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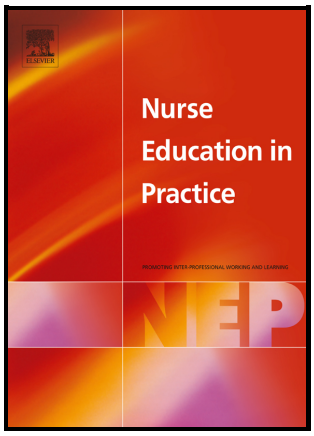
Consumer engagement in teaching and learning across health disciplines: a systematic quantitative literature review



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TITLE: Consumer engagement in teaching and learning across health disciplines: a systematic quantitative literature review

Title page

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Abstract

Aim

To understand how health consumers contribute to teaching and learning in undergraduate health professional programs.

Background

Undergraduate health students need to understand the patient and family experience so they can truly support them to manage and improve their health outcomes. This literature review

explores how patients and families known as health consumers, contribute to teaching and learning in undergraduate health programs.

Design

Systematic quantitative literature review

Methods

Searches conducted across: CINHAL, MEDLINE, ProQuest Nursing, Scopus, and Google Scholar. Data from included studies was extracted and evaluated using Towle's taxonomy level of consumer involvement, presented as binary data using the Pickering and Byrne method and narrative synthesis of conducted.

Results

A total of 109 studies were included. Narrative synthesis generated three themes being educational perspective, human perspective, and logical perspective. Engaging health consumers in education is crucial but does have challenges and should be prioritized when designing curricula. Consumers real-world experiences help students better prepare for clinical practice and understand the consumer perspective.

Conclusion

This review provides insights into fostering consumer involvement in teaching, enhancing student learning, and improving consumer outcomes. Training and research are needed to develop strategies that enable undergraduate health students and health consumers to partner together. By learning the consumer perspectives, students gain insights to guide their practice and improve consumer health outcomes.

Key words

Authentic learning, health consumers, health professionals, nursing education, partnership, undergraduate teaching

Highlights

- Authentic learning enhances health students' understanding of how to effectively collaborate with health consumers to achieve optimal health outcomes.
- Health consumers should be included in the education of health professionals
- Including health consumers in the classroom requires careful consideration of both the health consumers and the students to ensure the best outcomes for everyone involved.

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Background

To achieve optimal consumer outcomes, health professionals are required to work together and partner with the health consumer, however, health professional students are rarely taught together and even less with consumers (Australian Commission on Safety and Quality in Health Care, 2019; Bendowska & Baum, 2023). Understanding how to partner with health consumers, needs to be taught to undergraduate health professional students rather than learned through experience (Katsikitis et al., 2017). It is well established in clinical practice that health consumers are experts in their experience of health care and want a partnership with the health care provider to build trust (Hagedoorn et al., 2021). However, the delivery of health education in tertiary settings often lacks the consumer voice (Benham-Hutchins et al., 2017).

To develop a teaching program with meaningful consumer involvement, it is critical to understand the current research and explore what consumer partnership in learning may look like (Milley et al., 2021). For the current research, health consumers are defined as persons with acute or chronic conditions, carers or family members, including culturally and linguistically diverse and Indigenous populations (Merner et al., 2019).

When health professional students are educated, there is a gap in learning regarding consumer experience and partnering with consumers (Happell, Platania-Phung, et al., 2015; Katsikitis et al., 2017). For health professional students, learning commonly occurs in a simulation laboratory, where students' experiences are standardised and often lack authentic consumer partnerships (Coyne et al., 2021; Rowland et al., 2018). Simulated learning enables the development of critical thinking, particularly when the learning resource presents an authentic experience (Coyne, Rands, et al., 2018). If health consumers can share their experience with students, this may provide valuable insight and learning for the student through reflection (Yousiph et al., 2023).

Additionally, research highlights that consumers are interested in being involved in teaching and sharing their experience to improve the provision of health care for future patients (Happell, Platania-Phung, et al., 2015; Katsikitis et al., 2017; Rowland et al., 2018). There has been a focus on partnering with consumers at an organisational and strategic level, including the education and training of health care providers (Australian Commission on Safety and Quality in Health Care, 2019; Lowe et al., 2021; New Zealand Government, 2022). Furthermore, health student accreditation and professional standards highlight the importance of partnering with health consumers, using client-centred skills and a focus on shared decision making (Australian Health Practitioner Regulation Agency, 2024; Nursing and Midwifery Board of Australia, 2024; Nursing Council of New Zealand, 2022).

There is an expectation to partner with and understand the consumer voice in all health professions (Babiker et al., 2014; Tajani et al., 2021). There has been selective engagement of patients in teaching and learning that promotes health consumer "partnership", particularly with the engagement of patient actors (Barr et al., 2010; Cameron & McColl, 2015; Porter et

al., 2019). While a growing body of literature highlights the need for consumer engagement in health professionals' education, there is limited guidance on the translation of meaningful health consumer involvement to health professional education (Porter et al., 2019; Rowland et al., 2019).

A systematic quantitative review framework was used as this style of review allows a systematic approach to quantifying a diverse range of research (Dhar et al., 2020; Pickering & Byrne, 2014). This method bridges the gap between traditional narrative reviews and quantitative meta-analysis by providing a reliable, quantifiable, and reproducible way to summarize research, identify gaps, and determine if suitable datasets exist for meta-analysis (Coyne et al., 2020). This literature review sought to answer the following research question: 'How do health consumers contribute to teaching and learning in undergraduate health professional programs?' The review seeks to explore the roles of consumers and critique the literature to understand the benefits and challenges.

