Hunter & Coast ICTN Research and Quality Improvement Small Grants Project

University of New England/Coledale Student-led Practice Hub:

Generating an Evaluative Research Proposal

Australian Government
Department of Health

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Hunter and Coast ICTN Interdisciplinary Clinical Training Network

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1. Executive summary

The process of creating this Evaluation Framework has been highly beneficial to all involved. It has afforded the project team the opportunity to stop and consider its achievements to date and to analyse the challenges involved in such a complex endeavour as setting up a student-led health clinic in an underserved area, with clients with complex health needs. This process has helped to gather together all the resources, processes, and outcomes from the UNE/Coledale Student-Led Clinic. Evaluative components currently in place were reviewed, gaps were discovered and new areas for evaluation were identified.

In developing this Evaluation Framework, the difficulties of evaluating an ever-changing project which was student-led and community driven were uncovered. The students developed health promotional activities and health care services in response to the needs of the local community, who were driving the project. Given the high proportion of Aboriginal and Torres Strait Islander residents living in the area, there was a need for the centrality of the principle of community involvement and for the community to experience a sense of self-determination. The lead faculty therefore applied a Community Engaged Scholarship methodology to direct all activities and their evaluation honouring the principles of outreach, engagement, collaborative decision-making and mutual learning. Without this, the project was bound to fail.

Inevitably, the unfolding organic nature of the project led to some organisational difficulties. Whilst the community was more than happy to support the project as it evolved, some faculty members found this difficult to accept. As a result, support for clinical placements within the clinic was patchy and medical, pharmacy and social work students were not well embedded in the SLC. In addition, clinical partners also wanted some concrete operational protocols to be in place before the project commenced which in effect would have been antithetical to enabling student and community participation in its unfolding development.

The ever-changing nature of the clinic also led to difficulties in the creation of this Evaluation Framework. When the project began in 2013 longitudinal student placements were acceptable. There has since been a change of philosophy within the faculty and short-term block placements are now the preferred model. This has consequences for student learning outcomes and for service provision to residents. However, we believe that the Evaluation Framework still stands and will be useful for evaluating clinical placements within the SLC in the future, provided that the Evaluation Framework continues to be driven by the many stakeholders and that they continue to be consulted about the usefulness of the evaluation process to the community.

Specifically this ICTN seed grant has been used to conduct a literature review, collate and assess current education and clinical evaluation measures of the SLC, and generate a comprehensive research proposal to study:

a) educational and clinical strengths and gaps of the current UNE/Coledale SLC model;

b) specific determinants of inter-professional (IP) student learning and their outcomes;

c) costs and benefits for university, health and social services based on placement length, student/staff/supervisor time and activities, services rendered, outcomes achieved; and

d) the best methods for extending SLC inter-professional (IP) model to the Tamworth Regional Youth Centre (Youthie) and other regional/rural areas to create Student Practice Hubs driven by a consistent rigorous, setting adaptable, Evaluation Framework.

We have achieved the first three of these objectives and we plan to achieve the final objective in the future. The outcomes of this project include:

- The current document detailing the UNE meta-framework, a generic Evaluation Framework that can be used for general SLCs, and a context-specific Evaluation Framework designed for the evaluation of the UNE/Coledale SLC;
- A literature review of tools used to evaluate student-led clinics (see Appendix 1);
- A paper on 'Community engaged scholarship and service learning' prepared for the Academic Medicine;
- A paper on 'Population health outcomes of a student-led free clinic for an underserved population' prepared for Public Health;
- A paper of 'Outcomes of mass screening of school children eyes and ears from an underserved community' prepared for Journal of School Nursing;
- A paper on 'The Stroke Book: Written by the Mob for the Mob': A research protocol paper' prepared for the Health Promotion Journal of Australia; and
- A paper on 'Findings from Development of Educational Resources for Aboriginal People': prepared for International Electronic Journal of Rural and Remote Health Research, Education, Practice and Policy.

2. Introduction

In this document we present an Evaluation Framework that has been developed for the examination of student-led clinics. In section 2 we introduce the project and its aims, the process that we used to develop an Evaluation Framework, and the meta-framework that we have used. In section 3 we present a generic Evaluation Framework that could be used by universities and health systems for evaluating student-led clinics. In section 4 we present the Evaluation Framework that we have developed specifically for the UNE/Coledale Student-Led Clinic and its baseline evaluation, and in section 5 we present the Implementation Plan for ongoing evaluation of this clinic, including a detailed list of evaluation tools.

2.1 Introduction to ICTN project

A seed grant to develop a proposal to "*Generate an Evaluative Research Proposal of the UNE/Coledale Student-led Practice Hub*" was awarded from Hunter and Coast Interdisciplinary Clinical Training Network (ICTN). The project aimed to develop a study protocol that identified effectiveness and efficiency of a Student-Led Clinic (SLC) as a placement model for students from a range of health professions. The funding was to be used to: 1) collate and assess current education and clinical evaluation measures of the UNE/Coledale Student-led Clinic; and 2) generate a comprehensive research proposal to study the following:

- Educational and clinical strengths and gaps of the current UNE/Coledale SLC model
- Specific determinants of student learning and outcomes in an interprofessional environment
- Costs and benefits for the university, health and social services based on placement length, student/staff/supervisor time and activities, services rendered, and outcomes achieved
- The best methods for extending the SLC model to Tamworth Regional Youth Centre (Youthie) and other regional/rural areas to create Student Placement Hubs driven by a rigorous, setting adaptable, Evaluation Framework

2.2 The process for developing the Evaluation Framework

The funding from the seed grant awarded from Hunter and Coast Interdisciplinary Clinical Training Network (ICTN) was used to secure two part-time research officers to assist with the literature review (see Appendix 1). The literature review examined the literature relating to student-led and student-run clinics that were run by students from one or more of the health disciplines, to determine how they were evaluated and what tools were used to evaluate both student learning and patient outcomes.

In parallel with the literature review, it was decided to use a meta-framework based on a combination of the Guba & Shufflebeam (1970) and the WK Kellogg Foundation (2004) approach. The UNE meta-framework requires a full examination of the context, inputs (or resources), processes (or activities) and outputs (or outcomes) of the student-led clinic in question. It was important to include an analysis of the context for the student-led clinic because the

Coledale SLC was situated in an under-served community, with a high Aboriginal and Torres Strait Islander population with unique cultural healthcare needs. This hybrid meta-framework is described in detail later in this section.

The team then used the literature review to develop a generic Evaluation Framework for SLCs. The resulting Evaluation Framework was adapted from previous comprehensive work of the Queensland Government's *Capricornia Allied Health Partnerships Evaluation Framework* produced by Siggins Miller Consultants in partnership with ClinEdQ Queensland Health (Davies & Miller, 2011). This Evaluation Framework was then customized to address specific evaluative components as appropriate for the Coledale population and the UNE/Coledale SLC and a baseline evaluation was conducted by the team.

2.3 UNE meta-framework

The Guba & Shufflebeam (1970) framework focuses on the context, inputs, processes and products, whereas the W.K.Kellogg Foundation (2004) framework focuses on resources, activities and outcomes. The UNE meta-framework described below combines these approaches and focuses on the context, resources (or inputs), processes (or activities) and outcomes (or outputs). The table below demonstrates the key evaluation question that need to be answered in relation to these elements and the type of data collection methods that can be used.

Table 1 The UNE meta-framework

Elements of the meta-framework	*Key evaluation questions*	*Data collection methods*
Context The environment within which the SLC operates, the particular unmet health needs of the local community and the local stakeholders	What is the geographic, demographic and cultural context of the SLC? What is the philosophy behind the operation of the SLC? What are the stakeholders hoping to achieve? What are the anticipated enablers and barriers? What are the practical issues involved? How can the SLC be evaluated appropriately?	Desk research "Yarning" or consultations with stakeholders Literature review of evaluation techniques
Resources The capabilities of the university, health system, local community, stakeholders and students to adjust to the context-specific needs of the SLC project	What resources have been allocated to the SLC by various stakeholders? What funding has been received and is it ongoing? How many students will volunteer or be placed at the SLC? Is the model likely to be sustainable?	Desk research Consultations with stakeholders and faculty members
Processes The processes undertaken by the various stakeholders to achieve the operation of the SLC	How is the SLC run and by whom? What is the student learning process? What is the process of offering health care to patients (or residents) and how well is it working for them? What is the process for interprofessional education? What is the supervision process?	Desk research and ongoing review of data collected by SLC Qualitative (including "yarning") and quantitative research among key stakeholders using evaluation tools identified
Outcomes The desired outcomes of the project for all stakeholders, and especially for student learning and patient health outcomes	What have students learned at the SLC? What standard of health care have patients (or residents) received? What have been the achievements of the SLC? What have been the risks or challenges of the SLC? Is the model sustainable?	Desk research and ongoing review of data produced by SLC, including ongoing review of enablers and barriers, and cost benefit analysis, health indicators, formal and informal publications and awards etc Qualitative (including "yarning") and quantitative research among key stakeholders using evaluation tools identified

3 Student-led clinics

There are over 100 student-led or student-run free clinics operating within the US offering a satisfactory level of care with high patient satisfaction levels (Swartz, 2012). There are currently at least three student-led clinics operating in Australia and this number is expected to increase in the future, given the difficulties with finding appropriate clinical placements for health students.

3.1 Introduction to SLCs

Most SLCs share a common philosophy of providing much needed care to an under-served population, using the principles of patient-centred care. They are often attached to an existing care provider, such as a community health centre or charity organization. It is hoped that students will have the opportunity to increase their social awareness, compassion and empathy while increasing their clinical confidence and learning about teamwork (Clark, Melillo, Wallace, Pierrel, & Buck, 2003).

These clinics vary in terms of their organization and underlying philosophy (student-led or student-run), by model of service delivery (medical students only versus inter-professional groups of students), and in the services that they offer (e.g. general health care or health care in relation to a specific condition such as diabetes or post-stroke care). Student-led clinics help students to develop leadership, clinical and administrative skills (Black, Palombaro, & Dole, 2013) and teach them a sense of increased responsibility for and ownership of patient care, in a safe learning environment (Bostick & Hall, 2014). Students also develop teamwork skills in inter-professional clinics, an increased knowledge of other disciplines and inter-professional communication skills (Kent & Keating, 2015). In student-run clinics, students report increased social awareness, compassion and empathy, teamwork, confidence building, and increased interest in working with under-served populations (Clark et al., 2003).

According to Meah, Smith & Thomas (2009) students in leadership positions learn to take on responsibility for the healthcare of patients, thereby learning a great deal about patient advocacy and the monitoring and delivering of quality care, as well as finances and resource allocation. This is important learning for future doctors entering a crisis-ridden healthcare system in the US. In addition, students report experiencing an increased level of commitment to offering services for the under-served (Sheu et al., 2012), and have the opportunity to gain an understanding of the social determinants of health, the principles of primary care and the importance of socially responsive health promotion (Stuhlmiller & Tolchard, 2015). Holmqvist et al. (2012) argue that student-run clinics counter the 'vanishing virtue' effect i.e. the way students become less altruistic over time as a function of socialization within their profession.

