadvantaged by the New Zealand health system, its services and the practices of some health practitioners (Goodyear-Smith & Ashton, 2019; Health Quality and Safety Commission, 2019, 2021; Ministry of Health, 2014c, 2020a).

Patient-centred practices are a key component of addressing health inequities and, resultingly, an important component of the curriculum (Nolte & Anell, 2020). To prepare Bachelor of Pharmacy graduates with the competencies required for effective patient-centred practice, an integrated spiral curriculum (Harden, 1999) was designed and implemented by the School of Pharmacy at the University of Auckland (University of Auckland, 2021). The new curriculum also incorporates substantially extended experiential placements to support cumulative competency development.

The aim of this study was to determine whether the revised curriculum, including the expanded experiential placements, supports students in developing patient-centred professional competencies. This was achieved first by reviewing the literature describing patient-centred practices with a focus on pharmacy and New Zealand. Next, key stakeholder insights into curriculum areas deemed important in facilitating student competence development and those areas needing review and further evaluation were elicited via focus groups and questionnaires.

Methods

This was a four-part cross-sectional sequential mixed method exploratory study (Figure I).

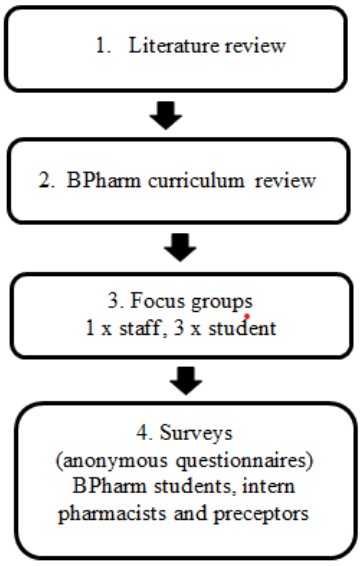

Figure I: Four components of the BPharm curriculum exploration

Rapid literature review

A rapid review of the literature was undertaken. This method is often used by decision-makers in healthcare settings requiring information in a timely manner (Khangura *et al.,* 2012). Pertinent literature was reviewed to situate this New Zealand-based curriculum exploration within wider international trends in pharmacy and health education. These included the identification of elements currently considered to constitute, align to, or support the development of patient-centred health practices. Databases ABI/INFORM Medline, Scopus, CINAHL Plus, ERIC, Psych INFO, Google Scholar and Google, were searched using the terms patient-centred, person-centred, care, communication, practice, personalised, pharmacy and education. The websites of New Zealand, international health professionals and other organisations involved in health care were also searched for relevant documents. Snowballing using the reference lists of articles and reports retrieved was used to identify additional relevant literature. The findings of this literature review informed the subsequent parts of this research.

Curriculum mapping

Themes and subthemes identified from the literature review were mapped to the Bachelor of Pharmacy (BPharm) curriculum at a course level using established methods (Harden, 2001; Austin, 2016) to identify the depth and extent they have been taught and assessed. All module and course descriptions, learning outcomes, assessment tasks and learning activities were reviewed, and sub-themes categorised as Core (In-depth student learning activity and/or focus of major assessment), Taught (In the course; not a major focus of in-depth student learning activity and/or not a major summative assessment), Peripheral (In the course; not as a major piece of learning content and not assessed) or Not Covered. TA reviewed all BPharm course documents and used local knowledge of the year 2 programme to begin the mapping exercise. Two research team members with oversight and teaching roles across the curriculum, LP and LB, then confirmed or added more information. The final stage was to incorporate additional information about theme and subtheme coverage from teaching leads in years 3 and 4 who reviewed the mapping and added additional insights for their courses/year levels.

Stakeholder participation

Perceptions and experiences of BPharm staff, placement preceptors, students, and graduated interns were explored via focus groups and surveys

regarding patient-centred care and in what ways the new BPharm programme supports graduates to develop patient-centred competencies. All current BPharm students and teaching staff were eligible to participate. BPharm placement preceptors (placement site student supervisors) and current intern pharmacists (graduates from the University of Auckland's recently revised BPharm programme) were also eligible. Teaching staff were invited to participate in a focus group. Students were invited to participate in a focus group and complete an online questionnaire, whilst interns and preceptors were only invited to complete an online questionnaire.

Students and staff were invited to participate in the research via a group e-mail sent from a third party. Eligible interns were contacted via the administrator of the intern training programme, and preceptors were invited to participate in a face-to-face training evening and via e-mail. All potential participants were informed that participation was voluntary and their decision would not affect relationships between them and the school.

Staff and student focus groups

The topic guides for the focus groups were informed by the literature review and research aims and objectives. The topics included: what is patient-centred pharmacy practice, competencies required to become a patient-centred practitioner, the best ways to learn how to be patient-centred, experiences with the revised curriculum, challenges to becoming patient-centred and essential curriculum content. Views on specific learning activities were also enquired about, including student views related to the inclusivity and equity perspectives of patient-centred care, specifically, on the embedding of Māori and Pacific Peoples' health, knowledge, values, and culture in the revised curriculum.

The focus groups were conducted by a pharmacist experienced in teaching and focus group facilitation, external to the School of Pharmacy. To ensure the research team, who are also teachers, were unaware of who participated and to reduce responses influenced by social desirability, participants were informed that the audio-recorded sessions would be professionally transcribed and anonymised before being provided to the research team. Each focus group ran for approximately one hour. All participants received a USD 20 shopping voucher. Student focus groups took place in September and October 2018, with the staff focus group held in April 2019. Focus group data were thematically analysed inductively in NVivo (*version* 12) by TA and RB (Thomas, 2006).

Student, intern pharmacist and preceptor pharmacist surveys

Twelve patient-centred attributes, competencies or practices identified in the literature review were incorporated into the anonymous online questionnaires along with other questions designed to address the aims of the research. Questions required a range of responses: from binary, 5-point Likert-type scales to open text. The online surveys were hosted on Qualtrics (Provo, Utah, USA). Table I provides further details about the questionnaires.

Student and intern pharmacist questionnaires explored perceptions of patient-centred pharmacy practice. To prevent being influenced by the attributes, competencies and practices explored later in the questionnaire, once this initial question had been completed, participants could not go back to change their answers.

The surveys for third and fourth year students and preceptors were open from March to April 2019. The surveys for second-year students and interns were open for one month at the end of their academic year (October 2019). All survey participants could enter unlinked prize draws for USD 50 shopping vouchers, managed by the administrator. This preserved the anonymity of their responses and did not reveal their participation to the research team who were, or had been, their teachers.

Student and intern pharmacist questionnaires were available for completion online. The preceptor questionnaire was available as a paper and online version. Online questionnaire responses were downloaded to Excel (*version* 16.42). The data from the completed paper questionnaires were manually entered into Excel. Data entry was then double-checked to ensure accuracy. Descriptive statistics were generated from quantitative data, and responses to questions requiring open text answers were analysed categorically using manifest content analysis (Bengtsson, 2016).

Triangulation

The data were triangulated by comparing the survey and focus group data with the curriculum mapping data and the themes and subthemes arising from the literature review (UNAIDS, ND).

Ethical approval for the study was obtained from the University of Auckland Human Participants Ethics Committee on 20 April 2018 for three years (Reference number: 020980). Informed consent was obtained from all participants.