Method

A systematic quantitative review process was conducted to explore the literature, which included health care consumer contributions to teaching and learning in undergraduate health professional programs. The data from the included articles were extracted, analysed and presented via the Pickering and Byrne method (Pickering & Byrne, 2014). The steps in a systematic quantitative review are to define the topic, identify databases, complete searches, download articles, complete article assessment, finalise articles for inclusion, prepare databases, enter the first ten papers and refine databases, headings, complete data entry of all articles, and complete quantitative analysis (Dhar et al., 2020; Pickering et al., 2015). The data from the articles is recorded as binary data, ratio or nominal data depending on the data extracted. The systematic review guidelines outlined by the Preferred Reporting Items for Systematic Reviews (PRISMA) recommendations were followed (Page et al., 2021). The protocol was published within Prospero (CRD42023418868). See Appendix 1 for Protocol. Ethics approval not required for this research as data is from secondary sources.

Search strategy

A modified population, interest, and outcome (PICO) table was developed to capture the range of terms used for family and disease states (Carman et al., 2013). Key search terms and Medical Subject Heading (MeSH) headings and specified inclusion and exclusion criteria were applied to the search:

1. consumer OR service user OR patient OR client

AND

2. teach* OR learn* OR educat*

AND

3. SEARCH 1 [health student OR undergraduate student OR nurs* student OR med student OR physio student OR nutrition student OR dietetic student OR pharm

student OR Occupational therapist student OR speech therapy student OR social work student OR psychology student]

4. SEARCH 2 [student OR graduate OR college OR university AND nurs* OR occupational therapist OR psychologist OR doctor OR social worker OR physiotherapist OR nutritionist OR dieti*ian OR pharmacist OR speech therapist AND involvement OR participation OR collaboration]

Five databases (Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medical Literature Analysis and Retrieval System Online (MEDLINE), Scopus, ProQuest Nursing and Allied Health Source, and Google Scholar) were chosen because they cover most of the health and clinical journals and digital resources. Articles published between January 2010 and December 2023 were searched by a research assistant with the support of a health librarian. See Table 1 for the inclusion and exclusion criteria.

Table 1 Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Peer review primary research publications dates between 2010 - 2023	All publications before 2010
English language	Non-English language
Study participants, such as health consumers, users, patients, and clients as real people	Study participants other than real people such as standardised or simulated patients
Health consumers, users, patients, and clients involved in the teaching, learning and education in undergraduate allied health and medical degrees	Publications other than teaching, learning and education in undergraduate allied health and medical degrees
	Clinical placement
Undergraduate allied health and medical students	Not health students
	Post graduate students

Article screening

Reference management software Covidence (Veritas Health Innovation, 2024) was used to manage and sort records. The screening of all articles required two reviewers for each article, first by title and abstract, followed by full-text review to identify articles for inclusion. All the authors were involved in screening. PRISMA was used to collate the search (Moher et al., 2009).

Quality appraisal

This review approach seeks to develop a broad understanding of consumer contribution to teaching and learning in undergraduate health programs rather than a quantitative synthesis of data presented. As the findings have identified a breadth of studies utilising consumers in learning and teaching, we would recommend a systematic review with quality appraisal as a

next step. Article quality appraisal was completed during the screening process of the final inclusion of articles. This informal process involved checking the research quality against the following criteria: primary research, research question clear, ethical approval, sample and data appropriate for research question. No formal evaluation was conducted as per the framework and due to the number of included articles (Pickering & Byrne, 2014).

Data extraction

A template was developed via Microsoft Excel, and nominal, binary or ratio data from the articles were compiled. The following headings were used: author details, aim [Nominal data], year of publication, age, length of consumer engagement [ratio data], journal, journal type country, theory, methodology, design, ethics, intervention duration, disease type, sample, response rate, health discipline, student year level, Towle's taxonomy level [binary data] and quotes from articles [qualitative data] related to consumer engagement. The data was extracted for first ten articles by all team members and discussed as a moderation process to enable consistency of data extraction across the full set of articles. The remaining articles were then divided between the research team for data extraction. All articles were cross-checked by two authors [EC & LH] to reduce the risk of inaccurate data extraction. This was to ensure quality and consistency of data collected.

To understand the types of contributions that health consumers make in undergraduate health professional education, an evaluation of the level of consumer involvement in educational interventions was completed via Towle's taxonomy (Burnier et al., 2022). Towle's taxonomy outlines a spectrum of consumer involvement, ranging from passive roles to active partnerships. Towle's taxonomy was developed to characterise the level of involvement of consumers in health professional education (Towle et al., 2010). The taxonomy details six levels of consumer involvement:

Level 1 – Paper-based or electronic case or scenario.

Level 2 – Standardised patients or volunteer patients in a clinical setting.

Level 3 – Consumers share their experiences with students within the faculty-led curriculum.

Level 4 – Consumers are involved in teaching or evaluating students.

Level 5 – Consumers are equal partners in student evaluation, evaluation and curriculum development.

Level 6 – Consumers are involved at the institutional level in addition to sustained involvement as consumers in education (Towle et al., 2010).