The evaluation of student-led or student-run clinics varies. Some research studies have evaluated patient outcomes, whereas others have focused on student learning outcomes. Few research studies include quantitative evaluation of both patient and student outcomes. Few specific outcome measures

have been developed and the evidence base for student-led and student-run clinics is relatively poor, hence the need for a comprehensive Evaluation Framework.

3.2 Evaluation Framework for SLCs

The following table details the criteria for success or otherwise of student-led clinics in general. This is based on the work involved in the Queensland Government's *Capricornia Allied Health Partnerships Evaluation Framework* produced by Siggins Miller Consultants in partnership with ClinEdQ Queensland Health (Davis & Miller 2011). The criteria examined are dependent on the context of each clinic and include the following:

- The evaluation criteria or what is being evaluated within the framework;
- The key evaluation question to be answered;
- The key performance indicators or ways in which we know that the criteria is being achieved; and
- The suggested tools and techniques for data collection to evaluate each criteria.

Table 2 Evaluation Framework for SLCs

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques*
Stakeholders' expectations (context)	*Did the SLC live up to your expectations?* *What were the enablers and barriers?* *How should the SLC be evaluated?*	*Stakeholders feel proud of their achievements* *Potential barriers have been overcome* *An implementation plan for ongoing evaluation has been agreed*	*Consultations with stakeholders* *Survey conducted with stakeholders* *Literature review*
Resource allocation by stakeholders (resource)	*Were the resources sufficient for sustainability?*	*Resource allocation review completed and grants applied for, if necessary*	*Review of resource allocation* *Number of grant applications submitted*
Student placements allocated by university (resource)	*How many students will volunteer or be placed at the SLC?*	*Commitment to student placements by faculty members*	*University data* *Consultations with faculty members*
Stakeholders' contribution (process)	*What contributions did you make to the SLC to enhance student learning or*	*Commitment to ongoing contributions from stakeholders*	*Consultations with stakeholders*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques*
	patient outcomes? *What enabled you to contribute?* *What were the barriers?*		
Patient welcome (process)	*Did you feel welcomed?* *Were you acknowledged in a timely fashion?* *Did the students introduce themselves?* *Were they friendly?* *Did you receive access to subsidized care?*	*Patients feel welcomed and have access to subsidized health care*	*Satisfaction surveys e.g. Client Satisfaction Questionnaire (CSQ) used at UCSF (Attkisson & Greenfield, 1996)* *Patient Satisfaction Survey*
Intake process for patients (process)	*Were you provided with an explanation of the assessment process and intake materials?* *Did you find the explanation helpful?* *Did you believe that the information would be treated confidentially by the students?* *Did you sign a consent form?*	*Patients understand the intake process and believe information given will be kept confidential.*	*Intake form, consent form, confidentiality and record keeping information sheet.*
Way in which service was delivered to patient (process)	*Did you feel encouraged to discuss your health concerns and tell your health story?*	*More patients feel able to discuss their health concerns.*	*Patient Experience Questionnaire (Steine, Finset & Laerum, 2001)*
Students feel supported though provision of inter-professional educational activities and resources (process)	*Did you have the opportunity to work collaboratively?* *Do you feel better prepared for work as a health professional in a community setting?*	*Self-perceived ability to work with others.* *Increased inter-professional ability.* *Increased work-readiness in a community setting.*	*Inter-professional socialization and valuing scale.* *Exit interview employing Most Significant Change Technique (self-administered).* *Economic Evaluation of Student Outcomes.*
Supervisors' community	*Do you engage well with the local*	*Supervisors are embedded in*	*Qualitative interview with*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques*
engagement skills (process)	*community? Do you feel adequately prepared to teach engagement skills?*	*community* *Supervisors have community engagement teaching skills*	*supervisors*
Support for supervisors (process)	*Do you feel supported in your work?* *Do you intend to continue in this role?*	*Supervisors report feeling supported and wish to continue in the role*	*Qualitative interview with supervisors, regular debriefing with lead facilitator*
Patients' awareness and understanding of health conditions and responsibility for self-management, and warning signs (process)	*Do you understand your health better than before?* *Do you know what contributes to your health problems?* *Do you know what you can do to improve your health?* *Do you know about warning signs and when to ask for help?*	*Increased understanding of health issues, including responsibility, self-management and warning signs.* *Changes in scores on Partners in Health Questionnaire*	*Partners in Health Scale (PIH) (Battersby et al. 2003)* *Health Risk Assessment Questionnaire*
Increased access to follow up service for patients (outcome)	*Were you referred on to the appropriate help?* *Did you receive self-help information?* *Were you happy with the advice and health care that you received?* *Would you go back to the centre?*	*Patients state that they have received appropriate help.* *Records show appropriate self-help and referrals given.* *Records show increased number of return visits.*	*Routine data including intake forms, confidentiality information, record keeping, hand-held records, number of residents using SLC over time*
Increased access to care in a timely manner for patients (outcome)	*Has the number of referrals to the clinic increased?*	*Percentage increase in referrals* *Percentage decrease in time to access service*	*Routinely collected data of service throughput*
Good health outcomes for patients, including improvements in specific conditions (outcome)	*Did you experience improvements in your health?* *Did you work out health goals to meet your needs?*	*Patients feel better and experience fewer symptoms following visit to clinic.* *Patients know more about treatment options.*	*Data collected via Health Practitioner Research Scheme (Tyack et al. 2011)* *Clinical outcome measures* *SF36 V1 (Ware et al. 1996)* *Co-morbidity Questionnaire (Bayliss et al. 2005)*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques*
			Medical Outcomes Study Social Support Survey (Sherbourne & Stewart,1991). *Self-reported Health Perception (SHP) (Perruccio et al. 2010).* *Kessler 10/Kessler 6 (Kessler et al. 2002).* *Physical function measures such as TUG, BMI etc*
Agreed care plan for patient (outcome)	*Do you have an agreed care plan which addresses your health concerns and suits your needs?*	*All patients have an agreed care plan.* *Care plan tailored to fit specific needs of patient.*	*Routinely collected data.* *Intake form.*
Student learning outcomes in health care and promotion (outcome)	*Did you learn to engage with community members?* *Did you participate in health promotion activities?* *Did you develop a health promotion activity?* *Did you undertake triage independently?* *Did you conduct a free health check?*	*More students become involved in health promotion activities.* *More students help to design and execute health promotion activities.* *More students conduct triage independently.* *More students conduct a free health check on at least one resident.*	*Student learning measures e.g. Teacher and Learner Survey* *Competency Checklist*
Student learning outcomes in working with underserved and disadvantaged populations (outcome)	*Did you learn about the social determinants of health?* *Did you gain confidence in working with Indigenous residents?*	*Students understand link between health and social disadvantage.* *Students gain confidence in working with Indigenous residents.*	*Clinical confidence measures e.g. Sociocultural Attitudes in Medicine Inventory (SAMI) (Tang et al, 2002)* *Competency Checklist* *Personal Reflective Tool*
Student learning outcomes related to leadership and working as a team (outcome)	*In what ways did you contribute to the growth of the clinic?* *How many times were you team leader?*	*Students learn leadership and teamwork skills.*	*Student learning measures e.g. Inter-professional Socialisation and Valuing Scale (ISVS) (King et al, 2010)*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques*
	What did you learn from working in a team? *Have you initiated change to practice?*		*Interdisciplinary Education Perception Scale (IEPS) (Luecht et al, 1989).* *Readiness for Inter-professional Learning Scale (RIPLS) (Parsell & Bligh, 1999).*
Overall student satisfaction with placement (outcome)	*Did your clinical placement meet your learning objectives for the unit?*	*Students rate clinical placement highly*	*Student learning measures e.g. Self-assessment of Clinical Reflection and Reasoning (SACRR) (Royeen et al, 2001)* *Survey of Student Satisfaction*
Enhanced professional practice for supervisors (outcome)	*Do you feel committed to this role?*	*Increased clinical supervisor professional commitment.*	*Commitment Survey (Steers & Mowday, 1979)*
Increased retention of clinical supervisors (outcome)	*Do you intend to continue in this role?*	*Number of clinical supervisors expressing an intention to continue in the role.*	*Focus group discussion with clinical supervisors.*
Operation of SLC working well for university (outcome)	*Is the clinic operating as intended?* *Are a range of students being placed at the clinic?* *Are the intended patients attending the clinic?*	*Clinic open and operating as intended.* *Expected range of students being placed within clinic.* *Expected clients attending clinic.*	*Routinely collected data.*
Benefits of SLC for university (outcome)	*Do the benefits of the clinic outweigh the costs?*	*Multiple benefits of clinic enumerated and costs weighed.*	*Cost benefit analysis*
Increased support for clinical placements for university (outcome)	*Does the student-led clinic create capacity for nursing and other student placements?* *Has the number of disciplines placing students at the clinic increased?* *Do the activities of the clinic fit into the current curriculum?*	*Increase in number of student placements completed at the clinic.* *Increased support for the clinic from nursing faculty and other health disciplines.*	*Routinely collected data on student placements across disciplines.*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques*
Strengthened partnerships with public and private primary health care providers including GPs for health system (outcome)	*Is the number of referrals from GPs increasing?* *Is the number of referrals from other health care providers increasing?*	*Increased number of GP referrals.* *Increased number of referrals from other health care providers.*	*Routinely collected data.* *Partnership Survey (self-administered).*
Increased recruitment success within health system (outcome)	*Are increasing numbers of students applying for placements within the clinic?*	*Number of students applying for placements in rural and remote settings.*	*Routinely collected data.* *Student Destination Survey.*
Decreased number of days in hospital benefit to health system (outcome)	*Is there a reduction in the number of days spent in hospital?* *Is there a reduction in the number of hospital admissions?*	*Reduced number of days spent in hospital.* *Reduced number of hospital admissions.*	*Data collected via Health Practitioner Research Scheme.*
Increased interest within health system from organisations and professional groups regarding the translation of the inter-disciplinary model to other organisations (outcome)	*Has awareness and interest in the clinic and its resources increased?*	*Increase in number of requests for information over time.*	*Request and dissemination log.*
Cost benefit for the health system (outcome)	*Do the benefits of the clinic outweigh the costs?*	*Benefits (financial and non-financial) outweigh the costs (financial and non-financial)*	*Cost benefit matrix.*
Decreased costs of health care to the system (outcome)	*Is there a reduction in in-patient admission costs?* *Is there a reduction in out-of-pocket expenses for GPs and specialists?*	*Reduced in-patient admission costs.* *Reduced out-of-pocket expenses for GPs and specialists.*	*Economic costs of operation.* *Cost utility analysis.* *Data collected via Health Practitioner Research Scheme.* *Medicare and PBS costs.*

4 Introduction to UNE/Coledale Student-Led Clinic

In February 2012, Health Workforce Australia Clinical Training Program awarded the University of New England (UNE) School of Health Nursing and its partners, Hunter New England Local Health Network and Justice Health/ Forensic Mental Health Network, a grant to develop a student-led clinic to address the shortage of clinical training opportunities in rural and remote areas while, at the same time, providing a community service in priority health areas.