Table I: The patient-centred topics enquired about and reported on in each questionnaire

Topic of enquiry and response options	Group surveyed		
	BPharm students	Intern pharmacists	Preceptor pharmacists
-Perceptions of what patient-centred care is (Open text)	Yes	Yes	
-Importance of pharmacists practising in a patient-centred manner (5-point scale: Extremely, Very, Moderately, Slightly, Not important at all)	Yes	Yes	
-Importance of reflection when providing patient-centred care (5-point scale: Extremely, Very, Moderately, Slightly, Not important at all)	Yes	Yes	
-Most significant/critical experience in BPharm programme (Open text)	Yes	Yes	
-If each of the 12 patient-centred care attributes are covered in sufficient depth in the curriculum (5-point scale: Disagree, Somewhat disagree, Neutral, Somewhat agree, Agree)	Yes	Yes	
-Confidence to demonstrate each of the 12 patient-centred care attributes (5-point scale: Disagree, Somewhat disagree, Neutral, Somewhat agree, Agree)	Yes	Yes	
-Value of placements in developing the 12 patient-centred care attributes (Open text)		Yes	
-A holistic assessment of how well the new curriculum supports development of patient-centred practices (5-point scale: Extremely poorly, Poorly, Neither well nor poorly, Somewhat well, Extremely well)		Yes	
-Importance of each of the 12 patient-centred care attributes in practice (5-point scale: 1 least – 5 most important)			Yes
-Whether each of the 12 patient-centred care attributes are developed in students on placement (YES/NO)			Yes
-Whether there is potential for students to further develop each of the 12 patient-centred care attributes on placement (YES/NO)			Yes
-Most important factor in supporting students to develop their ability to provide patient-centred care. (Open text)			Yes
-Rate the overall skills of students to provide patient-centred services at each placement (5-point scale: Very Poor, Poor, Neither poor nor good, Good, Very good and a "Don't take students for this placement" option)			Yes

Results

Literature review

The content or findings of 19 reports, 18 journal articles and one thesis, three webpages, one book and one blog, concerned with patient or person-centred practice in health or specifically pharmacy, were reviewed and synthesised into six themes with a total of 22 subthemes relating to patient-centred pharmacy practice (Picker Institute, 1987; Mead & Bower, 2000, 2002; Institute of Medicine, 2001; Little *et al.,* 2001; Gillespie *et al.,* 2004; Ellins & Coulter, 2005; Coulter & Ellins, 2006; Shaller, 2007; Robinson *et al.,* 2008; Berger, 2009; Mauri Ora Associates, 2010; Rapport *et al.,* 2010; Talemaitoga, 2010; Buetow, 2011; Luxford, *et al.,* 2011; Barry & Edgman-Levitan, 2012; Kitson *et al.,* 2013; Wallman *et al.,* 2013; Collins, 2014; Constand *et al.,* 2014; Cram, 2014; Greenhalgh *et al.,* 2014; Ministry of Health, 2014a, 2014b, 2016; Royal Pharmaceutical Society Wales, 2014; Canadian Pharmacists Association, 2015; Elvey *et al.,* 2015; O'Neill, 2015; Picton, 2015; Sharma *et al.,* 2015; Lee, 2016; Minister of Health, 2016a, 2016b; Pharmaceutical Society of New Zealand and New Zealand Medical Association, 2016; World Health Organization, 2016; Barnett, 2017; Hao, 2017; NEJM Catalyst, 2017; Redding & Hutchinson, 2017; Wolters, *et al.,* 2017; Health Innovation Network, ND). The themes generated from the literature are reported in Table II.

Curriculum map

The curriculum mapping exercise revealed that each theme and subtheme synthesised from the literature review was taught in the curriculum. However, there was variation in the depth of coverage. Some subthemes, such as building health literacy, had comprehensive coverage as they were developed and assessed across multiple years and courses. This process revealed that the subthemes: knowledge of a range of different cultural practices, establishing and maintaining links with cultural groups in the community, and professional contributions to health records had less coverage and/or depth in the curriculum despite some of these being complex topics requiring multiple learning opportunities.

Table II. The themes and sub-themes identified from the rapid literature review

Theme	Subtheme
Consideration of whole person	Perspective taking: personal viewpoints & illness experiences Individual empowerment to control medicine/condition Involving family/whānau
Communication & empowerment	Respectful and supportive engagement Effective communication - varied modalities and group Manage consultations Provide health coaching Conduct motivational interviews Facilitate shared decision making
Access & equity	Social justice & reducing health inequities Competence in Hauora Māori Building health literacy
Service provision	Promote health, wellness and wellbeing Provide accessible, culturally respectful services Provide brief interventions to specific groups of patients
Cultural capability	Knowledge of range of different cultural practices Effectively/respectfully manage dynamics of difference Establish/maintain links & relationships with cultural groups in the community
Co-ordinated care	Interprofessional learning education Effective collaborator / team member / leader Reflections on competences in multi-disciplinary settings Professional contributions to patient health records

Focus groups

Eight staff members participated in one focus group and 20 students participated in one of three focus groups.

Two main themes were apparent in all four focus group discussions. The first was how teaching staff, preceptors, fellow students, work colleagues, actual and simulated patients either encouraged patient-centred practice development or stifled it. The second theme was that meaningful, immersive, and varied learning opportunities are important. Variety relates to the teaching material and the delivery methods used. Participants reported a range of learning activities, which were helpful or most helpful for their learning and competency development including diversity in placement sites, simulations, videos, patient experience lectures and debates.

In the context of development of competencies to deliver equitable and inclusive person-centred care students were specifically asked about content relating to Māori and Pacific Peoples within the curriculum. Responses were related mainly to Hauora Māori (Māori health). There were differing viewpoints about how well the curriculum helped to develop student competencies in culturally safe practice with respect to Māori. In all student focus groups, there was agreement that immersive, experiential learning was the optimal way to learn about Māori-centred and inclusive pharmacy practices. Suggestions for useful methods of content delivery in this area were: workshops, talks by Māori about their experiences in the health system, and videos. Some students also commented that learning about other cultural groups should also be included in the BPharm curriculum. Commonly identified challenges to developing patient-centred practices were the crowded curriculum, the tension between knowledge and skills teaching, student focus on assessment, differences of opinion in best practice and inconsistency in placement experiences. See Table III for quotes illustrating the themes and views discussed.

Surveys

Analysable responses were received from 51/254 (20.1%) students, 33 (64.7%) of whom had a part-time pharmacy job, 18/73 (24.7%) interns, and 51/160 (31.9%) preceptors. Demographic information is displayed in Table IV. The surveys collected a large amount of data. Only the results directly relating to the aims of this study are presented here.

Student and intern survey results

Many responding students defined patient-centred care as providing holistic, individualised care, prioritising patient needs, preferences, values and beliefs, and patient satisfaction. However, some respondents focused on prioritising health outcomes and optimising care. There were also subtle differences where students mentioned either involving patients in decisions, e.g. “It means involving the patient when deciding on the best treatment for their condition.”, or assisting or empowering patients to make health-related decisions, e.g. “This process gives all decision-making control to the patient with the support and guidance of the healthcare team.” Some students mentioned working as a team with other health professionals and/or patients and their families. Overwhelmingly, interns believed that patient-centred care meant providing holistic care tailored to the individual. Some respondents also mentioned that the goal should be improving patients’ health outcomes, with a focus not just on medicines.

Table III: Patient-centred themes and illustrative quotes arising from the staff and student focus groups