Data analysis

Variables extracted from the included articles were analysed via descriptive statistics, means and frequencies and presented as graphs and tables (Pickering et al., 2015). A narrative synthesis was used to summarise the textual data into themes (Snilstveit et al., 2012).

Narrative synthesis is a method used to provide a descriptive summary and explanation of the characteristics from included studies (Bishaw et al., 2024). In this study the selected articles were reviewed to identify and explore key themes emerging from their author's research findings. Each author of the current review identified themes from their allocated articles and added textual data from the article to support this theme. The team reviewed and discussed the overall themes to develop final themes across the full data set. See Appendix 2 for full Table of articles.

Results

A total of 109 articles that met the inclusion criteria were included in the data set. See Figure 1 for Prisma flow-chart of the search process and included articles. The research was conducted mainly in the United Kingdom and Ireland (n=60), followed by Europe, and Australia/New Zealand, some studies were across several countries. The articles were mainly published in nursing journals (n=40), medical journals (n=30), educational journals (n=17) or other discipline specific journal (n=22).

Fifty-nine studies were guided by a theoretical underpinning with the most common being interprofessional learning (n=6), followed by patient-centred care (n=3). Other theories identified were Bandura, existential and phenomenography family-centred care, service users' engagement and Vygotsky.

Research methods used were qualitative (n=76; 70%), mixed methods (n=17; 16%), and quantitative (n=16; 15%). See Figure 2 provides an understanding of the different designs used although some studies had several methods, so the count is over the 109 included articles.

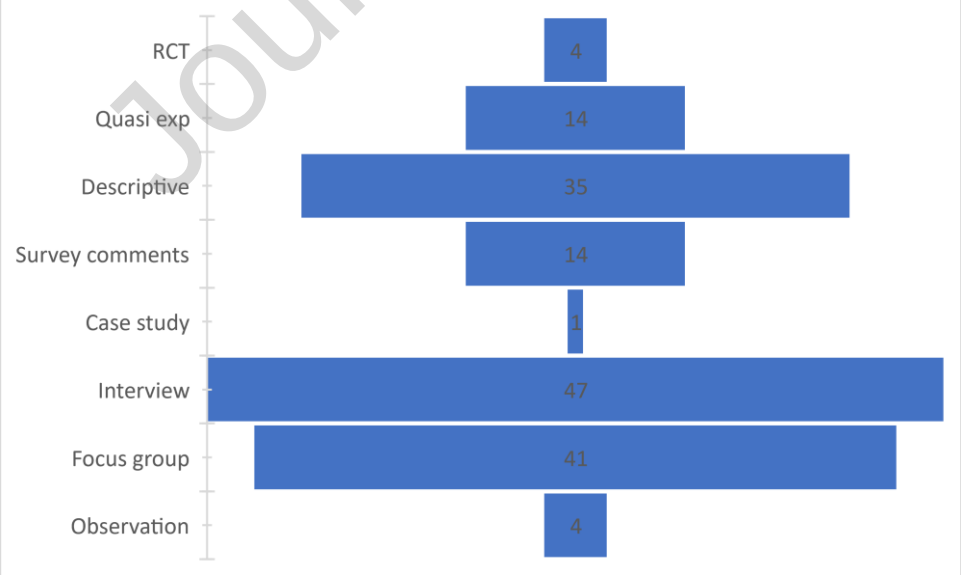

Figure 2 Research designs

The research was conducted with consumers living with a range of conditions and in a variety of life stages, including mental health, general chronic disease, cancer, cardiac, neurological, arthritis, HIV, disability, paediatric, musculoskeletal, and older persons. The consumer age was reported in 38 studies (35%) the mean age of the consumers was 43 years. The sample size for consumers ranged from one to 5389, with a total sample size of 6172 and a mean sample size of 147 across the 109 studies.

There was a total of 6324 students in the 16 quantitative studies (mean=186; range=12-617) and in the 76 qualitative studies a total of 2995 students (mean=43; range=1-253). The response rate was reported in 56 studies, of which 24 (43%) reported a response rate of over 75%.

The main health discipline was nursing (n=53; 49%), followed by medicine (n=31; 28%). Research with social work students focused mainly on consumers with mental health concerns. The other disciplines were often specific to the main type of patients they worked with clinically. The student university year level ranged from year two to year four. See Figure 3 for Health disciplines.