Coledale Community Centre is in West Tamworth New South Wales and is home to a number of health and social services that fit the philosophy and goals of the project. The UNE/Coledale Student-Led Clinic began operation in 2013 in the Coledale Community Centre in West Tamworth, NSW. The clinic offers clinical placements for nursing and other allied health students. After a year of community consultation, the UNE/Coledale Student-led Health and Wellbeing Clinic (SLC) opened one day a week in March 2013. As the demand for help increased, so did the SLC days to 5 days within the first year. To date, students under expert supervision have provided over 2,000 occasions of care, provided eye and ear screening for near 1,000 school children and hosted a wide range of health promotion events and educational forums attended by thousands of community members. With drop-in free access to help, convenience and cost savings to individuals, families and health services has been enormous. Through this collaboration between University students and community members, organizations are committed to strengthening inter-professional partnerships across higher education, health and social sectors with private, government and non-government agencies.

Since March 2013, students have been establishing the health clinic at Coledale Community Centre to enable self, GP, and other agency-referred clients to receive student-delivered primary health care, education and guided self-help pertaining to specific health concerns. Students have led and participated in a number of initiates such as a re-write of the Hunter New England Stroke Book, Birth Certificate Registration, Homeless Connect, Women's Health, Men's Health, Worming Day, Hep C Campaign, Mental Health Community Forum, Family Fun, Domestic Violence, Stroke Education and Primary School Ear and Eye Screening Days. Ongoing groups such as Walk and Talk, Laughing Yoga, Thai Chi, Young Mums and Gardening join people from the neighborhood in health promotion activities. Members of the teaching team include a nurse practitioner, chronic disease clinical nurse consultant, mental health clinicians and a range of other wellness professionals who work out of the Centre. Under the UNE banner of an integrated one-stop clinic, students are providing a wide range of state-of-the-art evidence-based interventions—from triage, through assessment, testing, diagnosis, treatment, prescriptions, education and coaching.

The purpose of this section is to describe the application of an Evaluation Framework developed with funding from a project through the Hunter and Coast ICTN to evaluate the UNE/Coledale Student-Led Clinic. This entails evaluating the necessary steps and measures required to maintain a seamless student learning and practice environment of excellence and efficiency where students in nursing, social work, counselling, medical and pharmacy learn collaboratively with practitioners in primary healthcare and wellbeing service delivery for young people, adults, and their families within the context of the

UNE/Coledale Student-led Clinic in the Coledale area. It also entails considering what is unique about the context of this clinic and how will this context change the Evaluation Framework that we use.

4.1 UNE/Coledale SLC Evaluation Framework

One of the purposes of this Coledale-specific Evaluation Framework is to assist in the future management and reporting of the Coledale SLC. The key components of the evaluation framework include the elements of the meta-framework:

- A description of the project context, inputs, activities, and outputs described in Table 3 below;
- The specific evaluation elements, evaluation questions, key performance indicators and data collection tools described in Table 4;
- The identification of potential enablers and barriers to project implementation and sustainability described in Table 5;
- The identification of costs and benefits (financial and non-financial) described in Table 6; and
- A data strategy and evaluation plan described in Table 7 and an evaluation of possible tools in Table 8.

The tables have been developed from documentation and refined through discussion with various stakeholders. The data collected to inform this baseline evaluation include: consultation records and letters; clinic business plan; budget; start-up proposal and documents; briefing papers; committee meeting agendas and minutes (Steering Committee, Nursing Advisory Board, Research and Education, School Management Committee); Nursing Course Team Reports; HWA reports and milestones; strategic plan; student handbook; student written reflections; pre-brief and debrief reports; clinic brochure; accreditation policy and procedures; media and engaged scholarship outputs; non peer reviewed articles; peer reviewed articles; posters and presentations; and awards.

Table 3 Context, resources, processes and outcomes for UNE/Coledale SLC

A. What was unique about the context of the UNE/Coledale SLC that might affect the Evaluation Framework?

Coledale as a community

Coledale is a suburb of the West Tamworth Urban Area that is contained in a geographical area of approximately 1,220 dwellings. With a population of a little over 3,000 people, the community is considered a low socio-economic area with high unemployment, crime, domestic violence and unmet health needs. While the NSW census reports near 30% Aboriginal and Torres Strait Islander population, it is believed that the figures are more toward 60% (CM, 2011). With a shortage of medical practitioners servicing Tamworth and the surrounding region, it is estimated that around 4000 people are without access to a general practitioner (New England Medicare Local, personal communication 2013). Additionally, with long wait lists, transport and financial issues, and avoidance of services dues to stigma and previous negative experiences in the health system, individuals and families do not gain help.

Statistically, West Tamworth has a significantly high proportion of children 0-4 years; significantly low median weekly household income (25% less than the Australian base level) which is twice the rate of the rate compared to Tamworth norm; high unemployment rate of almost triple the Australian base level; significantly high proportion of people employed as labourers (double the Australian base level) and conversely a significantly lower number of people employed as professionals (60% less than the Australian base level); a significantly low number of couple families with children (30% less) while the number of one parent families is double the Australian base level; and a significantly lower level of education and qualification levels with almost double the Australian base level of people with no formal qualifications. A Crime Review in late 2011 indicates that Coledale has a significant impact on crime and offences in the Tamworth Sector (Housing NSW, 2011).

The Coledale Action Plan

In mid-2010, a Coledale Action Plan was prepared as the basis for a whole of government response. Identified in the plan are strategies relating to urban revitalization, antisocial behaviours and crime prevention initiatives, improving access to support services, developing youth opportunities, improving education and employment outcome, and health and well-being. (see Coledale Tamworth NSW Urban Renewal Masterplan Strategy September 2011, www.tamworth.nsw.gov.au/.../10033_ColedaleUrbanRenewal%20Ma).

Choosing Coledale Community Health Centre as a venue for the Coledale SLC

The Coledale Community Health Centre was chosen as a suitable venue for the Coledale SLC for the following reasons: it already had some services operating from the building including wound care, podiatry, ante-natal, and women's health; it was known to the local community but had fallen into disrepair; and only a small number of local residents were currently using the services offered in the building. Additionally, the Centre location fitted with the philosophy and vision of the project—to improve the lives and opportunities for the community of Coledale through student service learning.

B. What were the resources put into the project that might affect the Evaluation Framework?

Policy context

This initiative is strategically aligned with the agendas of the Australian Health Care Reform Alliance, Department of Health and Aging, and New South Wales Health namely by: 1) increasing access to integrated help, 2) providing efficient treatments that work in a primary health setting, 3) promoting individuals to optimize their own health, 4) increasing health literacy and community engagement, 5) initiating new ways of working toward workforce development, 6) use of e-health 7) addressing key areas of chronic and preventable disease self-management and mental health, and 8) liaising with Medicare Locals to fill the gap in primary care needs of rural populations. The expected outcomes are: 1) the increased capacity to provide clinical experiences for students, 2) sustained positive health outcomes for clients 3) reduced costs of disability and days lost to sickness, and 4) decreased impact of illness and suffering on persons, families, and communities. Routine data will be collected throughout the initiative to monitor these outcomes.

Framework for practice

The New England 4G Framework is based on cognitive-behavioral therapy (CBT)—the most effective non-pharmacological evidenced-based treatment for a wide range of mental and physical health conditions. Students use the 4G approach to: 1) gather information to detect, assess, and measure health problems, 2) generate a health action plan with the client, 3) give health information and print-based or internet CB-based self-health treatment packages, and 4) guide use of CB therapies using e-health follow-up and measures (Stuhlmiller & Tolchard, 2012) . The new tele-health equipment was proposed to enable remote clients to have access to help from their nearest community or Aboriginal Health Centre.

Educational framework

The clinic is based on a holist understanding of health and health alterations and their cognitive-emotional-physical-behavioral components. It is best applied using and inter-professional (IP) model. Students learn about the bio/psycho/social/cultural/spiritual components to health as determined by social and economic factors.

Funding

Health Workforce Australia awarded the UNE School of Health (Nursing) A$ 1.6 million grant to establish a student-led health clinic as a means to address the shortage of clinical training opportunities in rural and remote areas while, at the same time, providing a community service in priority health areas. Nearly $800,000 was spent to renovate the Centre particularly the treatment rooms, in order to meet health and safety standards. The building owners, Family and Community Services, provided a 10 year lease arrangement with the University in exchange for the renovations to the building. The remaining budget was to purchase equipment, and to furnish and staff the clinic for the first two years. An additional $500,000 was obtained from New South Wales Department Health to cover costs until the end of 2016.

Governance and management arrangements

The project management team contributing to the Evaluation Framework consists of the lead investigator, 2 co-investigators and 2 research officers. A steering committee of key stakeholders provides input and broader analysis from the perspective of agencies contributing the clinic. These included representatives from: Walhallow Aboriginal Health Corporation, Hillview Elementary School, Tamworth Regional Council, Tamworth Family Support Services, and Newcastle University lead of Nurse Practitioner training. These representatives are selected because of their current and intended collaborative involvement in the SLC. Our Aboriginal Health Advisor and members of UNE/Coledale SLC Steering Committee provide overall advice and community consultation to ensure consistency of our model with the evaluation approach.

Partners

The main partners are Hunter New England Health District, NSW Justice Health, New England Medicare Local, Walhallow Aboriginal Health Corporation, Tamworth Family Support Services, Family & Community Services, and other agencies.

C. What were the processes that might affect the Evaluation Framework?

Stakeholder consultation

The following key agencies were consulted before establishing the clinics:

- NSW Premier & Cabinet, Coledale Steering Committee
- Tamworth Regional Council
- Tamworth Regional Council Community Development and Youth Services
- The Tamworth Place Team
- The NOW Team (part of the Tamworth Revitalization Project)
- Department of Attorney General and Justice (including Police, Crime Prevention and Youth Liaison, Corrective Services,
- NSW Department of Family and Community Services (including Community Services, Housing, Aging, Disability and Home Care, Aboriginal Affairs)
- Hunter New England Health
- NSW Department of Education and Communities (including Education, Sport and Recreation, Connected Communities)
- NSW Human Services Housing
- Homes North Community Housing
- Staying Home Leaving Violence
- Tamworth Aboriginal Medical Centre
- Pathfinders Family Referral Service
- New England Medicare Local
- Anglican Counselling Service
- Tamworth Family Support Service

- JobLink Plus
- Centrelink
- The Richmond Fellowship NSW
- Benevolent Society
- Transport of NSW
- Career's Network
- Existing infrastructure (e.g. computers, office set-up, clinic facility)
- Student accommodation subsidised
- QH rural scholarship scheme
- Ongoing discussions with medical and nursing schools

Governance

- Establish the project management team to provide project oversight, strategic advice and advocating for the project. The project manger's responsibilities include: project planning and implementation, operational and risk management, and delivery of project outcomes in a timely manner. The project manager is also responsible for liaison with key stakeholders and reporting to funding bodies.
- Establish a UNE Coledale Steering Committee to provide input into the development of inter-professional practice, helps locate funding and research opportunities and advise the project management team of any issues as they emerge.
- Liaise with the UNE Nursing Advisory Group who has oversight of student placements and clinical timetable, help prepare and deliver pre-placement guidelines, ensures placement activities meet course/unit accreditation requirements and approve clinical workbooks
- Establish a Clinical Reference group to provide educational input, a model of care relevant to the student placements, to ensure that student learning outcomes are met, and to oversee faculty involvement with the project
- Establish a Coledale Community Committee to advise the project management team throughout the project
- Develop terms of reference for various groups including UNE Nursing Advisory Committee, UNE Clinic Steering Committee, and Clinical Reference Group
- Develop a UNE/Coledale Strategic Plan