Theme	Illustrative quotes from each focus group*
Influence of People People can have positive and negative influences on what students learn and value.	*"I think it also depends on which pharmacist you're with for your placements. Some pharmacists teach you more than others."* **STUDENT FOCUS GROUP 1** *"Being in a supportive environment where you feel like the tutors or the people who are above you and are teaching you, when they're kind and supportive it actually makes a world of difference to people's learning, because if people are stressed they're not going to take in what you're telling them."* **STUDENT FOCUS GROUP 2** *"…they did bring in patients relevant to that module and that definitely opens your eyes to what these patients go through, and how you can be part of their journey through healthcare. Because there's a lot of things that you don't know about these patients, or very small things that can drastically affect their lives and you don't realise that until you hear them talk about it."* **STUDENT FOCUS GROUP 3** *"So when I ran the [topic] module we had an amazing patient who came in and talked about his own personal experience. And the students were blown away by it because it brought all the workshop stuff into focus for them around that one condition."* **STAFF FOCUS GROUP**
Meaningful and varied immersive learning Providing a diverse range of relevant, regular active learning opportunities is essential.	*"The school actually did a really cool thing for the fourth years where they made us do a debate, which was really good coz half of the workshop was against vaccines, and the other half was for vaccines. And you sort of got both sides"* **STUDENT FOCUS GROUP 1** *"[Visual Thinking Strategies] was great, and you just talk about people, just talk and talk. It was fun. You see how other people might see things. And people are brilliant, and you care what they see about a picture and be just like "Wow, that's completely different from how I was seeing it, but that's a really interesting way of looking at it.""* **STUDENT FOCUS GROUP 2** *"Placements really, yeah. There's nothing like just being in a pharmacy and not knowing anything, and having to work it out on the spot. Coz no amount of knowledge that you try to study and memorise can help you in that situation"* **STUDENT FOCUS GROUP 3** *"Māori health intensive, because the whole purpose of that is to take a cultural lens, an equity lens, which is probably the only place they're [students] really, really focusing on that in a deep and meaningful way.* *And poverty simulation as well, in terms of seeing from the patient's perspective in terms of how difficult it is to access healthcare."* **STAFF FOCUS GROUP**
Hauora Māori and Pacific health content in curriculum Student views on the Māori and Pacific Peoples content in the BPharm curriculum.	*"… through my three years here I was open to it [learning about Māori and Pacific health] but it just felt like it wasn't pushed to me enough. Like okay, I'm aware this is something I need to be competent at, but where are the opportunities for me to further this competency? These lectures kind of like, they're telling me things but it's not going in because I'm not experiencing it."* **STUDENT FOCUS GROUP 2** *"If we talk, like as someone who's from New Zealand, we talk a lot about Māori and Pacific, and I think the school does that really, really well. And we kind of uphold that obligation to learning about that."* *"As I'm not from New Zealand as well I didn't really know much about different cultures here. So it was helpful in a way, but I believe there's still much more learning that we need to do. Especially coz we focus a lot about Māori health which is important, I 100 percent agree with that. But there's other cultures, New Zealand's a big melting pot and we don't often look at how to talk to Asians or Indians, and you know, approach what their beliefs about health are. And other cultures, like I believe there could be a bit more, like a more multi-cultural approach to it, more than just Māori health sometimes."* **STUDENT FOCUS GROUP 3**
Challenges Tensions in designing and co-implementing a curriculum that supports graduates who embody patient-centred practices	*"So I do think in the pharmacy degree a lot of the things that they try to come up with like that are really great in theory, but when you've got such an exhaustive workload people prioritise things based on mark allocations and that sort of thing."* **STUDENT FOCUS GROUP 2** *"…we're always looking at a case and it's like, it's designed so that we get one diagnosis. So everyone in the cohort, all 100 people will probably see it in the same way. They'll probably look at it and get it's eczema. So it's designed for us to be able to do that because we're students and they want us to learn about a specific topic, so that makes sense. But I think it's hard because when you apply that knowledge in a real setting it doesn't always look like that. And the things that you are looking for won't always present in every single person."* **STUDENT FOCUS GROUP 3** *"It's a fine balance of so much to teach and trying to cover everything."* *"It's relatively easy to teach about equity, but it's really, really difficult for students to learn about equity and to actually use what they've learnt in a real patient-centred framework. So yes, they understand about health disparities, but when they're faced with a patient how does that knowledge actually translate into a patient centred approach?"* **STAFF FOCUS GROUP**

*Some quotes illustrate more than one theme.

Table IV: Demographics of survey participants

Participants	Gender n (%)				
	Female	**Male**	**Diverse**	**Prefer not to say**	**Missing**
Students (n=51)	43 (84.3)	8 (15.7)	0 (0)	0 (0)	0 (0)
Year 2 n=21, Year 3 n=12, Year 4 n=18					
Intern pharmacists (n=18)	13 (72.2)	4 (22.2)	0 (0)	1 (5.6)	0 (0)
Preceptors (n=51)	26 (51.0)	16 (31.4)	1 (2.0)	3 (5.9)	5 (9.8)
Practice setting n (%)	**Community**	**Hospital**	**Hospice**		
	29 (56.9)	14 (27.5)	2 (3.9)		6 (11.8)

All students and interns, apart from one intern (n=68/69), thought it was very or extremely important to practice pharmacy in a patient-centred manner, with 50/51 students and 14/18 interns expressing that reflective practice was important to achieve this.

Students and interns generally agreed that the new BPharm curriculum includes aspects of all 12 identified attributes (Table V). Reflecting holistically on the curriculum, 7/18 interns reported the curriculum prepared them to provide patient-centred care extremely well and 7/18 felt it prepared them somewhat well.

The lowest level of agreement for students regarding the extent that the curriculum supported their development, was 'Involving whānau/family &/or support-people where necessary/at patient request' and 'Building effective inter-professional relationships', n=42/51 (82.4%). For interns, the lowest agreement levels were with 'Involving whānau/family &/or support-people where necessary/at patient request', 'Communicating with individuals effectively in a variety of ways' and 'Providing culturally respectful services', n=12/18 (66.7%). Highest levels of curriculum coverage agreement for students were 'Promoting health, wellness & wellbeing in individuals' and 'Demonstrating empathy and concerned compassion towards patients and their health problems', n=49/51, (96.1%). For interns this was 'Building inter-professional relationships', 'Demonstrating empathy and concerned compassion towards patients and their health problems' and 'Demonstrating respectful curiosity towards patients and their health problems', n=16/18 (88.9%).

With respect to confidence, students reported being most confident to 'Promote health, wellness and wellbeing in individuals' and demonstrate 'Empathy and concerned compassion towards patients and their health problems' and 'Respectful curiosity towards patients and their health problems', n=47/51 (92.2%). Interns also reported the most confidence in these elements together with 'Engaging patients in a manner facilitating their autonomy' and 'Considering each patient in a holistic manner', n=16/18 (88.9%).

The most significant learning experiences to support patient-centred competency development reported by students were placements (n=17), patients coming to classes (n=11) and roleplay with feedback (n=7). Whereas interns reflected that critical learning occurred through dispensing classes (n=7) and case-based care planning workshops (n=4). Interns indicated there was potential to develop all 12 attributes during placements but that the location of the individual placement site and preceptor attitude dictated whether this occurred. Many respondents indicated that placements were a hands-on opportunity to apply their learning and develop skills. Others mentioned that they provided: authentic patient experiences, exposure to the professional pharmacy environment to understand professional expectations, and opportunities to develop holistic practices and communication skills with people from different backgrounds.

Preceptor survey results

Over 75% of responding preceptors believed that all 12 attributes were important to providing patient-centred care (scored as 4/5 or 5/5). Half of the attributes had above 90% of respondents believing they were important (Table VI).

No additional patient-centred practice attributes that are not already covered in the curriculum were suggested. Preceptors provided a variety of responses when asked about the most important factor helping BPharm students to improve their competencies in providing patient-centred care. The most common response was repeated exposure and interaction with real patients in practice (n=18), strong communication skills including empathy (n=10), thinking of patients holistically (n=6), and confidence (n=4). Wanting to be a pharmacist, clinical knowledge and decision making, asking questions and reflecting, role modelling by teachers and pharmacists, and placement sites that genuinely want to help the intern were also mentioned by responding preceptors.

Table V: BPharm student and intern pharmacist perceptions on the coverage of patient-centred attributes in the BPharm curriculum and their confidence in demonstrating it

Attribute		Student (n=51)		Intern pharmacist (n=18)	
		Covered	Confident	Covered	Confident
Demonstrate empathy and concerned compassion towards patients & their health problems	Agree	49 (96.1)	47 (92.2)	16 (88.9)	16 (88.9)
	Neutral	0	2	1	1
	Disagree	0	0	1	1
	Missing	2	2	0	0
Promote health, wellness & wellbeing in individuals	Agree	49 (96.1)	47 (92.2)	15 (83.3)	16 (88.9)
	Neutral	0	2	1	1
	Disagree	0	0	2	1
	Missing	2	2	0	0
Consider each patient in a holistic manner	Agree	48 (94.1)	45 (88.2)	15 (83.3)	16 (88.9)
	Neutral	1	4	2	1
	Disagree	2	0	1	1
	Missing	0	2	0	0
Demonstrate respectful curiosity towards patients and their health problems	Agree	46 (90.2)	47 (92.2)	16 (88.9)	16 (88.9)
	Neutral	3	2	1	1
	Disagree	0	0	1	1
	Missing	2	2	0	0
Communicate with individuals effectively in a variety of ways	Agree	46 (90.2)	39 (76.5)	12 (66.7)	15 (83.3)
	Neutral	2	8	5	1
	Disagree	1	2	1	1
	Missing	2	2	0	1
Engage patients in a manner facilitating their autonomy	Agree	45 (88.2)	45 (88.2)	13 (72.2)	16 (88.9)
	Neutral	2	3	4	1
	Disagree	2	1	1	1
	Missing	2	2	0	0
Provide culturally respectful services	Agree	45 (88.2)	45 (88.2)	12 (66.7)	13 (72.2)
	Neutral	3	3	5	2
	Disagree	1	1	1	1
	Missing	2	2	0	2
Facilitate shared decision-making	Agree	43 (84.3)	44 (86.3)	14 (77.8)	15 (83.3)
	Neutral	4	5	3	2
	Disagree	1	0	1	1
	Missing	3	2	0	0
Provide equitable access to pharmacy services	Agree	43 (84.3)	40 (78.4)	13 (72.2)	14 (77.8)
	Neutral	5	5	2	2
	Disagree	1	3	3	1
	Missing	2	3	0	1
Provide services that are culturally safe & appropriate for improving the health of Māori	Agree	43 (84.3)	38 (74.5)	14 (77.8)	14 (77.8)
	Neutral	5	9	1	3
	Disagree	1	2	3	1
	Missing	2	2	0	0
Build effective inter-professional relationships	Agree	42 (82.4)	41 (80.4)	16 (88.9)	14 (77.8)
	Neutral	6	5	1	1
	Disagree	1	3	1	2
	Missing	2	2	0	1
Involve whānau/family &/or support-people where necessary/at patient request	Agree	42 (82.4)	36 (70.6)	12 (66.7)	15 (83.3)
	Neutral	6	11	5	2
	Disagree	1	1	1	1
	Missing	2	3	0	0