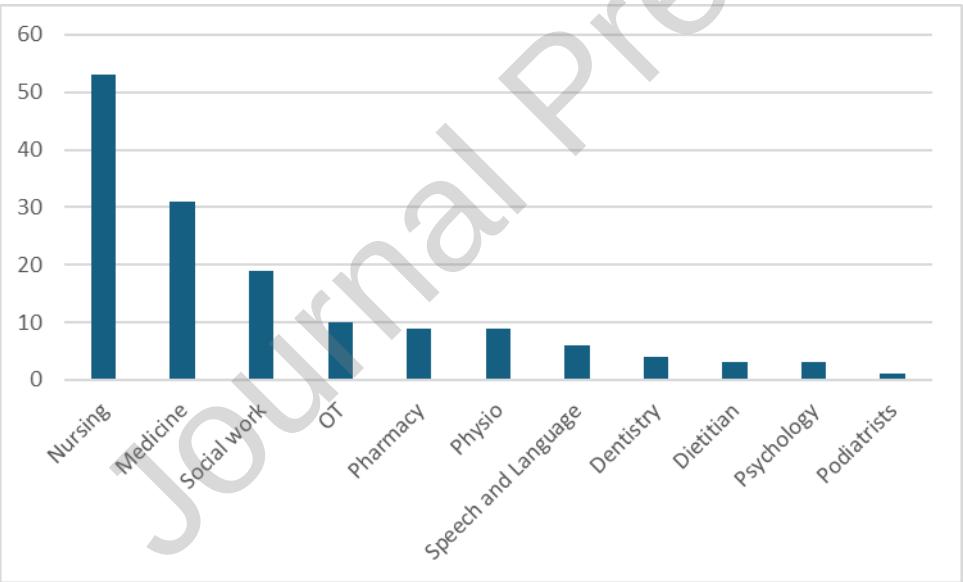

Figure 3 Health disciplines

The level of consumer engagement in student learning for each article was measured against the different levels of Towle's taxonomy (Towle et al., 2010). Level 1 paper based or electronic case study scenario (n=9, 8%), Level 2 standardised patient or volunteer in a clinical setting (n=15, 14%), and Level 3 patient sharing experiences within classrooms (n=34, 31%). In Level 4 consumers involved in teaching or evaluating students (n=40, 37%), Level 5 patients as equal partners in education, evaluation and curriculum design (n=18, 17%); and Level 6 patients involved at institutional level in addition to sustained involvement in teaching, evaluation and

curriculum design, involvement in policy and decision-making bodies (n=6, 6%). This adds to more than 100%, as some articles had engagement at multiple levels. There was no correlation between level of consumer engagement in the course related to the disease or different diseases related to the health discipline. When consumers were involved in teaching (level 4), this was within workshops (n=20), student assessment (n=2), personal interviews with students (n=4), or not clearly stated (n=14). The main country who had consumers involved with teaching was the United Kingdom (n=18).

The narrative synthesis explored the concepts presented in each article, which were categorised into the perspectives of consumer engagement: 1) Educational perspective; 2) human perspective; and 3) logical perspective.

See Table 2. Themes and subthemes.

Theme 1: Educational perspective has four subthemes to present the concept of consumer engagement.

Hearing the actual stories from the consumer helped the student link theory to clinical practice. The subtheme 1.1 A*uthentic learning* was about learning from the consumer, the privilege of hearing their story, and understanding what it was like to be in the health system.

> *"Every time I listened to a story, I had that moment where I thought, I never knew enough before, and it was like a door being unlocked every single time." (Goodhew* et al*., 2022, p450)*

The participants across the included articles shared how they *connected with the consumers* (subtheme 1.2) as they listened to their story or had the consumer in their class. Watching the consumers during an actual consultation helped the student understand the process that they would need to lead as a clinician, preparing for the real world.

Subtheme 1.3 R*educing stigmatisation broadens the perspectives* highlighted that consumer engagement helped students question themselves. The students' assumptions were challenged, and they saw the consumers in a different way, not one from a textbook but a real person whom they had to understand as a clinician to be able to help.

> *"The impact has been very profound...really altered my perceptions of the world, altered my attitude. Personal experience is invaluable to be able to understand from a service user perceiving* the experience." (Maplethorpe et al., 2014, p185)

The subtheme *power differential* (subtheme 1.4) highlights the real differences between health professionals and patients. The students could see this with different eyes when the consumer was able to share their experiences.

> "*Wearing the white coat in the clinic signals that I have a huge amount of knowledge about this matter. Patients wearing a patient's shirt signal that they have a problem that we doctors are going to solve."* (Henricksen & Ringsted, 2014, p13)

Theme 2: Human Perspectives, has two subthemes: the *consumer perspective* and the *student perspective*. *Subtheme 2.1 The consumer perspective* has two aspects related to their experience, one that is positive that involves a sense of sharing and learning at the same time. The negative aspect was this sense of being vulnerable in sharing and bringing back memories, which highlighted the need to follow best practice guidelines and/or debrief for both the consumer and the students.

> "*The discussion was occasionally unsettling: I admit I cried in front of the student... you feel kind of exposed...that's what was difficult for* me." (Fiquet et al., 2022, p5)

The *student perspective* (Subtheme 2.2) was slightly different, as the authors found consumers experienced a meaningful way to learn; however, they acknowledged that when the consumers were assessing them, this was seen as unrealistic.

> "*I think practice skills should be assessed by suitably qualified and trained people*." (Haycock-Stuart et al., 2016, p18)

Theme 3: Logistical perspective has two subthemes related to how to have consumer partnerships and participation in learning and teaching. Subtheme 3.1 *Preparation is key* for exploring the concepts of pre-briefing and debriefing. How to develop confidence in consumers to share their experience with students and to prepare students to listen with an open mind. Pre-briefing included establishing rules of engagement with the consumer, so it was respectful, and students were attentive. The pre-brief for consumers related to presentation styles, managing students and purpose of the teaching session. There was also a risk of not being in control of what consumers were going to share.

> *"It's a bit anxiety provoking inviting people into a room when you don't know what they're going to say … and some say quite controversial and quite difficult things that need a bit of mopping up afterwards. Academic"* (Rooney et al., 2019, p935).