Project planning

- Sign off project with funding body/university
- Develop monitoring and Evaluation Framework to ensure sustainability of the project

Clinical infrastructure

- Determine a budget and asset audit for clinic
- Set up the SLC
- Negotiate with other service providers within building

Clinical guidelines and service delivery

- Open the clinic
- Develop service delivery model in conjunction with key stakeholders
- Ensure accreditation standards are met
- Agree method of recruiting supervisors
- Employ relevant clinical staff for the clinic
- Develop student manual, contract and FAQs and shift structure
- Develop intake and referral forms
- Develop supervisor checklist and staff/mentor roles, physician contract, mentor manual, contract and FAQs

University engagement and student placement

- Send invitations to participate and volunteer survey to all nursing students
- Develop presentations and website to deliver across disciplines
- Present case at Nursing Advisory Meetings
- Network with appropriate faculty to ensure placements across disciplines
- Obtain commitment for specified number of student placements
- Organise collection of relevant student satisfaction data

Developing a business case

- Develop a business case
- Develop a new model of care for SLC operating in an Aboriginal and Torres Strait Islander area

Seeking funding

- Write grant applications

Stakeholder engagement strategies

- Develop Memoranda of Understanding with key stakeholders
- Develop a plan for outreach activities, emails, events, meetings

Research and evaluation

- Present research plans at the UNE/Coledale Research and Education Committee
- Set up data collection methods for collecting data from patients, students and stakeholders
- Prepare ethics application
- Prepare conference paper abstracts

Sustainability of the Coledale SLC

- Seek renewable funding options
- Ensure ongoing stakeholder engagement
- Build evaluation into the service
- Disseminate results of evaluation
- Promote the Coledale SLC and the model of care
- Expand to Tamworth Regional Youth Centre (Youthie) and other regional/rural areas to create Student Practice Hubs

D. What were the hoped for outcomes that might affect the Evaluation Framework?

Governance

- Project management team and UNE Clinic Steering Committee is established
- Liaison with the UNE Nursing Advisory Group over clinical placement issues is conducted
- Clinical Reference group is established
- Coledale Community Committee is established
- Terms of reference are developed for various groups above
- Risk management plan developed

- Job descriptions for staff employed are developed (project manager, clinical supervisors and administration officer)
- Agendas and meeting minutes
- Presentations to faculty members about governance of SLC
- The UNE/Coledale Strategic Plan 2015-2017

Project planning

- Project plan signed off by funding body/university
- Monitoring and Evaluation Framework completed

Clinical infrastructure

- Budget and asset audit in place
- Clinic premises found at Coledale Community Health Centre
- SLC open and operational
- Agreements signed with other service providers within the building

Clinical guidelines and service delivery

- Clinical service delivery model agreed and operational
- Accreditation standards are met
- Clinical supervisors recruited
- Other clinic staff recruited
- Student manual, contract and FAQs and shift structure policy developed
- Intake and referral forms developed
- Supervisor checklist and staff/mentor roles, physician contract, mentor manual, contract and FAQs developed and agreed
- Clinic open and operating in parallel with other service providers in the community

University engagement and student placement

- Send invitations to participate and volunteer survey to all nursing students
- Develop presentations and website to deliver across disciplines
- Present case at Nursing Advisory Meetings
- Network with appropriate faculty to ensure placements across disciplines

- Obtain commitment for specified number of student placements
- Organise collection of relevant student satisfaction data

Developing a business case

- Business model 2013-2015 written and agreed
- New model of care for SLC operating in an Aboriginal and Torres Strait Islander area developed

Seeking funding

- Grant applications written and submitted

Stakeholder engagement strategies

- Memoranda of Understanding signed with key stakeholders
- Outreach activities and events planned with key stakeholders

Research and evaluation

- Research plans presented at the UNE/Coledale Research and Education Committee
- Baseline and ongoing data collected from patients, students and stakeholders
- Ethics application submitted
- Conference paper abstracts submitted

University engagement and student placement

- Invitations to participate sent and survey sent to all nursing students
- Presentations and website developed and delivered across disciplines
- Case presented at Nursing Advisory Meetings
- Network created with faculty across health disciplines
- Student placements planned
- Student data collection put in place

Objectives for the SLC

For residents

- Residents feel welcome and comfortable with service offered
- Residents feel able to tell their health stories
- Residents receive appropriate health care
- Residents increase their health literacy and feel empowered to self-manage health concerns
- Residents experience good health outcomes

For students

- Students feel welcomed and orientated to the SLC
- Students develop relevant skills and knowledge
- Students triage, plan and follow up
- Students take on leadership roles and responsibilities
- Students contribute to clinic development and test their ideas
- Students link and integrate services within a caseload continuity approach
- Students feel more confident working with underserved and disadvantaged patients
- Students feel supported in their learning and satisfied with their placement

For other health providers within the Centre

- Health providers rely on student service integration for complex patients
- Health providers work closely with other health providers
- Health providers support student service learning and do less as student does more

For supervisors

- Supervisors take a less directive role in teaching while enabling student self-initiative and discovery
- Supervisors feel comfortable using the service learning model
- Supervisors feel supported in their role

For UNE

- UNE increases its capacity for student placements
- UNE enhances its ability to offer inter-professional training in health care
- UNE gains stronger partnerships with primary health care providers and community organisations
- UNE supports methods of community outreach and form of engaged scholarship

4.2 UNE/Coledale SLC Evaluation Framework

The following matrix details the criteria for success or otherwise of the UNE/Coledale SLC and includes context specific:

- Evaluation criteria or what is being evaluated within the framework;
- Key evaluation question to be answered;
- Key performance indicators or ways in which we know that the criteria is being achieved; and
- Culturally appropriate and context specific tools and techniques for data collection to evaluate each criteria.