Table VI: BPharm preceptor perceptions of the importance of patient-centred attributes in practice (n=51)

Attribute	*Important+* n (%)	Developed on placements n (%)	Potential to develop more n (%)
Consider each patient in a holistic manner	50 (98.0)	43 (84.3)	40 (78.4)*
Communicate with individuals effectively in a variety of ways	50 (98.0)	47 (92.2)	42 (82.4)
Demonstrate empathy & concerned compassion towards patients & their health problems	49 (96.1)*	45 (88.2)	42 (82.4) **
Demonstrate respectful curiosity towards patients & their health problems	48 (94.1)*	41 (80.4) **	40 (78.4) **
Provide culturally respectful services	47 (92.2)*	38 (74.5)*	42 (82.4)****
Engage patients in a manner facilitating their autonomy	44 (86.3)*	28 (54.9)*	42 (82.4)**
Build effective inter-professional relationships	46 (90.2)*	38 (74.5)*	39 (76.5)***
Provide services that are culturally safe & appropriate for improving the health of Māori	44 (86.3)*	31 (60.8)*	40 (78.4) ***
Involve whānau/family &/or support people where necessary/at patient request	43 (84.3)*	33 (64.7)**	38 (74.5)
Promote health, wellness & wellbeing in individuals	42 (82.4)**	39 (76.5)*	38 (74.5)**
Facilitate shared decision-making	39 (76.5)	32 (62.7)	34 (66.7)*
Provide equitable access to pharmacy services	39 (76.5)***	23 (45.1)***	32 (62.7)**

+ Scored as 4 or 5 where 5=most important and 1=least important; *= number of missing responses to that question

Preceptors were asked to assess the general skills of the University of Auckland BPharm students they had supervised so far in the new programme with respect to providing patient-centred services. The number of preceptors rating student skills as good or very good increased at each successive placement: n=10/33 in placement one (year two), n=15/36 in placement two, n=18/34 in placement three (both year three), n=31/37 in placement four and n=32/36 in placement five (both year four). This suggests that student competence in providing patient-centred care gradually increases as the student progresses through the programme.

Most respondents (92.2%) indicated that students developed their skills to communicate with individuals effectively in a variety of ways during placements (see Table VI). 'Providing equitable access to pharmacy services' and 'Facilitating shared decision making' were the elements believed to have the least potential to be further developed by students on placements. Twenty-five (49.0%) and 18 (35.3%) preceptors reported these were not developed by students in placements and 16 (31.4%) and 15 (29.4%) reported no potential to develop these attributes further in placements.

Triangulation of the responses from the different sources supports the view that the BPharm curriculum covers all key elements of patient-centred care to some extent. However, there are areas where the content, integration and assessment, and placements could be refined or developed further to make informed improvements. Examples include the involvement of whānau/family and/or support people in health conversations and team-based approaches to culturally safe service provision.

Discussion

A multi-lens review of a revised integrated curriculum was undertaken with respect to students' patient-centred competency development.

Implications arising from curriculum mapping – gaps exposed

The literature review revealed the concept of patient or person-centred pharmacy practice has varied facets and interpretations. Patient-centred practice in pharmacy involves incorporation of numerous domains of knowledge, a range of skills and competencies and requires intrinsic motivation to practice in this manner. The potential overlap between some of the themes and subthemes used in the project reflects this complexity and the evolving nature of the concept. This is exemplified by the change from using the term patient-centred to person-centred care. This change reflects an attempt to shift the power away from the health professional providing care towards sharing it with the person seeking or receiving the care (Sharma *et al.,* 2015).

This change was also reflected in student views about the concept.

The New Zealand literature makes it clear that there is a need for health care workers to provide care optimised to individuals and to eliminate practices contributing to inequitable health outcomes (Minister of Health, 2016b; Te Karu *et al*., 2018; Health Quality and Safety Commission, 2019; Health and Disability System Review, 2020; Ministry of Health, 2020c). In New Zealand, person-centred practices require pharmacy professionals to practice in ways that eliminate medicine-related health inequities for Māori (Ministry of Health, 2016). Māori are tangata whenua, (indigenous peoples of NZ), and te Tiriti o Waitangi (an agreement, now considered a constitutional document, signed by the British Crown and a large number of Māori chiefs) places obligations on the health system to address health inequities experienced by Māori (Ministry of Health, 2020b; Te Tiriti o Waitangi [Māori version], 1840). Consequently, the curriculum in this study should support this goal by prioritising graduates who provide a culturally safe environment for Māori peoples as part of providing holistic patient-centred care.

The purpose of the curriculum mapping phase was to create a whole-of-curriculum visualisation showing where, and to what depth, the key elements of patient-centred practice identified in the literature review are taught and assessed in the integrated curriculum (Sumsion & Goodfellow, 2004). This was to ensure carefully spiralled content and learning opportunities exist for students to develop their emerging patient-centred competencies, receive formative feedback, and have them assessed. There were some commonalities and small differences between students and interns with respect to what was perceived as most helpful for learning. The differences may be due to the degree of exposure to the work environment, the internship setting, the small number of interns responding, or the effect of hindsight.

One area determined to have poorer coverage and/or depth was 'Professional contributions to health records.' On reflection, this has potential to be further developed on placements and through some curricular adjustments. Two other areas of relative weakness identified relate to cultural aspects of inclusive practices i.e. 'Knowledge of a range of different cultural practices' and 'Establishing and maintaining links with cultural groups in the community'. In the focus groups, a variety of opinions were expressed about whether Māori and Pacific health were given sufficient attention in the curriculum and whether other cultural groups should also receive more attention. However, in 2020 the Ministry of Health published Whakamaua: Māori Health Action Plan 2020–2025 which again articulates the need for health professionals to meet te Tiriti o Waitangi obligations (Ministry of Health, 2020d). This provides further weight to the argument that Hauora Māori (Māori Health) should be effectively embedded into the curriculum first, before other cultural groups. Improving the health of Pacific Peoples in New Zealand has been a health system priority since 2002, yet many studies suggest that health inequities are increasing for Pacific Peoples (Ryan, *et al.,* 2019; Health Quality and Safety Commission, 2021). In Auckland, New Zealand where the School is based, Pacific Peoples are the third largest population group. This also supports an argument for wider prioritisation of Pacific health in the curriculum prior to focussing on additional cultural groups.

Influence of informal curriculum, people and role modelling

Hafferty described the existence of three interrelated medical curricula (Hafferty, 1998): formal, informal and hidden. A formal published one was captured by the curriculum mapping exercise. An informal one generally occurs during interactions between students and staff and preceptors. This curriculum is not prescribed and is less monitored and less predictable as it takes advantage of individual staff interests, experiences, and teaching opportunities as they arise. This informal curriculum was explored in the focus groups and the surveys we conducted. Finally, there is a hidden curriculum, which arises from institutional structures and dominant cultures. This can be revealed by critically appraising guiding policies, what is evaluated, the terms used, resource allocation in an institution and accreditation requirements. The hidden BPharm curriculum was exposed in the mapping exercise, to some extent in the focus groups and the surveys, but more through the authors' own critical reflections as teachers and shared team discussions regarding gaps highlighted through the phases of triangulation process.