Discussion after the session formed a debrief to ensure both the consumer and students had no concerns that needed to be addressed. The importance of scheduling this time was noted, so it was not rushed or missed.

Subtheme 3.2 *Implementation* related to how consumers can integrate into learning. From the development of case studies, having consumers come to be part of the teaching team was seen as having a cost factor in terms of both time and money. There was a need to develop a strong consumer base and work with consumers to ensure they were prepared for the experience with students. Consumers shared how they had to prepare to share their experiences, and it took time to learn how to share for learning rather than just sharing to unload emotions and concerns.

> *"It all poured out of me and I think perhaps the first couple of sessions it was probably like that but then I tried to say what I felt may help people going into this work situation for the first time."* (McGarry et al., 2022, p371)

Discussion

This systematic quantitative review explored how health consumers contribute to teaching and learning in undergraduate health professional programs. The analysis identified that some tertiary educational providers are working with consumers to enhance the health professional students' understanding of consumer experience and how to partner with consumers. An interesting finding was the educational level of health consumer engagement within some health professional programs. In the United Kingdom and Ireland, health programs have successfully managed to have health consumers engage in teaching, assessing and sharing with students (Scott et al., 2021; Skilton, 2011; Thompson et al., 2020). Hearing the consumer's point of view and being able to ask the consumer questions enables students to have a deeper understanding of consumers' experience and develop their own empathy to consumers.

Completing a systematic quantitative review has enabled a wide range of research to be critiqued with a focus on exploring how consumers are being used with health professional teaching to increase students' understanding of consumers' experience (Pickering & Byrne, 2014). Towles Taxonomy facilitated an analysis of the levels of consumer engagement and understanding on how different health programs engaged with consumers to bring the concept of being taught by the consumer as the expert (Happell et al., 2022). It is important to understand the current evidence of health educational providers delivery of health programs with consumers included and how these programs meet international guidelines (Australian Commission on Safety and Quality in Health Care, 2019; World Health Organization, 2020).

Involving consumers in teaching, assessing and curriculum development was noted as difficult but rewarding for students, consumers and educators. There was a sense across the studies for the need to increase students understanding of consumer experience, and how consumers see health professionals (Thomson & Hilton, 2012). This is an increasing challenge as health professional educators strive to deliver health education that meets the international standards for consumer partnership and improve health consumers' experience of care (Bocking et al., 2019).

The narrative synthesis of the articles identified three themes which linked to how consumers were engaged in teaching and learning. The theme *Educational perspective* related to how students engaged with consumers and how the learning experience was made authentic. This is important as the overall aim of educating health professional students is to have them become empathic and critical thinkers (Benner et al., 2009; Giuffrida et al., 2023). Traditional teaching techniques are not enough to develop practice ready health graduates (Giuffrida et al., 2023). Teaching needs to engage the learner at a higher authentic level without risk to the student, to enable a deeper learning and development of readiness to seek to understand the consumer (Happell et al., 2021).

Traditional teaching methods provide theory and information to enable health professional students to understand the concept (Coyne, Frommolt, et al., 2018). To develop a deeper understanding of the personal cost of being a consumer, teaching needs to include stories, sharing of experiences, and consumers providing feedback to students (Jhala & Mathur, 2019). The review of literature highlighted the theme *Human perspective* where consumers shared a sense of being unsure and nervous, but also that it was good to talk about their experiences. Research reinforces the need for humans to reflect and share their experience as a way to grow and this came across as the consumers shared how they felt talking with students (Parry et al., 2021). The role of the consumer in teaching needs to be well supported as consumers are a vulnerable population, both mentally and physically (Greenhalgh et al., 2019). It is very important to be aware of power imbalances as consumers come into the teaching space. Using clear guidelines and allowing time for pre and post briefing ensures consumers are supported in the role of teaching health professional students (Molley et al., 2018; Tutticci et al., 2022).

Consumers come with health concerns which need to be managed within the classroom setting, so it is important to acknowledge this and ensure the consumers health is paramount when they are working with students. Aspects such as fatigue, risk of infection, or increased anxiety need to be managed by the academic. Strategies to mitigate risk/burden for the consumer include using pre-recorded activities or linking into the classroom via online platforms (Coyne et al., 2022; Lowe et al., 2021).

The student perspective relates to their reflection as they work with the consumer. The importance of pre and debrief for students cannot be understated, as students bring their own past experiences which influences their response to situations (Tutticci et al., 2018). Students need to understand their role and often the inclusion of questions prior to the session reduces consumer stress but also increases student preparation and thoughtfulness for the session (Happell et al., 2019; Maplethorpe et al., 2014). Research highlights the need for academic debrief to allow them to discuss how the teaching session went and reflect on personal challenges (Happell, Wynaden, et al., 2015; Verkuyl et al., 2017).

The last theme relates to *Logical perspective* which encompasses preparation and sustainability concerns when having consumers as part of the teaching team. Across different Towles Taxonomy levels working with consumers adds time and cost to any course delivery (Happell, Platania-Phung, et al., 2015; McGarry et al., 2022). Even at the lower levels of consumer involvement such as where consumers are coproducing case studies, this takes time to ensure they are authentic (Atwal et al., 2018; Molley et al., 2018). Using case studies and video simulation has been found to provide an authentic experience for students as this method is easily accessed by students at university and home (Coyne et al., 2021; Coyne, Frommolt, et al., 2018). Most studies highlighted the need for preparation at the beginning and end of each session (Anderson et al., 2019; Maplethorpe et al., 2014). This takes time and needs a framework to ensure consistency. In Australia, there is a specific framework for consumer partnership in care highlighting how to ensure the consumer is the centre of care

not the health professional (Australian Commission on Safety and Quality in Health Care, 2019). Using this framework ensures understanding of consumer rights and how to work with the consumer (Coyne et al., 2019).