Table 4 UNE/Coledale SLC Evaluation Framework

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques specific to UNE/Coledale SLC*
Stakeholders' expectations (context)	*Did the SLC live up to your expectations?* *What were the enablers and barriers?* *How should the SLC be evaluated?*	*Stakeholders feel proud of their achievements* *Potential barriers have been overcome* *An implementation plan for ongoing evaluation has been agreed*	*Yarning with stakeholders* *Survey conducted with stakeholders* *Literature review of culturally appropriate evaluation tools*
Resource allocation by stakeholders (resource)	*Were the resources sufficient for sustainability?*	*Resource allocation review completed and grants applied for, if necessary*	*Review of resource allocation* *Number of grant applications submitted*
Student placements allocated by university (resource)	*How many students will volunteer or be placed at the SLC?*	*Commitment to student placements by faculty members*	*University data* *Consultations with faculty members*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques specific to UNE/Coledale SLC*
Stakeholders' contribution (process)	*What contributions did you make to the SLC to enhance student learning or patient outcomes?* *What enabled you to contribute?* *What were the barriers?*	*Commitment to ongoing contributions from stakeholders*	*Yarning with stakeholders*
Students' belief in philosophy behind student-led clinics and in service learning model (context)	*Do you believe in the philosophy behind the student-led clinic?* *Were you comfortable doing less as the students learn to do more?*	*Students believe in the benefit to their learning of leading the health promotion activities and health checks* *Students understand and feel comfortable with the service learning model*	*Focus group discussion with students who volunteered for placement in SLC.*
Other service providers' belief in philosophy behind student-led clinics and in service learning model (context)	*Do you believe in the philosophy behind the student-led clinic?* *Do you believe it is possible to run a student-led clinic in the current competency environment?* *Were you comfortable doing less as the students learn to do more?*	*Other service providers believe in allowing students to lead the health promotion activities and health checks* *Other service providers understand and feel comfortable with the service learning model*	*Focus group discussion with clinical supervisors.*
Supervisors' belief in philosophy behind student-led clinics and in service learning model (context)	*Do you believe in the philosophy behind the student-led clinic?* *Do you believe it is possible to run a student-led clinic in the current competency environment?* *Were you comfortable being interviewed by students for your position?* *Were you comfortable doing less as the students learn to do more?*	*Supervisors believe in allowing students to lead the health promotion activities and health checks* *Supervisors feel comfortable being interviewed for their positions by students each year* *Supervisors understand and feel comfortable with the service learning model*	*Focus group discussion with clinical supervisors.*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques specific to UNE/Coledale SLC*
Philosophical issues and support for community outreach and method of engaged scholarship within university (context)	*How can we run a student-led clinic without being service providers?* *Is it acceptable to allow students to lead the activities of the clinic?*	*University support for clinic evident through volunteer numbers and policy decisions.*	*Qualitative interviews with senior faculty members.*
Residents feel welcome (process)	*Did you feel welcomed?* *Were you acknowledged in a timely fashion?* *Did the students introduce themselves?* *Were they friendly?* *Did you receive access to subsidized care?*	*Residents feel welcomed and have access to subsidized health care*	*Yarning with residents who have attended SLC (yarning begins as social yarning turning to discussion of health concerns and visits to SLC).* *Seek feedback from community groups.* *Number of residents using SLC over time.*
Residents experience orientation (process)	*Were you oriented to the building?* *Were you oriented to the service?* *Did you see a video?* *Did you receive a brochure about your rights?*	*Residents receive an orientation to building and services provided.*	*Yarning with residents who have attended SLC.* *Seek feedback from community groups.*
Intake process for residents (process)	*Were you provided with an explanation of the assessment process and intake materials?* *Did you find the explanation helpful?* *Did you believe that the information would be treated confidentially by the students?* *Did you sign a consent form?*	*Residents understand the intake process and believe information given will be kept confidential.*	*Yarning with residents who have attended SLC.* *Seek feedback from community groups* *Intake form, consent form and confidentiality and record keeping information sheet.*
Way in which service was delivered for residents (process)	*Did you feel encouraged to discuss your health concerns and tell your health*	*More residents feel able to discuss their health concerns.*	*Yarning with residents who have attended SLC.*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques specific to UNE/Coledale SLC*
	story?		*Resident Satisfaction Survey* *Seek feedback from community groups.* *Analysis of suggestions box responses.*
Residents' awareness and understanding of health conditions and responsibility for self-management, and warning signs (process)	*Do you understand your health better than before?* *Do you know what contributes to your health problems?* *Do you know what you can do to improve your health?* *Do you know about warning signs and when to ask for help?*	*Increased understanding of health issues, including responsibility, self-management and warning signs.* *Changes in scores on Partners in Health Questionnaire*	*Yarning with residents who have attended SLC.* *Intake form using 4G model with problems and goals measures.* *Work and social functioning scale.* *Patient Health Questionnaire.* *Anxiety and depression scales.* *Partners in Health (PIH)(Battersby et al. 2003)*
Student volunteering (process)	*Did you volunteer for this placement?* *Was this your first choice of placement?*	*Number of students who volunteer or choose SLC as first choice of placement.*	*University Volunteer Form.* *Worldpress online rostering system used for student shift coverage.*
Students feel welcome and orientation to the placement (process)	*Were you welcomed to the clinic?* *Were you oriented to the clinic?* *Did you see the welcome and orientation powerpoint?* *Did you find the Nursing website with SLC placement information?* *Did you receive the SLC handbook?* *Were you given a clear explanation of your role?*	*Students feel welcomed and orientated to placement in challenging environment.*	*University data.* *Student Satisfaction Survey.* *Reflective papers written by students as part of clinical placement assessment.*
Student process of learning (process)	*What did you see as the processes that enhanced or inhibited your learning in the clinic?*	*Students describe their learning journey at the clinic.* *Students identify the importance of*	*Focus group discussion with students who volunteered for placement in SLC focusing on*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques specific to UNE/Coledale SLC*
	To what extent were the processes of learning shaped by the student-led nature of the clinic?	*the clinic being student-led and of the service learning approach.*	*service learning experience.*
Student satisfaction with clinical supervision (process)	*Did your clinical supervisor challenge you appropriately?*	*Students feel positively challenged by their clinical supervisor*	*Student Satisfaction Survey.* *Reflective papers written by students as part of clinical placement assessment.*
Supervisors' community engagement skills (process)	*Do you engage well with the Coledale community? Do you feel adequately prepared to teach engagement skills?*	*Supervisors are embedded in community* *Supervisors have community engagement teaching skills*	*Focus group discussion with clinical supervisors.*
Support for supervisors (process)	*Do you feel supported in your work?* *Do you intend to continue in this role?*	*Supervisors report feeling supported and wish to continue in the role*	*Performance and Professional Development Review (PPPR).*
Residents experience increased access to follow up service (outcome)	*Were you referred on to the appropriate help?* *Did you receive self-help information?* *Were you happy with the advice and health care that you received?* *Would you go back to the centre?*	*Residents state that they have received appropriate help.* *Records show appropriate self-help and referrals given.* *Records show increased number of return visits.*	*List of residents' problems and goals in hand-held records.* *Number of return visits with resolution of health issue.*
Residents experience increased access to care in a timely manner (outcome)	*Has the number of referrals to the clinic increased?*	*Percentage increase in referrals* *Percentage decrease in time to access service*	*Intake forms.*
Good health outcomes for residents, including improvements in specific conditions (using New England 4G Model) (outcome)	*Did you experience improvements in your health?* *Did you work out health goals to meet your needs?*	*Residents feel better and experience fewer symptoms following visit to clinic.* *Residents know more about treatment options.*	*Yarning with residents who have attended SLC.* *Patient Health Questionnaire.* *Culturally appropriate anxiety and depression scales.* *Work and social functioning scales.*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques specific to UNE/Coledale SLC*
Residents receive agreed care plan (outcome)	*Do you have an agreed care plan which addresses your health concerns and suits your needs?*	*All residents have an agreed care plan.* *Care plan tailored to fit specific needs of resident.*	*Intake form, consent form and confidentiality and record keeping information sheet.* *Yarning with residents who have attended SLC.*
Student learning outcomes in health care and promotion (outcome)	*Did you learn to engage with community members?* *Did you participate in health promotion activities?* *Did you develop a health promotion activity?* *Did you undertake triage independently?* *Did you conduct a free health check?*	*More students become involved in health promotion activities.* *More students help to design and execute health promotion activities.* *More students conduct triage independently.* *More students conduct a free health check on at least one resident.*	*University data of student involvement in health promotion activities, triage, free health checks and other activities.* *Student Satisfaction Survey.* *Reflective papers written by students as part of clinical placement assessment.* *Pre-brief and debrief sessions with supervisors.* *Supervisor reports.*
Student learning outcomes in working with underserved and disadvantaged populations (outcome)	*Did you learn about the social determinants of health?* *Did you gain confidence in working with Indigenous residents?*	*Students understand link between health and social disadvantage.* *Students gain confidence in working with Indigenous residents.*	*Student Satisfaction Survey.* *Reflective papers written by students as part of clinical placement assessment.* *Pre-brief and debrief sessions with supervisors.* *Supervisor reports.*
Student learning outcomes related to leadership and working as a team (outcome)	*In what ways did you contribute to the growth of the clinic?* *How many times were you team leader?* *What did you learn from working in a team?*	*Students learn leadership and teamwork skills.*	*Student Satisfaction Survey.* *Reflective papers written by students as part of clinical placement assessment.* *Pre-brief and debrief sessions with supervisors.*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques specific to UNE/Coledale SLC*
	Have you initiated change to practice?		*Supervisor reports.*
Student learning outcomes related to an integrated caseload continuity approach (outcome)	*What varying health needs did you identify of residents?* *Did you assist residents to gain access to help and follow up?*	*Students identify multiple health needs of residents.* *Students help residents to gain service and follow up to make sure obtained.*	*Pre-brief and debrief sessions with supervisors.* *Supervisor reports.*
Overall student satisfaction with placement (outcome)	*Did your clinical placement meet your learning objectives for the unit?*	*Students rate clinical placement highly*	*Clinical competency measure such as SACRR.*
Students supported though provision of inter-professional educational activities and resources (outcome)	*Did you have the opportunity to work collaboratively?* *Do you feel better prepared for work as a health professional in a community setting?*	*Self-perceived ability to work with others.* *Increased inter-professional ability.* *Increased work-readiness in a community setting.*	*Focus group discussion with students who volunteered for placement in SLC.*
Increased service provision by other service providers (outcome)	*Did the SLC increase the service provision within the centre?* *Did the students help residents gain access to other services in the centre or other health services?*	*Increased number of residents using the centre in general.* *Increased number of services per resident.*	*Yarning with other service providers and community leaders.*
Enhanced professional practice for supervisors (outcome)	*Do you feel committed to this role?*	*Increased clinical supervisor professional commitment.*	*Focus group discussion with clinical supervisors.*
Increased retention of clinical supervisors (outcome)	*Do you intend to continue in this role?*	*Number of clinical supervisors expressing an intention to continue in the role.*	*Focus group discussion with clinical supervisors and other service providers in building.*
Operation of SLC working for university (outcome)	*Is the clinic operating as intended?* *Are a range of students being placed at the clinic?* *Are the intended patients attending the*	*Clinic open and operating as intended.* *Expected range of students being placed within clinic.* *Expected clients attending clinic.*	*Routinely collected data.*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques specific to UNE/Coledale SLC*
	clinic?		
Increased ability within university to offer inter-professional training in health care (outcome)	*Does the SLC increase the university's capacity to offer IP training in health care?*	*More health care students from different disciplines take up placements at SLC.*	*University data on student placements across health disciplines.*
Strengthened inter-professional partnerships for university across higher education, health and social sectors with private, government and non-government agencies (outcome)	*Are there stronger relationships with organisations and service providers involved with the project?*	*More contact between UNE and community organisations and service providers. Partnerships formed and collaborative projects started.*	*Interviews with university senior management.* *Number of memorandum of Understanding (MOUs).* *Number of collaborative grant applications.*
Sustainable support for the SLC within the university (outcome)	*Is there enough buy-in to support the sustainability of the clinic?* *Do culture carriers exist to ensure sustainability?* *Has interest in the clinic and its resources increased?*	*Number of volunteer clinicians and faculty increases over time.* *Clinicians and faculty remain involved over time.* *Students choosing clinic as first choice for placement.*	*Number of volunteers clinicians and students.* *UNE records of length of time staff remain involved.* *UNE records of student placement requirements.*
Benefits of SLC to university (outcome)	*Do the benefits of the clinic outweigh the costs?*	*Multiple benefits of clinic enumerated and costs weighed*	*Cost benefit analysis.*
Increased support for clinical placements within university (outcome)	*Does the student-led clinic create capacity for nursing and other student placements?* *Has the number of disciplines placing students at the clinic increased?* *Do the activities of the clinic fit into the current curriculum?*	*Increase in number of student placements completed at the clinic.* *Increased support for the clinic from nursing faculty and other health disciplines.*	*University data on clinical placement s across health disciplines.* *Focus group discussion with nursing and other health discipline faculty members.*
Decreased emergency visits within health system (outcome)	*Is there a reduction in the number of visits to emergency?*	*Reduced number of visits to emergency department at local hospital*	*Health system data.*
Strengthened partnerships for	*Is the number of referrals from GPs*	*Increased number of GP referrals.*	*Intake referral data.*

Element of evaluation framework	*Key evaluation questions*	*Key performance indicators*	*Data collection tools and techniques specific to UNE/Coledale SLC*
health system with public and private primary health care providers including GPs (outcome)	*increasing?* *Is the number of referrals from other health care providers increasing?*	*Increased number of referrals from other health care providers.*	
Increased recruitment success within health system (outcome)	*Are increasing numbers of students applying for placements within the clinic?*	*Number of students applying for placements in rural and remote settings.*	*Routinely collected data.*
Decreased number of days in hospital health system (outcome)	*Is there a reduction in the number of days spent in hospital?* *Is there a reduction in the number of hospital admissions?*	*Reduced number of days spent in hospital.* *Reduced number of hospital admissions.*	*Database estimates case by case.*
Increased interest within health system from organisations and professional groups regarding the translation of the inter-disciplinary model to other organisations (outcome)	*Has awareness and interest in the clinic and its resources increased?*	*Increase in number of requests for information over time.*	*Requests to develop clinics nationally and internationally (e.g. England and Scotland)*
Cost benefit for the health system (outcome)	*Do the benefits of the clinic outweigh the costs?*	*Benefits (financial and non-financial) outweigh the costs (financial and non-financial)*	*Cost benefit matrix.* *Letters of thanks, recommendations, awards.*
Decreased costs of health care to health system (outcome)	*Is there a reduction in in-patient admission costs?* *Is there a reduction in out-of-pocket expenses for GPs and specialists?*	*Reduced in-patient admission costs.* *Reduced out-of-pocket expenses for GPs and specialists.*	*Economic costs of operation.* *Medicare and PBS costs.*

4.3 Potential enablers and barriers

It is important to understand the context of the Coledale SLC, and to discern the potential enablers and the barriers to its continued success or failure. During the development of the Evaluation Framework, these potential enablers and barriers were identified and have been tabulated below. It is expected that this list will be changed as a result of consultations and 'yarning' with key stakeholders during the process of evaluation of the clinic.