During the focus groups, staff and students talked about the influence and importance of people on the development of their patient-centred competencies, i.e. the informal curriculum. The people mentioned were patients, peers, university teaching staff and preceptors. Previous research found that teachers model patient-centred behaviour by teaching in a student-centred manner i.e., having a positive attitude towards students and teaching, building rapport, demonstrating care and respect for students and creating a safe teaching environment. This manner

assists with developing students' own intrinsic motivation to learn and to become people-centred themselves (Brewer & Burgess, 2005; Bengtsson & Ohlsson, 2010; ten Cate *et al.,* 2011; Davies, *et al.,* 2012; Orsini *et al.,* 2011). A 2008 study found medical students were torn between being strategic, by focussing on what was assessed, signalled by the formal curriculum, and concentrating on what they learned via the informal curriculum which was important, but seldom assessed (Ozolins *et al.,* 2008). Bradley and colleagues explored how hidden and informal curricula shape pharmacy students' learning about patient safety (Bradley *et al.,* 2011). They found that informal learning from teacher practitioners was highly valued by students, indicating the importance of role models in practice. With respect to indigenous people's health, Ewen and colleagues reported that in order to achieve meaningful changes in the learning outcomes of medical students, formal and hidden curriculum alignment is necessary (Ewen *et al.,* 2012). These findings suggest it is worthwhile to carefully consider teaching by academic staff, mentors and preceptors, and explore which patient-centred learning from the informal curriculum might need to be aligned with the formal curriculum and assessments to ensure key elements are 'visible' and valued by students.

It has been found that there is overlap between the teaching of indigenous people's health and cultural competence (Jones *et al.,* 2010). A previous study identifying key elements of cultural competence with respect to pharmacy student development in New Zealand found merit in adopting a cultural competence philosophy that all staff have an awareness of, and act and teach in accordance with (Aspden *et al.,* 2017). Therefore, to improve the safety, effectiveness and consistency of the informal curriculum with respect to Hauora Māori, it may be useful to articulate a philosophy of patient-centred care, incorporating cultural safety (the concept now preferred over cultural competence (Curtis *et al.,* 2019)), for the school. staff, including non-teaching staff and preceptors, would then need to be made aware of the philosophy and related behavioural expectations. This could also inform formal curriculum amendments, such as increased assessment of Hauora Māori.

Developing competency through varied, immersive, integrated, and reflective learning

This research has validated that offering students a variety of safe, scaffolded, in-class teaching and placement experiences in different settings, providing practice interactions with peers and patients through role plays and simulations, and via small group teaching are key. These activities provide students with both knowledge and skills development, as well as support to develop professional attitudes embodied in the first three layers of Miller's pyramid of clinical competence that moves from 'knows', through to 'shows how' (Miller, 1990). Muzyk and colleagues recently recommended that to support the development of students' patient-centred professional attitudes, schools of pharmacy should ensure they focus on the attitudinal or affective aspects of learning in addition to knowledge acquisition and skills development (Muzyk *et al.,* 2017). The curriculum deliberately includes several affective experiences such as patient interviews, whole-class debates, Visual Thinking Strategies workshops, programmatic e-portfolio reflections and face-to-face and online learning simulations. These provoke student consideration and critical examination of their own personal and professional values and attitudes towards difference and societal groups often stigmatised by society, such as those living on low incomes, (Aspden *et al.,* 2016) and those opposing vaccinations. These immersive experiences were identified by students as being particularly helpful for their learning. An area recently explored by Kremer and colleagues was the diversity and inclusivity of the case studies used in a pharmacy curriculum. Their recommendation was for programmes to regularly review teaching material with a focus on this area (Kremer *et al.,* 2021).

The research sought to deconstruct the concept of patient-centred care in pharmacy, examine where it occurs in a BPharm curriculum and to expose learning experiences that best support competency development in this area in the students. Since the curriculum is integrated, the aspiration is that the sum total of student learning and patient-centred professional development, which involves attunement of the head and the heart, along with developing the art of practice, is much greater than the simple addition of its many intersecting parts.

In an integrated curriculum, students are encouraged to make connections between knowledge gained from different sources, and to apply theories learned in the classroom to situations in real world practice, understanding the nuances of practicing in different settings (Association of American Colleges and Universities & Carnegie Foundation for the Advancement of Teaching, 2004). Lessons involving the application of knowledge and critical reflection have been recognised as essential in encouraging transference to professional and practice settings (Caffarella, 2002). A review by Abuzour and colleagues reported that for pharmacy and nursing prescriber postgraduate students, transference can also occur in

social spaces when supported by colleagues and guidelines (Abuzour *et al.,* 2018). The ultimate aim is for student learning to transfer into professional practices that are demonstrated habitually as part of a student's emergent professional identity. Cruess et al proposed adding a fifth apex layer, 'Is' to Miller's 4-layer Pyramid (Cruess *et al.,* 2016). '*Is*' refers to professional identity formation which is demonstrated by behaviours that are guided by attitudes, beliefs and values accumulated through integrated learning and experiences. This modified pyramid could also be applied to the development of students' identities as patient-centred practitioners. A barrier to practice development and identity formation has been reported to be an unsupportive (non student-centric) learning environment (Hafferty, 2009; Jacob & Boyter, 2020). The findings support this view. For students to adopt patient-centred attitudes and competencies requires teaching staff and preceptors who show enthusiasm for, and can be confident in, their own patient-centred competencies to provide patient-centred care, and staff and preceptors who employ student-centred teaching approaches.

Significance of experiential placements for learning transference

Placements were viewed by students, interns and preceptors as being particularly helpful for transferring what is learned about patient-centred practices in classrooms to actual patient encounters. This was also found in a study of final year BPharm students in Malaysia regarding their perceived preparedness to provide patient-centred care (Hasan *et al.,* 2013). Experiential placements incorporate elements of the formal and the informal curriculum and provide an opportunity for students to progress to the 'does' and 'is' layers of the modified clinical competence pyramid. The placement programme at the School uses best educational practices, such as ambitious teaching, to maximise the learning, and transfer of learning realised by students during and from their placement experiences (Nevins Stanulis & Guenther, 2021). The School's placement programme involves tailored pre-work and preparation for each placement, timely in-depth preceptor feedback, peer and scaffolded learning and peer and staff debrief/reflection sessions. The placement program includes regular, assessed, written reflective pieces in a cumulative longitudinal e-portfolio at intervals across the programme. Reflection has long been reported as being a fundamental element of professional practice and identity development (Schön, 1983; Boud *et al*., 1985; Caffarella & Barnett, 1994; Haack, 2008; Tsingos, *et al.,* 2014; Jacob & Boyter, 2020). Most students and interns responding to the survey acknowledged reflection as being a central aspect to them developing their patient-centred care practices.

Curricular constraints limit how much can be practiced and experienced by students on placements. However, a 2011 study by Bradley and colleagues reported that students believed voluntary work experience was a valuable supplement to formal placements (Bradley *et al.,* 2011). In this study almost two thirds (33) of the responding students had a part-time pharmacy job, suggesting that this is another influential aspect of students' patient-centred care learning and that the managers of these sites could be another group of key stakeholders for the School to partner with to maximise student learning. A recent study of Masters of Pharmacy students in the UK reported that over 80% of respondents believed that their part time pharmacy work should contribute towards their experiential learning hours (Jacob & Boyter, 2020).

The limitations of this work include low response rates to the surveys and the potential for responder and social desirability bias. However, this triangulated research method overcomes these limitations to an extent and provides a degree of confidence in the findings, as does the degree of consistency of the findings from the different sources and plausible reasons for differences. Whilst the high-level themes of patient-centred care reported should be generalisable to other health professions in New Zealand and other jurisdictions and professions, not all subthemes will be directly transferrable.

Future work

With respect to Māori and Pacific health, the structure and mandate for including more of this content already exists in the inequitable health outcomes of these populations, the pharmacist competence standards, the BPharm graduate outcomes, and their associated learning domains. However, there is a need to be more deliberate and explicit with the teaching of these areas, and to commit to assessing these elements at all levels of Miller's pyramid by allocating more summative assessment points to these domains. Survey responses and recent research indicate that attention should also be given to providing opportunities whilst on placement, to further develop students' abilities to link theory with practice with respect to providing services that are culturally safe and appropriate for improving the health of Māori (Wepa & Wilson, 2019).

Additionally, examining the curriculum in more granular detail would be a valuable activity. Mapping the demographic details of the people featuring in

teaching cases as Kremer and colleagues recommended, would permit an increase in the range of cultural groups and practices students are exposed to in the curriculum, as suggested by some student respondents (Kremer *et al.,* 2021). It would also be an opportunity for staff to model good practice by establishing relationships with cultural groups within the community in order to co-create these cases and increase their own knowledge of cultural groups. Repeating the surveys at strategic intervals and/or establishing a stakeholder reference group to periodically review the curriculum, would also monitor the curriculum with respect to students' patient-centred competency development.