Implementing consumers in classroom settings and during assessment needs to be managed in relation to student numbers. Some health programs using consumers in the classroom linked the consumer via an online link, enabling large numbers of students to listen (Rooney et al., 2019; Unwin et al., 2018). It is important to discuss what the consumer feels comfortable with and what promotes student engagement and understanding of the consumer experience (Happell et al., 2022). The consumer also needs to understand the teaching content and course objectives to ensure engagement is positive and meaningful for both the consumer and the student (McGarry et al., 2022).

Conclusion

Working with consumers to support them to be part of health professional education is important and needs to become a priority when developing new curriculum. Health consumers bring realistic experience which enable students to prepare for clinical work and a deeper understanding of the consumer experience. This review creates an opportunity for health education facilities to reflect on their current delivery of information and develop new ways to include the health consumers' experience across course development and delivery (Fiquet et al., 2022). Understanding challenges and benefits of consumer involvement helps to ensure the consumer and student are not disadvantaged or at risk of distress during teaching activities involving consumers (Lowe et al., 2021). This review offers valuable insights for developing strategies to enhance consumer engagement in teaching, promote student understanding, and ultimately improve long-term consumer outcomes. This review provided an understanding of engagement with consumers from mental health to surgical patients, including persons with disabilities from a multidisciplinary approach.

Strengths and limitations

A strength of this review was the systematic process across all stages of the Pickering and Bryne framework and transparency of reported research data within the main Excel sheet See Appendix 2. Using the Pickering Systematic Quantitative Review method enabled large cross sections of research to be included and analysed to provide a clear picture of the current research exploring the concept (Pickering & Byrne, 2014). A limitation was the lack of critical evaluation of the methodology of the included studies, which was not utilised in the style of Systematic Quantitative Review. Although there were no exclusion of studies involving children, only three studies had the inclusion of children or a child's perspective as the consumer.

Relevance for Clinical Practice

Based on these findings, consumers can and should be involved in teaching to enable students to understand the consumer experience; however, consideration needs to be given to ensure

a positive experience for both the consumer and the students. One of the main recommendations was the need to allocate time for pre-brief and debriefing, which was a strong aspect across the included studies. There was also a need for training and working with consumers to ensure that they understood the teaching session and are prepared to work with students in a different setting. The students also need a clear understanding of how to engage with the consumer in this teaching approach rather than the normal clinical approach, which has power differentials.

Conflict of Interest Statement: There are no conflict of interests to declare.

EC, LH: Conceptualization, Methodology, Writing Original Draft, Review & Editing, Investigation, Visualization; KW,RW,LM,HM, VJ,MF Methodology, Investigation, Review & Editing. All authors read and approved the final manuscript.

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Table 2 Themes and Sub-themes

Theme	**Sub-themes**	**Extract/Example**	**Source**
Educational Perspectives	Authentic learning	"I put it out to them that I really wanted them to ask questions, you know if they had them - ask them.... I felt there wasn't a barrier then that they wouldn't ask a question. I want to enhance their education, I want to make them curious; I want them to ask more questions." Bocking et al., 2019 "I felt a huge privilege being here and learning about other people's stories…it reminds me of the doctor-patient relationship, because sometimes patients share things with doctors if they trust the system that they wouldn't share with other people. I've always been aware of that, but this workshop really brought it home, that I was lucky to be in this workshop and later on lucky to be a doctor, to share those kinds of things with people." Chou et al., 2022 "Every time I listened to a story, I had that moment where I thought, "I never knew enough before", and it was like a door being unlocked every single time." Goodhew et al., 2022 P450	Agnew et al., 2010; Anderson et al., 2019; Askheim, 2012; Atkinson & Williams, 2011; Bocking et al., 2019; Christiansen, 2011; Dasilva et al., 2022; Duffy, 2012; Eijkelboom et al., 2022; Flood et al., 2018; Goodhew et al., 2022; Happell et al., 2021a; Happell et al., 2020b; Happell et al., 2022; Happell et al., 2015; Hendricksz, 2016; Hughes, 2017; Jack, 2020; Logan et al., 2018; Lucas & Pearson, 2012; Morgenthau et al., 2022; Nash-Patel et al., 2022; O'Donnell & Gormley, 2013; O'Reilly et al., 2010; Oswald et al., 2011; Ramon et al., 2019; Rhodes et al., 2014; Ridley et al., 2017; Russell, 2016; Scanlan et al., 2022; Schwartz et al., 2015; Smith et al., 2016;