Table 5 Potential Enablers and Barriers (to be confirmed or changed through consultation and 'yarning')

	Non-program factors	*Program factors*
Potential enablers	*The Close the Gap campaign to close health and life expectancy gap between Indigenous and non-Indigenous Australians.* *The willingness of UNE to consider a SLC to enable student service learning to the underserved population of Coledale.* *The willingness of student nurses and faculty to develop student service learning opportunities in this area.* *Strong leadership and commitment from nursing students.* *The increased number of health students requiring clinical placements.* *The opportunity for IP health promotion activities .* *The protective attitudes of Coledale residents towards students.* *The existing service providers working within the centre.* *The support within the Coledale community for the SLC.*	*Adequate initial funding for the refurbishment of the building and the setting up of the clinic.* *Adequate funding for a program director, four part time clinical supervisors and an administration officer.* *SLC designed to service the needs of an under-served and disadvantaged population.* *Strong support from a wide range of community organisations.* *Strong support from the local Aboriginal elders.* *Strong support from local clinicians and other referral sources.* *Local promotion of the SLC* *Using a building that already existed within the community and was well known to residents.* *A culturally appropriate model of care.* *Students with time to 'hang out' and develop relationships with residents before inviting them into the SLC for a health check.* *Continuity of care offered by volunteer students on one day a week, long-term placements.* *Strong support of the principles of student-led activities by the lead investigator.* *Students have opportunity to learn about social determinants of health in a practical way.* *Students had the opportunity to move outside their comfort zone and to be challenged.* *Students had the opportunity to develop leadership and teamwork skills.* *UNE gains expertise in teaching inter-professionally.*

Potential barriers	*Students may prefer or be bounded to the curriculum of short block clinical placements rather than the longitudinal longer-term, one day-a-week placements.* *Some clinicians and faculty find the philosophy of a student-led clinic difficult to accept.* *Students may be fearful of going on a clinical placement with such an underserved and disadvantaged population.* *Students may dislike working at the SLC if it is not on a voluntary basis.* *Students may find working in the SLC challenging because they have to set their own learning goals and develop, lead and evaluate their own activities.* *Students may not appreciate the relevance of working with this population.* *Supervisors may prefer to teach in a didactic manner, rather than allow students to take control.* *Supervisors may not like being interviewed for their positions by students.*	*UNE curriculum requires students to have a series of short-term placements.* *UNE senior management is committed to providing educational services rather than health care services.* *Lack of support for the project within the faculty.* *Lack of support in terms of student placements from other health disciplines.* *Lack of volunteers to supervise students within the faculty.* *Sustainability of the SLC requires stability within the UNE faculty and senior management.* *Risk attached to student service delivery.* *Distance to travel to SLC for senior staff.* *Need for ongoing risk management and evidence of success and sustainability for UNE senior management.* *University administration not supportive of service provision aspects of mode, nor willing to accept business model for revenue generation.* *Difficulty of follow up of residents and variable nature of SLC clientele.* *Model of care does not prioritize formal assessment, treatment plans and discharge planning.* *Lack of affordable student housing.*

4.4 Cost benefit analysis

The following section describes the cost benefit analysis as it currently stands, which will be continuously refined through a process of research and consultation.

Table 6 summarises the results of ongoing consultations with the various stakeholders, including residents, students, other service providers, supervisors, the University and the Health System. It is intended that this analysis be examined by a Health Economist to inform the evaluation of the SLC.

Table 6 Cost Benefit Analysis

Non-financial benefits	*Financial benefits*	*Non-financial costs*	*Financial costs*
For residents:			
Residents more willing to access health services delivered in a culturally appropriate manner. *Residents feel welcomed, oriented and understood in intake process.* *Residents more willing to tell their health story.* *Residents receive appropriate health care, based on New England 4G model.* *Residents become more involved with self-management of their health care.* *Residents receive more holistic health care and improvements to their overall health.* *A range of services are available in one place.* *Residents enjoy their role in facilitating student learning.*	*Free access to a range of health and social care services locally.* *Access to health professionals who help residents to self-manage their health conditions and prevent future complications.* *Health promotion activities and improved health literacy can enable better behavioral health choices and reduce the burden of disease, days lost to sickness, and improve quality of life.*	*Students increase length of time for each consultation.* *Clinic hours are limited.* *Residents cannot build rapport over multiple consultations unless placements are long-term.* *Students require more intensive supervision initially and may make errors in first consultations.*	*None.*

Non-financial benefits	*Financial benefits*	*Non-financial costs*	*Financial costs*
For students:			
Opportunity to experience service learning model. *Opportunity to contribute to the development of the clinic by taking leadership roles.* *Opportunity to develop a broad range of transferable skills, including research skills.* *Opportunity to develop rapport with disadvantaged Indigenous and non-Indigenous residents and to enhance understanding of social determinants of health.* *Opportunity to develop holistic clinical skills, clinical confidence, ethical reasoning, social awareness and empathy in a professional context.* *Opportunity to become a team leader or to work in a multi-disciplinary team.* *Opportunity to develop communication skills in an inter-professional setting and learn with peers.* *Opportunity to initiate changes to practice.* *Opportunity to initiate, develop and participate in health promotion*	*No additional expenses for students who live locally.* *Robust clinical placement which may increase employability in future.* *Opportunity to share travel or accommodation costs with other students.*	*Homesickness due to separation from family and friends.* *Time and effort to travel to clinic.* *Lack of skill of other students may impede student learning.* *Group-based learning environment may encourage competition between students.*	*Accommodation costs while on placement.* *Travel costs to placement.* *Poor availability of student accommodation.*

Non-financial benefits	Financial benefits	Non-financial costs	Financial costs
activities. *Opportunity to conduct triage.* *Opportunity to conduct free health checks.* *Opportunity to be challenged by supervisor.* *Students exposed to complexity of the Health System.* *Increases work-readiness in community health and an under-served population.*			
For other service providers:			
Ability to refer residents to the clinic.	*Reducing costs through referral to free service, enhanced service, reduced duplication of service*	*Uncertainty of availability of right help.*	*None.*
For supervisors:			
Opportunity for professional development and stimulation. *Opportunity to develop community engagement skills.* *Opportunity to develop service learning teaching skills.* *Ability to focus on supervision without expectations of a clinical load and work performance driven by performance indicators.*	*Availability of paid supervisory positions.* *May lead to future employment.*	*Difficulty of maintaining high level of specialist cases in a specific discipline.* *Lack of involvement in clinical hands-on work can lead to deskilling over time.*	*Transport costs to clinic.*
For the University:			
Development of academics with skills	*Increased capacity for student*	*Ongoing management of the clinic.*	*Cost of managing clinic, including*

Non-financial benefits	Financial benefits	Non-financial costs	Financial costs
in inter-professional training in health care. *Stronger partnerships within region.* *Engaged scholarship outputs including peer reviewed papers, engaged scholarship articles, policies, strategic plans, handbooks, videos, briefing papers, media releases, local newspaper articles, a website, conference presentations, lectures, awards and prizes (see Appendix 2).*	*placements at relatively low cost.*	*Potential risk of complaints from community groups or residents.*	*labour and non-labour costs.* *Insurance liability.* *Cost of managing risk or complaints from community groups or residents*
For the Health System:			
Meeting shortfall in service provision in primary care away from the hospital. *Helping to create healthier communities by providing locally based health care programs.* *Helping to Close the Gap between Indigenous and non-Indigenous health outcomes.* *Increased possibility of recruiting students to work in rural and remote communities once qualified.* *Opportunity for students to be involved in research at the clinic.* *Closer links with University.* *Strengthened partnerships with local community organisations.*	*Decreased emergency visits and in-patient numbers.* *Using student workforce is a cost effective way of providing health care and improving health outcomes.* *Increased demand for clinical placements at clinic will reduce average cost per student.*	*Possible duplication of effort by clinic and hospital.* *Decline in service provision over Christmas period when students are away.*	*Cost of professional development of staff.*

5 Implementation plan for ongoing evaluation

Table 7 summarises the key data sources for the evaluation of the UNE/Coledale Student-led Clinic, based on Table 3. It includes who is responsible for collecting the data and the timing of data collection. A combination of quantitative and qualitative data will be collected against an agreed set of performance indicators.

Table 7 Data Strategy

Data source	*Responsibility*	*Key data*	*Timing*
Residents' experience:			
Yarning with residents who have used SLC and with local community groups.	*University researchers.*	*Yarning begins as social yarning, turning to discussion of health concerns and visits to SLC - focusing on experience of the SLC for all stakeholders, in relation to welcome, orientation, intake, service provided, increases in awareness of need for self-management of health and of warning signs, and impact of the SLC on the community, the community health centre and other service providers.*	*On an annual basis.*
4G model.	*Students and supervisors.*	*Resident's health problems and goals and agreed care plan to suit resident's needs.*	*Continuous collection via intake form and hand held records.*
Patient Health Questionnaire.	*Students encourage residents to complete or complete with resident.*	*Questionnaire covers ….*	*Continuous collection at end of each visit to SLC.*
Culturally appropriate anxiety and depression scales.	*Students encourage residents to complete or complete with resident.*	*Questionnaire includes rating scales for ….*	*Continuous collection via intake form and hand held records.*
Work and social functioning scales.	*Students encourage residents to complete or complete with resident.*	*Questionnaire includes rating scales for ...*	*Continuous collection via intake form and hand held records.*

Data source	*Responsibility*	*Key data*	*Timing*
Students' experience:			
Student Satisfaction Survey.	*Self-administered by students.*	*Questionnaire includes evaluation of ...*	*End of trimester.*
Clinical Competency Measure.	*Self-administered by students.*	*Questionnaire includes evaluation of ...*	*End of trimester.*
Reflective papers.	*University requirement of students.*	*Reflective essay about student learning experience thought clinical placement at SLC, social determinants of health and clinical confidence.*	*End of trimester.*
Pre-brief and debrief sessions with supervisors.	*Students and supervisors*	*Reflective process leading to decisions about services to provide through the clinic.*	*Daily meeting reported in reflective papers and supervisors' reports.*
Supervisor reports.	*Supervisors report on student progress.*	*Reports on student learning outcomes throughout the clinical placement.*	*End of trimester.*
Focus group discussions with volunteer students about service learning experience.	*University researchers.*	*Discussion of learning experience using service learning model, specific experiences (e.g. triage, developing a new health promotion activity, conducting free health checks, leadership, communication within teams etc), the challenges and the achievements and ways to improve both the learning experience and the health outcomes for the residents and the community.*	*On an annual basis.*
Supervisors' experience:			
Focus group discussion with clinical	*University researchers.*	*Discussion focusing on students'*	*On an annual basis.*

Data source	Responsibility	Key data	Timing
supervisors and other service providers.		*learning experience using the service learning model, supervisors' teaching experience, the challenges and the achievements of the clinic and ways to improve the SLC, extent of support from University, professional commitment and intention to continue in the role.*	
Focus group discussion with nursing and other health faculty members.	*University researchers.*	*Discussion focusing on enablers, barriers, and ways to improve support for clinical placements within SLC across health disciplines.*	*On an annual basis.*
The University:			
Interviews with senior management and senior nursing faculty.	*University researchers.*	*Discussion focusing on enablers, barriers, and ways to improve support for clinical placements within SLC across health disciplines.*	*On an annual basis.*
University data.	*University researchers.*	*Across wide range of topics including: student placement numbers across disciplines; volunteer and first choice placement at SLC; Student Satisfaction Survey; student involvement in health promotion activities, triage, free health checks etc; length of time staff involved in SLC etc.*	*Ongoing collection of data.*
Cost Benefit Analysis.	*External consultancy recommended.*	*This data will be collected through: (1) focus groups with key stakeholders as described above; (2) invitations to give written feedback;*	*On an annual basis.*

Data source	*Responsibility*	*Key data*	*Timing*
		and (3) review of the Cost benefit Analysis by a health economist.	
Health System Data.	*Health System.*	*Provided to the University to enable the Cost Benefit Analysis to proceed. This data would include Medicare costs, local hospital admissions, emergency room visits etc.*	*On an annual basis.*

5.1 Critique of evaluation tools (generic and specific to UNE/Coldale SLC)

Table 8 describes the evaluation tools that can be used to evaluate a SLC and the specific tools used to evaluate the UNE/Coledale SLC. It briefly describes the tools, their strengths and weaknesses.