Conclusion

This four-stage process involving different key stakeholder groups and triangulated data was an effective method of exploring a BPharm curriculum. This work determined that patient-centred pharmacy practices in New Zealand are multi-dimensional and that overall the curriculum supports students to develop the general knowledge, skills and attitudes required to provide patient-centred care. Experiential learning was believed to be particularly important for enabling students to apply both theory learned, and skills practiced in safe curricula spaces, with modelling of patient-centred practices in a supervised real-world environment. There are also moral, professional, and social responsibilities to initially focus on improving the depth of Hauora Māori and increase the Pacific Peoples' health content within New Zealand-based curriculum. These areas need ongoing resource and teacher competency development, as teachers model patient-centred practices through student centred-teaching practices and are the enactors of formal, informal and hidden curricula.

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Conflict of interest

The authors declare no conflicts of interest.

References

Abuzour, A., Lewis, P., & Tully, M. (2018). Practice makes perfect: A systematic review of the expertise development of pharmacist and nurse independent prescribers in the United Kingdom. *Research in Social and Administrative Pharmacy*, **14**(1), 6-17. https://doi.org/10.1016/j.sapharm.2017.02.002.

Aspden, T., Butler, R., Heinrich, F., Harwood, M., & Sheridan, J. (2017). Identifying key elements of cultural competence to incorporate into a New Zealand undergraduate pharmacy curriculum. *Pharmacy Education,* **17**(1), 43-54. https://pharmacyeducation.fip.org/pharmacyeducation/article/view/477

Aspden, T., Sheridan, J.L., & Harrison, J. (2016). "Talking and thinking": The impact of a simulation on pharmacy undergraduates' beliefs and attitudes about living in poverty. *Currents in Pharmacy Teaching and Learning,* **8**(4), 447-457. https://doi.org/10.1016/j.cptl.2016.03.016

Association of American Colleges and Universities & Carnegie Foundation for the Advancement of Teaching. (2004). A statement on integrative learning: Washington, DC. http://wacenter.evergreen.edu/sites/wacenter.evergreen.edu/files/statementintlearning.pdf

Austin, Z. (2016). How to design and use learning objectives in clinical teaching. *Pharmaceutical Journal*, **296**(7885), 46-48. https://pharmaceutical-journal.com/article/ld/how-to-design-and-use-learning-objectives-in-clinical-teaching#main-content

Barnett, N. (2017). Developing a Person-Centred approach to Pharmacy Practice. Unpublished Thesis by Publication, Kingston University, Surrey.

Barry, M., & Edgman-Levitan, S. (2012). Shared decision making - the pinnacle of patient-centered care. New England *Journal of Medicine*, **366**(9), 780-781. https//doi.org/10.1056/NEJMp1109283

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. Nursing Plus Open, 2, 8-14. https://doi.org/10.1016/j.npls.2016.01.001

Bengtsson, M., & Ohlsson, B. (2010). The nursing and medical students motivation to attain knowledge. *Nurse Education Today*, **30**(2),150-156. https://doi.org/10.1016/j.nedt.2009.07.005

Berger, B. (2009). Patient-centered care: It's about time. *American Journal of Pharmaceutical Education*, **73(**5) Article 91. https//doi.org/10.5688/aj730591

Boud, D., Keogh, R., & Walker, D. (1985). Reflection: Turning Experience into Learning. London: Kogan Page.

Bradley, F., Steven, A., & Ashcroft, D. M. (2011). The role of hidden curriculum in teaching pharmacy students about

patient safety. *American Journal of Pharmaceutical Education,* **75**(7), Article 143. https:/doi.org/10.5688/ajpe757143

Brewer, E. W., & Burgess, D. N. (2005). Professor's role in motivating students to attend class. *Journal of STEM Teacher Education for Health,* **42**(3), Article 3. https://ir.library.illinoisstate.edu/jste/vol42/iss3/3

Buetow, S. (2011). Person-centred care: Bridging current models of the clinician-patient relationship. The *International Journal of Person Centered Medicine*, **1**(1), 196-203. https://doi.org/10.5750/ijpcm.v1i1.46

Caffarella, R. (2002). Devising Transfer-of-Learning Plans. In R. Caffarella (Ed.), Planning Programs for Adult Learners: A Practical Guide for Educators, Trainers, and Staff Developers (2nd ed) (pp. 203-223). San Francisco, CA: Jossey-Bass.

Caffarella, R., & Barnett, B. (1994). Characteristics of adult learners and foundations of experiential learning. *New Directions for Adult and Continuing Education*, **94**(62), 29-42. https://doi.org/10.1002/ace.36719946205

Canadian Pharmacists Association. (2015). Blueprint for Pharmacy: Transition in a New Era. Ottawa: Canadian Pharmacists Association. https://www.pharmacists.ca/cpha-ca/assets/File/pharmacy-incanada/blueprint/Blueprint%20Transition%20Report_2015_ENG.pdf

Collins, A. (2014). Measuring what really matters: Towards a coherent measurement system to support person-centred care. London: The Health Foundation. https://www.health.org.uk/publications/measuring-what-really-matters-towards-a-coherent-measurement-system-to-support-person-centred-care

Constand, M., J. , MacDermid, V., Bello-Haas, D., & Law, M. (2014). Scoping review of patient-centered care approaches in healthcare. BMC Health Services Research, 14, 271. https//doi.org/10.1186/1472-6963-14-271

Coulter, C., & Ellins, J. (2006). Patient-focused interventions. A review of the evidence. London: The Health Foundation. https://www.health.org.uk/sites/default/files/PatientFocusedInterventions_ReviewOfTheEvidence.pdf

Cram, F. (2014). Improving Māori access to health care: Research report. Auckland: Katoa Ltd. https://www.moh.govt.nz/notebook/nbbooks.nsf/0/211DA45C5EA63205CC257DD8007AE977/$file/Access_ResearchReport.pdf

Cruess, R. L., Cruess, S. R., & Steinert, Y. (2016). Amending Miller's Pyramid to Include Professional Identity Formation. Academic Medicine, **91**(2), 180-185. https//doi.org/10.1097/ACM.0000000000000913

Curtis, E., Jones, R., Tipene-Leach, D., Walker, C., Loring, B., Paine, S.-J., et al. (2019). Why cultural safety rather than cultural competency is required to achieve health equity: a literature review and recommended definition. *International Journal for Equity in Health,*18, 174. https//doi.org/ 10.1186/s12939-019-1082-3

Davies, B., Leung, A., & Dunne, S. (2012). So how do you see our teaching? Some observations received from past and present students at the Maurice Wohl Dental Centre. *European Journal of Dental Education,* **16**(3), 138-143. https://doi.org/10.1111/j.1600-0579.2012.00733.x

Editorial Board. (2020). Taking urgent action on health inequities [Editorial]. *The Lancet*, **395**(10225). https://doi.org/10.1016/S0140-6736(20)30455-4

Ellins, J., & Coulter, C. (2005). How engaged are people in their health care? Findings of a national telephone survey. Oxford: Picker Institute Europe. https://www.health.org.uk/publications/how-engaged-are-people-in-their-healthcare

Elvey, R., Hassell, K., Lewis, P., Schafheutle, E., Willis, S., & Harrison, S. (2015). Patient-centred professionalism in pharmacy: values and behaviours. *Journal of Health Organization and Management,* **29**(3), 413-430. https//doi.org/10.1108/JHOM-04-2014-0068

Ewen, S., Mazel, O., & Knoche, D. (2012). Exposing the hidden curriculum influencing medical education on the health of Indigenous people in Australia and New Zealand: the role of the Critical Reflection Tool. *Academic Medicine*, **87**(2), 200-205. https//doi.org/10.1097/ACM.0b013e31823fd777

Gillespie, R., Florin, D., & Gillam, S. (2004). How is patient-centred care understood by the clinical, managerial and lay stakeholders responsible for promoting this agenda? *Health Expectations,* **7**(2), 142-148. https//doi.org/10.1111/j.1369-7625.2004.00264.x

Goodyear-Smith, F., & Ashton, T. (2019). New Zealand health system: universalism struggles with persisting inequities. *The Lancet*, **394**(10196), 432-442. https//doi.org/10.1016/S0140-6736(19)31238-3

Greenhalgh, T., Howick, J., & Maskrey, N. (2014). Evidence based medicine: a movement in crisis? *British Medical Journal*, 348, g3725. https//doi.org/10.1136/bmj.g3725