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			Snow et al., 2016; Thomson & Hilton, 2012; Alao et al., 2021; Chou et al., 2022; Jebara et al., 2022; Braeckman et al., 2014
	Connecting with the consumer	"The biggest lesson that I will take away from today is just to be present in the interview with any patient, not just a patient with a developmental disability, but just be present, be engaged, be curious and interested in a person, and recognize that everybody has a unique and interesting story and experience." Coret et al., 2018 "I could actually see them consulting properly rather than acting in an exam situation": for them, the presence of a real patient allowed for an authentic consultation moment, albeit in the surroundings of a standardised assessment." Kearney et al., 2022	Coelho et al., 2018; Coret et al, 2018; Doucet et al., 2013; Ferri et al., 2019; Hache et al., 2020; Happell et al., 2021b; Jain et al., 2013; Jaworsky et al., 2017; Jha et al., 2015; Kearney et al., 2022; Keating et al., 2019; McMahon-Parkes et al., 2016; Phillpotts et al., 2010; Romme et al., 2020; McLachlan et al., 2012
	Challenges assumptions reduces stigmatisation broadens perspectives	"I learned that prior to expecting other people to change I have to question myself." Cabiati & Raineri, 2016 "That's just a drunk". And now I feel like going to a healthcare setting, I'd be able to utilise these techniques that we've learnt and not have that approach where, 'He's just another drug user' and be like, "oh this person has…." Goodhew et al., 2022 "One perspective of consumer may cause bias. How accurate is one perspective, content may be skewed to this one perspective." Happell 2020a	Cabiati & Raineri, 2016; Eijkelboom et al., 2022; Friary et al., 2018; Goodhew et al., 2022; Gordon et al., 2014; Happell et al., 2019a; Happell et al., 2019c; Irvine et al., 2015; Jaworsky et al., 2017; Keating et al., 2019; Maplethorpe et al., 2014; McGarry et al., 2022; Mohler et al., 2010; O'Reilly et al., 2012; Phillpotts et al., 2010; Renard et al., 2014; Scanlan et al., 2022; Scott et al., 2021; Skilton, 2011; Swanepoel et al.,

		"The benefits of involving service users and carers in student learning were expressed in different ways: 'providing a link with the real world'; 'breaks down some of the barriers'; 'absolutely critical'; and 'challenges your value base." Irvine et al., 2015 "The impact has been very profound...really altered my perceptions of the world, altered my attitude Personal experience is invaluable to be able to understand from a service user perceiving the experience" Maplethorpe et al., 2014 P185 "… who knows that these people may end up working in the mental health system or they may end up working in any part of the health system and they'll come across people with mental illness and family members. So, I suppose for me it's about changing attitudes and breaking down barriers and stereotypes." McGarry et al., 2022	2016; Thompson et al., 2020; Happell et al., 2022; Unwin et al., 2018; Happell et al., 2020a
	Power differentials	"This session was incredibly successful on many levels. Realising and reflecting the difficulty the students had in asking questions was not just down to me but us being dressed similarly and with no perceived power hierarchy." Cleminson & Moesby, 2013 "Wearing the white coat in the clinic signals that I have a huge amount of knowledge about this matter. Patients wearing a patient's shirt signal that they have a problem that we doctors are going to solve. In the PI [??] session, we all wear our plain clothes. We are young people meeting experienced senior citizens with a huge knowledge about their disease. This switches the roles of	Chou et al., 2022; Cleminson & Moesby, 2013; Coehlo et al., 2018; Happell et al., 2019b; Happell et al., 2021b; Henriksen & Ringstead, 2011; Henricksen & Ringsted, 2014; Hughes, 2017; Levy et al., 2016; Romme et al., 2022; Skilton, 2011

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		who has got the knowledge." Henricksen & Ringsted, 2014 P13	
Human Perspectives	Consumer impacts	"Client feedback is not only fruitful for the student's learning process, it also affects the clients involved in a positive and meaningful way, by raising their self-esteem." Debyser et al., 2011 "The discussion was occasionally unsettling: "I admit I cried in front of the students [. . .] you feel kind of exposed . . . that's what was difficult for me" (p. 3). Some PE [patient]s explained that witnessing and interacting with students exhausted them." Fiquet et al., 2022 P5 "Being part of this process has sort of enabled me to be…to feel that I am still helping people, without me getting all emotional about it. But it is...it's still feeling that you're worthy and that you are giving something back and that you can be part of …" Heaslip et al., 2018 "Where do you get that chance to start from the very beginning? You don't. No doctor, nobody has that type of time. So actually I thought that [talking to students] was really good." Lauckner et al., 2012	Atwal et al., 2018; Campbell & Wilson, 2017; Cleminson & Moesby, 2013; Debyser et al., 2011; Doucet et al., 2013; Fiquet et al., 2022; Happell et al., 2019b; Happell et al., 2020b; Happell et al., 2022; Haycock et al., 2016; Heaslip et al., 2018; Lauckner et al., 2012; Logan et al., 2018; Lucas & Pearson, 2012; Maplethorpe et al., 2014; Molley et al., 2018; Nash-Patel et al., 2022; O'Donnell & Gormley, 2013; Renard et al, 2014; Romme et al., 2022; Scott et al., 2021; Snow et al., 2016; Speed et al., 2012; Swanepoel et al., 2016; Tew et al., 2012; Wagstaff et al., 2013; Duygulu & Abaan, 2013
	Student impacts	"I think practice skills should be assessed by suitably qualified and trained people. As a student when I hear assessment, I see it as pass or fail. Can my learning environment be failed by an unqualified service user/carer?" Haycock-Stuart et al., 2016 p18 "Reflecting on a case study isn't really the same as reflecting on the real story, it seems more distant somehow [...] means less, so I don't think about it as	Braeckman et al., 2014; Burcul et al., 2021; Byrne et al., 2013; Byren et al., 2014; Cabiati & Raineri, 2016; Cheng & Towle, 2017; Coelho et al., 2018; Feijoo-Cid et al., 2022; Feijoo-Cid et al., 2017; Felton et al., 2018; Ferri et al., 2019; Flood et al.,