Table 8 Evaluation of data collection tools

Data collection tool	*Brief description*	*Strength*	*Weaknesses*
Generic tools			
Client Satisfaction Questionnaire (CSQ) used at UCSF (Attkisson & Greenfield, 1996)	Measures client satisfaction with physical surroundings, procedures, support staff, type of service, treatment staff, amount of service, and general satisfaction	Validated tool, high internal consistency, frequently used, can be used aurally	Originally designed in 1975
Patient Experience Questionnaire (PEQ) (Steine, Finset, & Laerum, 2001)	Measures patients' overall perceptions of communication, emotions, short-term outcomes, barriers, and relations with auxiliary staff.	Validated tool, high internal consistency	Designed to be used after a consultation with a doctor
Partners in Health Scale (PIH) (Battersby, Ask, Reece, Markwick, & Collins, 2003)	Measures patients knowledge of their condition, knowledge of treatment, ability to share in management decisions, arrange appointments, attend appointments, take medication as directed, understanding of need to observe and record symptoms, what to do when symptoms get worse, right action to take, and progress towards adopting habits to improve health	Validated tool, simple to use, reliable measure of chronic condition management	Not suitable for patients with acute conditions
Co-morbidity Questionnaire (Bayliss, Ellis, Steiner, & Main, 2005)	Measures barriers to self-management of chronic conditions including physical functioning, social support, patient-provider communication, depression, financial, knowledge of condition, medical knowledge, medical adherence, recommendations for condition, self-efficacy, inconvenience,	Validated, reasonable internal consistency	Suitable for elderly patients and assessing and addressing barriers to care

Data collection tool	*Brief description*	*Strength*	*Weaknesses*
	overwhelmed by single condition		
SF36 V1 (Ware et al., 1996)	Measures physical functioning, role limitations, bodily pain, social functioning, emotional role, general mental health, vitality, and general health perceptions	Validated tool, high internal consistency, used in Medical Outcomes Study	
Social Support Survey (Sherbourne & Stewart, 1991)	Measures emotional/informational support, tangible support, positive interaction, affection, and overall support	Validated tool	Designed for chronic health conditions, now a little dated e.g. explores marital functioning
Self-reported Health Perception (SHP) (Perruccio, Katz, & Losina, 2012)	Measures self-rated health, comorbidity count, functional limitations, physical functioning, social functioning, mental health and geriatric problems	Combination of validated tools	Designed for chronic health conditions and comorbidities
Sociocultural Attitudes in Medicine Inventory (SAMI) (Tang, Fantone, Bozynski, & Adams, 2002)	Measures exposure by students to sociocultural issues, sociocultural factors in clinical scenarios and sociocultural background in patient/physician health status issues	Validated tool, reliable	Suitable for overall courses, rather than clinical experience only
Inter-professional Socialisation and Valuing Scale (ISVS) (King, Shaw, Orchard, & Miller, 2010)	Measures self-perceived ability to work with others, value in working with others, and comfort in working with others	Validated tool, high internal consistency	Need further testing
Readiness for Inter-Professional Learning Scale (RIPLS) (Parsell & Bligh, 1999)	Measures team working and collaboration, professional identity, and roles and responsibilities	Validated tool, high internal consistency	Designed in 1999
Self-assessment of Clinical Reflection and Reasoning (SACRR) (Royeen, Mu, Barrett, & Luebben, 2001)	Measures students' self-perceptions of their clinical reflection and clinical reasoning skills	Validated tool, high internal consistency	Self-perception measure only

Data collection tool	*Brief description*	*Strength*	*Weaknesses*
Commitment Survey (Steers & Mowdray, 1979)	Measures loyalty, values similar to organisational values, agreement with policies, and strength of desire to work in organization	Validated tool	Designed in 1979 for use by organisations
Partnership Survey (Davies & Miller, 2011)	Measures sense of purpose, level of trust, governance and decision-making, planning, leadership and management, staffing, communication, collaboration, changes brought about by the network, and benefits and drawbacks	Detailed tool for use with multiple partner organisations, allows qualitative feedback at the end	Not validated, takes 30 minutes to complete
Student Destination Survey (Davies & Miller, 2011)	Measures intention to work in public or private sector, currently seeking work, and positions and locations applied for	Simple to administer	Not validated
Additional tools specific to UNE/Coledale SLC			
Yarning with stakeholders (Bessarab & Ng'andu, 2010)	Can be used to investigate any relevant topic	Recognised research method used for Aboriginal and Torres Strait Islander co-participants	Qualitative method with less validity, reliability and generalizability than quantitative research methods
Intake form data review using New England 4G model with problems and goals measures (Stuhlmiller & Tolchard, 2015)	Identifies thoughts, feeling, behaviours and physical symptoms of main identified problem and guides person-determined goals through CBT techniques	Evidence-based and widely used, based on guided self-help	Requires level of self-determination and commitment to change, not yet validated
Work and social adjustment scale (Mundt, Marks, Shear, & Greist, 2002)	Identifies the impact that the health concern has over a person's overall wellbeing, monitors personal change	Validated scale that provides population health data	Not a comprehensive quality of life scale
Patient Health Questionnaire-9 (Kroenke, Spitzer, & Williams, 2001)	Quick diagnostic tool, outcome measure and screening tool for low mood depression	Validated scale, easy to use, and part of broader patient health questionnaire	Requires interpretation, not directly correlated to physical health concern

Data collection tool	*Brief description*	*Strength*	*Weaknesses*
GAD-7 (Spitzer et al. 2006)	Generalized Anxiety Scale-7 item provides level of current anxiety and disabling effects on health	Validated and widely used, easy to use	Used in general settings, untrained personnel may not understand the relevance of anxiety to health
Students' reflective papers	Assessment requirement written by students following clinical placement	Measures students' perceptions of placement experience	Open to bias as part of formal assessment
Supervisors' reports and reports of pre-brief and debriefing sessions	Supervisors' assessment of student progress during clinical placement	External evaluation of student performance	Open to bias
Formal recognition	Number of Memorandum of Understanding (MOUs), requests from o/s, collaborative grants etc	Automatically collected and made available	Length of time to retrieve data
University data	Number of volunteers clinicians and students, placement across disciplines, length of time staff remain involved, student placement requirements, performance and professional development review data (PPDR) etc	Automatically collected and made available	Length of time to retrieve data
Informal recognition	Letters of recognition, awards, articles in the local paper etc	Often forgotten expressions of appreciation	Not recognised as academic outputs

5.2 Implementation plan

Action research principles inform the implementation of the evaluation plan for the SLC. It is recommended that an External Evaluator and a Health Economist be involved in the data analysis and reporting of the success and sustainability of the clinic. It is important that health outcomes for residents are positive, as well as student learning outcomes and both need to be assessed, as well as outcomes for other stakeholders in the project.

- Employ administrative assistant to ensure signed consent forms are kept, appropriate health data is collected by students, supervisors and other service providers, and all data is entered into a database
- Instruct supervisors and other service providers at the clinic about the importance of data collection

- Data collected annually from stakeholders includes: survey data using the Partnership Survey (CAHP); and qualitative data qualitative data about the service provision, health outcomes, and ongoing evaluation of the SLC collected using 'yarning' methodology.
- Data collected routinely from residents includes: intake form using the New England 4 G Model; Work and Social Adjustment scale; Patient Health Questionnaire PHQ9; Anxiety and Depression scales GAD-7; Partners in Health scale PIH; and qualitative data about the service provision and health outcomes collected using 'yarning' methodology.
- Data collected from students at the end of each trimester includes: Student Satisfaction Survey; reflective papers; student learning and clinical competency measure such as SAMI, IEPS, RIPLS or SACRR; and qualitative data collected from focus groups about their service learning experience.
- Data collected from other service providers includes: qualitative data collected using 'yarning' methodology and/or focus groups.
- Data collected from supervisors at the end of each trimester includes: supervisors' reports on student performance; summary of pre-brief and debrief sessions; and qualitative data collected from focus groups about supervisors' experience of the SLC.
- Data collected by the University annually includes: student placements across health disciplines; number of volunteer students and clinicians; length of time staff remain involved; qualitative data collected from focus groups and interviews with senior management, senior faculty members and nursing and other health discipline faculty members; and financial costs of the SLC for the cost benefit analysis.
- Data collected routinely from the health system and provided to the University includes: intake referral data; database estimates case by case; financial costs for the cost benefit analysis such as Medicare and PBS costs.

5.3 Future directions

In future the team hopes to extend the UNE/Coledale SLC model to the Tamworth Regional Centre (Youthie) and create other regional or rural Student Practice Hubs. This will enable future inter-professional education to take place within contrasting environments.

Appendices

Appendix 1 - Literature Review

Student-led clinics -evaluations and measures – Literature review

Introduction

There are over 100 student-led or student-run clinics operating within the USA offering a satisfactory level of care with high patient satisfaction levels (Swartz, 2012). Most of these clinics share a common philosophy of providing much needed care to an under-served population, using the principles of patient-centred care. They are often attached to an existing care provider, such as a community health centre or charity organisation. It is hoped that students will have the opportunity to increase their social awareness, compassion and empathy while increasing their clinical confidence and learning about teamwork (Clark, Melillo, Wallace, Pierrel, & Buck, 2003).

These clinics vary in terms of their organisation and underlying philosophy (student-led or student-run), by type of service offered (medical or allied health students only versus inter-professional groups of students), and in the services that they offer (system-specific versus integrative care). The literature suggests that student-led clinics help students to develop leadership, clinical and administrative skills (Black, Palombaro, & Dole, 2013) and teach them a sense of increased responsibility for and ownership of patient care, in a safe learning environment (Bostick, Hall, & Miciak, 2014). Students also develop teamwork skills in inter-professional clinics, an increased knowledge of other disciplines and inter-professional communication skill (Kent, Drysdale, Martin, & Keating, 2014; Kent & Keating, 2015). In student-run clinics, students report increased social awareness, compassion and empathy, teamwork, confidence building, and increased interest in under-served medicine (Clark et al., 2003).

According to Meah et al.'s (2009) students in leadership positions learn to take on responsibility for the healthcare of patients, thereby learning a great deal about patient advocacy and the monitoring and delivering of quality care, as well as finances and resource allocation. This is important learning for future doctors entering a crisis-ridden healthcare system in the USA. In addition, students report experiencing an increased level of commitment to offering services for the underserviced (Sheu et al., 2012), and have the opportunity to gain an understanding of the social determinants of health, the principles of primary care and the importance of socially responsive health promotion (Stuhlmiller & Tolchard, 2015). Holmqvist et al (2012) argues that student-run clinics counter the 'vanishing virtue' effect i.e. the way students become less altruistic over time as a function of socialization within their profession (Holmqvist et al., 2012, p. 265).