Haack, S. (2008). Engaging pharmacy students with diverse patient populations to improve cultural competence. *American Journal of Pharmaceutical Education*, **72**(5), Article 124. https//doi.org/10.5688/aj7205124

Hafferty, F. W. (1998). Beyond curriculum reform: confronting medicine's hidden curriculum. *Academic Medicine,* **73**(4), 403-407. https//doi.org/10.1097/00001888-199804000-00013

Hafferty, F. W. (2009). Professionalism and the socialization of medical students. In R. L. Cruess, S. R. Cruess & Y. Steinert (Eds.), Teaching Medical Professionalism (pp. 53–73). New

York: Cambridge University Press. https://doi.org/10.1017/CBO9780511547348.005

Hao, M. (2017). The rise of patient-centred technologies in community pharmacy. *The Pharmaceutical Journal* https//doi.org/10.1211/PJ.2017.20202232

Harden, R. (1999). What is a spiral curriculum? Medical Teacher, **21**(2), 141–143. https://doi.org/10.1080/01421599979752

Harden, R. M. (2001). AMEE Guide No. 21: Curriculum mapping: a tool for transparent and authentic teaching and learning. *Medical Teacher,* **23**(2), 123-137. https//doi.org/10.1080/01421590120036547

Hasan, S. S., Wong, P. S., Ahmed, S. I., Chong, D. W. K., Mai, C. W., Pook, P., et al. (2013). Perceived impact of clinical placements on students' preparedness to provide patient-centered care in Malaysia. *Currents in Pharmacy Teaching and Learning*, **5**(4), 303-310. https//doi.org/10.1016/j.cptl.2013.01.010

Health and Disability System Review. (2020). Health and Disability System Review – Final Report –Pūrongo Whakamutunga Wellington: HDSR. https://systemreview.health.govt.nz/assets/Uploads/hdsr/health-disability-system-review-final-report.pdf

Health Innovation Network. (ND). What is person-centred care and why is it important? South London: Health Innovation Network. https://healthinnovationnetwork.com/resources/what-is-person-centred-care/

Health Quality and Safety Commission. (2019). A window on the quality of Aotearoa New Zealand's health care 2019. Wellington Health Quality and Safety Commission. https://www.hqsc.govt.nz/resources/resource-library/a-window-on-the-quality-of-aotearoa-new-zealands-health-care-2019-a-view-on-maori-health-equity-2/

Health Quality and Safety Commission. (2021). Bula Sautu – A window on quality 2021: Pacific health in the year of COVID-19. Wellington: Health Quality & Safety Commission. https://www.hqsc.govt.nz/resources/resource-library/summary-bula-sautu-a-window-on-quality-2021-pacific-health-in-the-year-of-covid-19-whakarapopotanga-bula-sautu-he-mata-kounga-2021-hauora-pasifika-i-te-tau-covid-19/

Institute of Medicine. (2001). Crossing the Quality Chasm: A New Health System for the 21st Century. Washington DC: National Academies Press (US). https://www.ncbi.nlm.nih.gov/books/NBK222274/

Jacob, S. A., & Boyter, A. C. (2020). Survey of undergraduates' perceptions of experiential learning in the MPharm programme: The TELL Project. Pharmacy Practice (Granada), **18(**2), 1856. https//doi.org/10.18549/PharmPract.2020.2.1856

Jones, R., Pitama, S., Huria, T., Poole, P., McKimm, J., Pinnock, R.,(2010). Medical education to improve Māori health. *New Zealand Medical Journal*, **123**(1316), 113-122.

Khangura, S., Konnyu, K., Cushman, R., Grimshaw, J., & Moher, D. (2012). Evidence summaries: the evolution of a rapid review approach. *Systematic Reviews*, 1(10), 9. https//doi.org/10.1186/2046-4053-1-10

Kitson, A., Marshall, A., Bassett, K., & Zeitz, K. (2013). What are the core elements of patient-centred care? A narrative review and synthesis of the literature from health policy, medicine and nursing. *Journal of Advanced Nursing*, **69**(1), 4-15. https//doi.org/10.1111/j.1365-2648.2012.06064.x

Kremer, L. J., Nguyen, A. L. A., Waaka, T., A., Tutbury, J., Wilby, K. J., & Smith, A. (2021). To what extent does a pharmacy curriculum foster diversity and inclusion through paper-based case scenarios?. *Pharmacy Education,* **21**(1), 612-620. https://doi.org/10.46542/pe.2021.211.612620

Lee, C. (2016). The move to patient centered pharmacy: How to get there from here." Health IT Outcomes https://www.healthitoutcomes.com/doc/the-move-to-patient-centered-pharmacy-how-to-get-there-from-here-0001.

Little, P., Everitt, H., Williamson, I., Warner, G., Moore, M., Gould, C., et al. (2001). Preferences of patients for patient centred approach to consultation in primary care: observational study. *British Medical Journal*, **322**(7284), 468-472. https//doi.org/10.1136/bmj.322.7284.468

Luxford, K., Safran, D., & Delbanco, T. (2011). Promoting patient-centered care: a qualitative study of facilitators and barriers in healthcare organizations with a reputation for improving the patient experience. *International Journal for Quality in Health Care,* **23**(5), 510-515. https//doi.org/10.1093/intqhc/mzr024

Mauri Ora Associates. (2010). Best health outcomes for Pacific Peoples: Practice implications. Wellington: Medical Council of New Zealand.

Mead, N., & Bower, P. (2000). Patient-centredness: a conceptual framework and review of the empirical literature. *Social Science & Medicine*, **51**(7), 1087-1110. https//doi.org/10.1016/s0277-9536(00)00098-8

Mead, N., & Bower, P. (2002). Patient-centred consultations and outcomes in primary care: a review of the literature. *Patient Education and Counseling*, **48**(1), 51-61. https//doi.org/10.1016/s0738-3991(02)00099-x

Miller, G. E. (1990). The assessment of clinical skills/competence/performance. Academic Medicine, 65(9), S63-S67.https//doi.org/10.1097/00001888-199009000-00045

Minister of Health. (2016a). New Zealand Health Strategy: Future direction. Wellington. https://www.health.govt.nz/system/files/documents/public

ations/new-zealand-health-strategy-futuredirection-2016-apr16.pdf

Minister of Health. (2016b). New Zealand Health Strategy: Roadmap of actions 2016. Wellington: Minitry of Health. https://www.health.govt.nz/system/files/documents/publications/new-zealand-health-strategy-roadmapofactions-2016-apr16.pdf

Ministry of Health. (2014a). Equity of Health Care for Māori: A framework. Wellington: Ministry of Health. https://www.health.govt.nz/publication/equity-health-care-maori-framework

Ministry of Health. (2014b). The Guide to He Korowai Oranga: Māori Health Strategy 2014. Wellington. https://www.health.govt.nz/publication/guide-he-korowai-oranga-maori-health-strategy

Ministry of Health. (2014c). Tagata Pasifika in New Zealand. Wellington: Ministry of Health. https://www.health.govt.nz/our-work/populations/pacific-health/tagata-pasifika-new-zealand#overall

Ministry of Health. (2016). Pharmacy Action Plan: 2016-2020. Wellington: Ministry of Health. https://www.health.govt.nz/publication/pharmacy-action-plan-2016-2020

Ministry of Health. (2019). Achieving Equity. https://www.health.govt.nz/about-ministry/what-we-do/work-programme-2019-20/achieving-equity

Ministry of Health. (2020a). Annual Update of Key Results 2019/20: New Zealand Health Survey. Wellington: Ministry of Health. https://www.health.govt.nz/publication/annual-update-key-results-2019-20-new-zealand-health-survey.