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		much. It makes the final link sort of, the link between evidence and practice ...] it's more meaningful when you hear it as it applied, you know, the interventions and what they feel like, how it works, the best way to do it, not just what we read or are told here [in theory]." Jack 2020	2018; Friary et al., 2018; Hache et al., 2020; Happell et al., 2021a; Happell et al., 2022; Hughes, 2017; Jack, 2020; Jones et al., 2017; Rhodes et al., 2014; Rhodes, 2013; Rooney et al., 2019; Shetty et al., 2020; Speers & Lathlean, 2015; Swanepoel et al., 2016; Thomson & Hilton, 2012
Logistical perspectives	Preparation is key	"Well I don't have any history of teaching or standing up and talking to people and it would be from that perspective, a reluctance to speaking in public." Flood et al., 2018 "It's a bit anxiety provoking inviting people into a room when you don't know what they're going to say … and some say quite controversial and quite difficult things that need a bit of mopping up afterwards." Rooney et al., 2019 p935 "Participants require highly developed communication skills including listening, speaking and communicating clearly." Fiquet et al., 2022 "I think the biggest thing that they would need would be how to manage unruly students or students that don't want to engage and how to support . . . and it's providing them with the tools to manage that. They might need training about presentation skills, producing a lecture. . . those sorts of areas." Anderson et al., 2019	Alao et al., 2021; Anderson et al., 2019; Fiquet et al., 2022; Flood et al., 2018; Happell et al., 2019d; Happell et al., 2021b; Haycock et al., 2016; Jain et al., 2013; Logan et al., 2022; Maplethorpe et al., 2014; McMahon-Parkes et al., 2016; Muir & Laxton, 2012; Romme et al., 2020; Rooney et al., 2019; Scott et al., 2021; Solomon, 2011; Speed et al., 2012; Speers & Lathlean, 2015; Watts et al., 2015; Webster et al., 2012; Duygulu & Abaan, 2013

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		"At the beginning of every supervision group, the lecturer reminds the students and service users of the purpose and process of clinical supervision and gives the students and supervisors the opportunity to clarify any issues. This approach was deemed necessary to ensure that all parties on each occasion understand the purpose of the sessions." Maplethorpe et al., 2014	
	Implementation considerations	"One patient explained that the final VRT script included only a part of her story, and the exclusion of the rest of the story meant to her that the context got lost in translation." Molley et al., 2018 "I don't have the money to go and engage consumers and the amount that I get them to do is very much shaped by the dollars." Happell et al., 2015 "Changing the focus from themselves to the students needs takes time: The very first time I spoke I think I was getting a lot off my chest … to be honest I think I carry – if not anger, a sort of bitterness about the whole thing and that's not just bitterness with people, but just with life and what it's done for our daughter. So, I remember saying afterwards, it all poured out of me and I think perhaps the first couple of sessions it was probably like that but then I tried to say what I felt may help people going into this work situation for the first time." McGarry et al., 2022 p371	Happell et al., 2015; Henricksen & Ringsted, 2014; McGarry et al., 2022; Molley et al., 2018; Muir & Laxton, 2012; Solomon, 2011; Speers & Lathlean, 2015; Stickley et al., 2010

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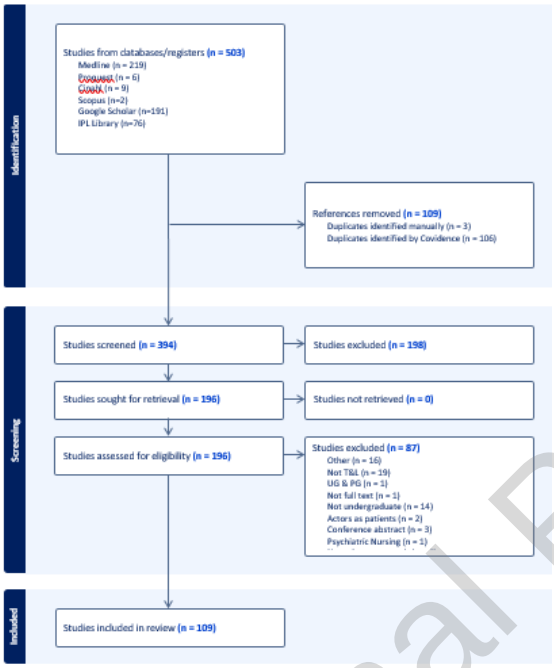
Declaration of Competing Interest

All authors have approved the revised manuscript. The listed authors have made contributions to the research process and manuscript preparation. There are no conflicts of interest to declare.

Fig. 1 How do health care consumers contribute to teaching and learning in undergraduate health professional programs?



Highlights

- Authentic learning enhances health students' understanding of how to effectively collaborate with health consumers to achieve optimal health outcomes.
- Health consumers should be included in the education of health professionals
- Including health consumers in the classroom requires careful consideration of both the health consumers and the students to ensure the best outcomes for everyone involved.

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