Ministry of Health. (2020b). Te Tiriti o Waitangi framework. Wellington: Ministry of Health. https://www.health.govt.nz/system/files/documents/pages/whakamaua-tiriti-o-waitangi-framework-a3-aug20.pdf

Ministry of Health. (2020c). Wai 2575 Health Services and Outcomes Kaupapa Inquiry. Wellington: Ministry of Health. https://www.health.govt.nz/our-work/populations/maori-health/wai-2575-health-services-and-outcomes-kaupapa-inquiry

Ministry of Health. (2020d). Whakamaua: Māori Health Action Plan 2020–2025. Wellington: Ministry of Health. https://www.health.govt.nz/publication/whakamaua-maori-health-action-plan-2020-2025

Ministry of Social Development. (2016). New Zealand Disability Strategy: 2016 - 2026. Wellington, New Zealand. https://www.odi.govt.nz/assets/New-Zealand-Disability-Strategy-files/pdf-nz-disability-strategy-2016.pdf

Muzyk, A., Lentz, K., Green, C., Fuller, S., May, B., & Roukema, L. (2017). Emphasizing Bloom's affective domain to reduce pharmacy students' stigmatizing attitudes. *American Journal of Pharmaceutical Education,* **81**(2), Article 35. https//doi.org/10.5688/ajpe81235

National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Population Health and Public Health Practice; Committee on Community-Based Solutions to Promote Health Equity in the United States. (2017). The Root Causes of Health Inequity. In Baciu A, Negussie Y, Geller A & W. JN. (Eds.), Communities in Action: Pathways to Health Equity. Washington (DC): National Academies Press (US). https://www.ncbi.nlm.nih.gov/books/NBK425848/

NEJM Catalyst. (2017). What is patient-centred care? https://catalyst.nejm.org/what-is-patient-centered-care/.

Nevins Stanulis, R., & Guenther, A. R. (2021). A call for curriculum and faculty developers to attend to ambitious teaching in experiential curriculum. *Medical Science Educator*, **31**(1), 223-228. https//doi.org/10.1007/s40670-020-01162-1

Nolte, E., & Anell, A. (2020). Person-centred health systems: strategies, drivers and impacts. In J. A. North, E. Nolte, S. Merkur & A. Anell (Eds.), Achieving Person-Centred Health Systems: Evidence, Strategies and Challenges (European Observatory on Health Systems and Policies) (pp. 41-74). Cambridge: Cambridge University Press.

O'Neill, N. (2015). The eight principles of patient-centered care. http://www.oneviewhealthcare.com/the-eight-principles-of-patient-centered-care/.

Orsini, C., Evans, P., & Jerez, O. (2015). How to encourage intrinsic motivation in the clinical teaching environment?: a systematic review from the self-determination theory. *Journal of Educational Evaluation for Health Professions,* 12, 8. https//doi.org/10.3352/jeehp.2015.12.8

Ozolins, I., Hall, H., & Peterson, R. (2008). The student voice: recognising the hidden and informal curriculum in medicine. Medical Teacher, **30**(6), 606-611. https//doi.org/10.1080/01421590801949933

Pharmaceutical Society of New Zealand and New Zealand Medical Association. (2016). An Integrated Framework for Pharmacists and Doctors: consultation draft. Wellington: Pharmaceutical Society of New Zealand. *https://www.nzma.org.nz/assets/Uploads/Documents/Framework.pdf*

Picker Institute. (1987). Picker Principles of Patient-Centered Care. https://www.picker.org/about-us/picker-principles-of-person-centred-care/

Picton, C. (2015). The role of pharmacy in delivering person-centred care. London: Royal Pharmaceutical Society and National Voices. https://www.nationalvoices.org.uk/sites/default/files/public/publications/the_role_of_pharmacy_in_delivering_person-centred_care_-_rps_nv.pdf

Rapport, F., Doel, M., Hutchings, H., Wright, S., Wainwright, P., John, D., et al. (2010). Eleven themes of patient-centred professionalism in community pharmacy: innovative approaches to consulting. *International Journal of Pharmacy Practice,* **18**(5), 260-268. https//doi.org/10.1111/j.2042-7174.2010.00056.x

Redding, D., & Hutchinson, S. (2017). Person-centred care in 2017. London: National Voices. https://www.nationalvoices.org.uk/publications/our-publications/person-centred-care-2017

Robinson, J., Callister, L., Berry, J., & Dearing, K., A. (2008). Patient-centered care and adherence: definitions and applications to improve outcomes. *Journal of the American Academy of Nurse Practitioners*, **20**(12), 600-607. https//doi.org/10.1111/j.1745-7599.2008.00360.x

Royal Pharmaceutical Society Wales. (2014). Your Care, Your Medicines: Pharmacy at the heart of patient-centred care. Wales: NHS Wales. https://www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Publications/Your%20Care%20Your%20Medicines%20report.pdf

Ryan, D., Grey, C., & Mischewski, B. (2019). Tofa Saili: A review of evidence about health equity for Pacific Peoples in New Zealand. Wellington; Pacific Perspectives Ltd. https://www.pacificperspectives.co.nz/_files/ugd/840a69_e60e351af88048ed8fa005ad28955f9a.pdf

Schön, D. (1983). The Reflective Practitioner: How professionals think in action. The Reflective Practitioner: How professionals think in action: Temple Smith.

Shaller, D. (2007). Patient-centered care: What does it take? New York: Commonwealth Fund. https://www.commonwealthfund.org/publications/fund-reports/2007/oct/patient-centered-care-what-does-it-take

Sharma, T., Bamford, M., & Dodman, D. (2015). Person-centred care: an overview of reviews. *Contemporary Nurse*, **51**(2-3), 107-120. https//doi.org/10.1080/10376178.2016.1150192

Sumsion, J., & Goodfellow, J. (2004). Identifying Generic Skills through Curriculum Mapping: A Critical Evaluation. *Higher Education Research & Development,* **23**(3), 329–346. https://doi.org/10.1080/0729436042000235436

Talemaitoga, A. (2010). The health of Pacific peoples in Aotearoa is "everybody's business". Best Practice Journal, 32, 5-9. https://bpac.org.nz/bpj/2010/november/docs/BPJ_32_upfront_pages_59.pdfhttps://bpac.org.nz/bpj/2010/november/docs/BPJ_32_upfront_pages_5-9.pdf

Tan, K. K. H., Ellis, S. J., Schmidt, J. M., Byrne, J. L., & Veale, J. F. (2020). Mental Health Inequities among Transgender People in Aotearoa New Zealand: Findings from the Counting Ourselves Survey. *International Journal of Environmental Research and Public Health,* **17**(8), 2862. https//doi.org/10.3390/ijerph17082862

Te Karu, L., Bryant, L., Harwood, M., & Arroll, B. (2018). Achieving health equity in Aotearoa New Zealand: The contribution of medicines optimisation. *Journal of Primary Health Care,* **10(**1), 11-15. https://doi.org/10.1071/HC17067

ten Cate, Th. J., Kusurkar, R. A., & Williams, G. C. (2011). How self-determination theory can assist our understanding of the teaching and learning processes in medical education. AMEE Guide No. 59. *Medical Teacher*, **33**(12), 961-973. https//doi.org/10.3109/0142159X.2011.595435

Thomas, D. R. (2006). A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, **27**(2), 237-246. https://doi.org/10.1177/1098214005283748

Te Tiriti o Waitangi [Māori version] (1840). https://www.flickr.com/photos/archivesnz/12195494103/in/album-72157640803885745/

Tsingos, C., Bosnic-Anticevich, S., & Smith, L. (2014). Reflective Practice and Its Implications for Pharmacy Education. *American Journal of Pharmaceutical Education*, **78**(1), Article 18. https//doi.org/10.5688/ajpe78118

UNAIDS. (ND). An introduction to triangulation. Geneva, Switzerland: UNAIDS. https://www.unaids.org/sites/default/files/sub_landing/files/10_4-Intro-to-triangulation-MEF.pdf

University of Auckland. (2021). Bachelor of Pharmacy (BPharm). https://www.auckland.ac.nz/en/study/study-options/find-a-study-option/bachelor-of-pharmacy-bpharm.html

Wallman, A., Vaudan, C., & Sporrong, S. (2013). Communications training in pharmacy education 1995-2010. *American Journal of Pharmaceutical Education,* **77**(2), Article 36. https//doi.org/10.5688/ajpe77236

Wepa, D., & Wilson, D. (2019). Struggling to be involved: An interprofessional approach to examine Māori Whānau engagement with healthcare services. *Journal of Nursing Research and Practice,* **3**(3), 1-5. https//doi.org/10.37532/jnrp.2019.3(3).1-5

Wolters, M., van Hulten, R., Blom, L., & Bouvy, M. (2017). Exploring the concept of patient centred communication for the pharmacy practice. *International Journal of Clinical Pharmacy,* **39**(6), 1145-1156. https//doi.org/10.1007/s11096-017-0508-5

World Health Organization. (2016). Framework on integrated, people-centred health services. Report by the Secretariat. Geneva: World Health Organization. https://apps.who.int/iris/bitstream/handle/10665/252698/A69_39-en.pdf?sequence=1&isAllowed=y