Method

The aim was to review the evaluation measures of student learning and patient outcomes of student-run clinics. A systematic literature review was performed covering the period 1970-2015 using the search term 'student-run clinic' or similar terms (e.g. 'student-led clinic', 'student-run free clinic'). The PubMed, CINAHL, ProQuest, EMBASE and Medline databases were searched and 381 eligible articles were identified. After a review of titles and removal of duplicates 78 articles were categorised as eligible; and after a review of their abstracts 36 articles were categorised as eligible. A snow ball search of these articles yielded another 18 articles. The 54 eligible articles were then reviewed and 23 eligible articles identified from this analysis stage. An analysis of the evaluation measures used was then undertaken and the results are presented in the next section. The results are presented generally and then in more detail under the categories of: student learning outcomes, patient outcomes and other stakeholders; under each category the relevant articles are summarised and key data presented in Table form.

Evaluation measures – search results

The evaluation of student-led or student-run clinics varies, (these terms seem to be used almost interchangeably). Some research studies evaluated patient outcomes (Batra et al., 2009; Bennard, Wilson, Ferguson, & Sliger, 2004; Campbell, Gibson, O'Neill, & Thurston, 2013; Ellett, Campbell, & Gonsalves, 2010; Frakes et al., 2013; Kent & Keating, 2013; Liberman et al., 2011; Ouyang et al., 2013), whereas others focused on student learning outcomes (Batra et al., 2009; Beck, 2005; Black et al., 2013; Bostick et al., 2014; Clark et al., 2003; Doucet & Seale, 2012; Liberman et al., 2011; Schweitzer & Rice, 2012; Seif et al., 2014; Sheu et al., 2012; Smith, Johnson, Rodriguez, Moutier, & Beck, 2012).

One research study included a qualitative evaluation of both patient and student outcomes (Batra et al., 2009). Three other studies undertook evaluations with students and/or patients and also with stakeholders involved directly or indirectly in the delivery of a student-run clinic (Bennard et al., 2004; Campbell et al., 2013; Kent et al., 2014). Bennard et al's USA mixed method study explored with the participating medical students, patients and health professionals their experiences of participating in a student-run clinic. Kent et al.'s (2014) Australian study used a mixed-methods evaluation approach to evaluate the effects on students and educators of an aged-care clinic for patients recently discharged from hospital run by an interprofessional group of students. Campbell et al.'s (2013) Canadian qualitative study explored with patients, clinic staff, staff from other stakeholder organisations, potential future students, and faculty members the role of a student-run clinic within the local primary healthcare system and potential barriers it faces.

Two literature reviews were also identified that focused on student-run clinics and student learning outcomes and/or quality of patient care. Meah et al's. (2009) literature review focused on medical students and student-run clinics in the USA, they identified 23 articles over the period 1985-2008. More recently Schutte et al (2015) conducted a systematic literature review of quantitative studies undertaken between 1963-2014 with respect to student outcomes and/or quality of care. The review identified 42 articles and used the Medical Education Research Study Quality

Instrument (MERSQI)(Reed et al., 2007) to assess the quality of the study. Their review determined that the quality of care in student-run clinics was comparable with that of regular care (Schutte et al., 2015). In both reviews students always reported experiencing improved skills and acquiring knowledge that would not have been able to be gained in the course curriculum. Meah et al's (2009) review stressed the need for further research on the long-term effectiveness of the experience of participating in a student-run clinic in affecting medical students' practice behaviors and attitudes to patients.

Findings & discussion

Student learning outcomes

The evaluation measures used to assess students' experience of participating in a student run clinic include qualitative, quantitative and mixed method approaches (see Table 1 for listing). The qualitative methods used included semi-structured interviews (Black et al., 2013) and focus groups (Bostick et al., 2014; Kent et al., 2014) and written reflections (Batra et al., 2009). For the quantitative studies a questionnaire with statements using a 4 or 5 point Likert scale of agree/disagree was most commonly used (Clark et al., 2003; Doucet & Seale, 2012; Schweitzer & Rice, 2012; Smith et al., 2012). The questions developed for the interviews or focus groups or statements formulated for questionnaires were developed based on findings from the literature and/or feedback from students. Seif et al. (2014) used a randomized control and experiment group of health and medical students who participated in student-run clinic to compare differences between those who participated and those who did not. Seif et al's.(2014) study drew on three survey instruments to assess students' perceptions regarding their interprofessional attitudes and clinical reasoning these were: Interdisciplinary Education perception Scale (IEPS) (Luecht, Madsen, Taugher, & Petterson, 1989); Readiness for Interprofessional Learning Scale (RIPLS) (Parsell & Bligh, 1999) and Self-assessment of Clinical Reflection and Reasoning (SACRR)(Royeen, Mu, Barrett, & Luebben, 2001). Sheu et al.(2012) and Bennard et al.(2004) used a mixed methods approach. Scheu et al's (2012) study involved a pre-post questionnaire to assess differences between first year health and medical students who did and did not participate in a student-run clinic. The questionnaire included demographic questions, open-ended questions and two survey instruments these were: Readiness for Interprofessional Learning Scale (RIPLS) (see above) and the Sociocultural Attitudes in Medicine Inventory (SAMI) (Tang, Fantone, Bozynski, & Adams, 2002).

Table 1: Evaluation measures – student learning outcomes

Author, year country	Diagnostic group	Consult offered	Students' Discipline	Study Aim	Sample size *(n=x)*	Study type	Study methods	Key results
Batra et al. (2009) USA	Homeless	Primary care outreach clinic (assessment & treatment plans - weekly	Medical – 1st & 2nd Years (volunteers)	Impact on students & patients after 18 months of student established clinic for	51	Qualitative – student written reflections – undertaken annually at year end	No detail	Positive impact supplementing medical school curricula; satisfaction practicing clinical skills & working with a population in need; experienced attitudinal changes – deepening empathy with population ongoing exposure; Strengthened commitment to working with underserved; Learning about administrative responsibilities & financial sustainability of operating clinic.
Bennard et al. (2004) USA	Medically underserved – rural area	Rural outreach clinic	Medical	Evaluations of the clinic experience and how it might influence future practice decisions	167	Mixed methods – Questionnaire both qualitative and quantitative using a five-point Likert scale	No detail	70% agreed that participation was one of the more educationally beneficial experiences in medical school; 68.2% responded that they received knowledge and skills they were unlikely to get elsewhere in medical school; 78.7% responded that the experience was worth the time and effort; 79% responded they would recommend the experience to other students. A majority of students also responded that the experience positively affected their attitudes about family practice (66.7%), practicing in rural areas (64.7%), primary care (77.2%), community-based medicine (77.8%), providing services to the medically underserved (83.8%), & working with non-physician health professionals (77.2%).
Black et al. (2013), USA	Uninsured/ under-insured	Physical therapy	Allied Health (physical therapy [PT])- two year groups	Experiences of students in establishment of a student-run free clinic (SRFC) being on board and working in clinic	18	Qualitative: Purposive sampling, semi-structured interviews	Questions investigating experience of: • *working on board together* • *working in clinic under supervision* • *growing into board role*	3 key experiences identified: leadership skill development, competency in hands-on clinical and administrative skills, and commitment to community & clinic. Pride was a strong & overarching experience.
Bostick et al. (2014), USA	Unmet physical rehab needs	Physical rehab.	Allied health (PT kinesiology & pharmacy) – various years	Novel clinical learning experiences working in a student-led clinic	6	Qualitative: Focus group study	Question – *What does a student-led clinic mean to you as a learner?* Topics: • *Student-led clinic is learner-focused;* • *Faculty involvement in supervision;* • *Learning in a shred place with other students.*	Identified 2 novel experiences; • Increased client responsibility reducing gap between classroom & real world; • Safety in learning through instructors carrying caseload responsibilities
Clark et al. (2003) USA	Homeless	Includes social clinical 3hrs & reflection	Medical & Allied health (social work,	Educational value of participating in a student-led clinic	49	Quantitative: Questionnaire 4 statements using a 5-point Likert scale	Statements: • *The program has contributed to my professional growth;* • *The program has contributed to my personal growth*	Students, especially medical, report program contributing to their professional and personal education, and an increased understanding of Biopsychosocial issues. Students described increased empathy, compassion, and heightened social awareness**.**

Author, year country	Diagnostic group	Consult offered	Students' Discipline	Study Aim	Sample size *(n=x)*	Study type	Study methods	Key results
		Every Sunday	pharmacy, public health)				• *The program has increased my understanding of biopsychosocial issues* • *I would participate in program again*.	
Doucet et al. (2012) USA	Post-stroke	5 day clinic- 3hrs per day	Allied Health (PT & occupational therapy [OT]) – 2nd and 3rd years	Educational value & preparation for clinical placements	119	Quantitative – Questionnaire multiple statements using a 5-point Likert scale	Statements • *Enhanced clinical understanding and ability to handle stroke patients* • *Enhanced clinical education*	All students reported the clinic enhanced learning of stroke diagnosis; an avge. 95% indicated clinic prepared them for future clinical rotations.
Kent et al. (2014) Aus.	Aged care – post hospital admission	1 day per week over 4 weeks – screening, health care needs & referrals	Medical, nursing & allied health	Evaluation of the effects of clinic on students and learning outcomes	70	Qualitative – focus groups	Student perceptions of the clinic were sought	Students reported developing: • an expanded perspective of issues that affect the health of older people, • gained knowledge about the practical roles and referral pathways of other disciplines, and • enhanced interprofessional communication skills.
Schweitzer et al (2012) USA	Mental illness (depression)	Behavioral health program 4-5 clinics each month	Medical	Educational impact on or students' of behavioral health program	68	Quantitative – Questionnaire multiple statements using a 5-point Likert scale.	Questionnaire developed using previous student feedback and literature review. No other detail provided	98% agreed the clinic experience was valuable supplement to their psychiatric education, & 83% agreed it taught them a skill or attitude their formal curriculum could not have.
Seif (2014) USA	Uninsured	SRFC – 2 clinics (medical and allied)	Medical & Allied health (OT,PT, pharmacy & physician assistant)	Assessing students' perceptions of interprofessional attitudes & clinical reasoning	150/82	Quantitative – a non-randomized control group (150) and an experiment group (82)	Three survey instruments used: • Interdisciplinary Education perception Scale (IEPS) (Luecht et al., 1989) • Readiness for Interprofessional Learning Scale (RIPLS) (Parsell & Bligh, 1999) • Self-assessment of Clinical Reflection and Reasoning (SACRR)(Royeen et al., 2001)	Students who worked SRFC had improvements in interprofessional perceptions and attitudes and perceptions of clinical reasoning skills compared to the control group
Sheu (2012) USA	Underserved population groups (homeless, Latino, Pacific islanders with Hep B)	Various SRFC clinics	Medical, Nursing & Allied Health (pharmacy) - all first year students	Impact of student-run clinic on socio-cultural and inter professional attitudes	267	Mixed: Pre-post design - demographic and open-ended questions, and two validated surveys:	First-year students who did and did NOT participate in SRCs at the beginning and end of the year completed demographic and open-ended questions, and two validated surveys: • The Sociocultural Attitudes in Medicine Inventory (SAMI) (Tang et al., 2002); • Readiness for Interprofessional Learning Scale (RIPLS) – see above,	68% of matched surveys found no significant differences between groups over time. However, among SRC participants, 99% reported commitment to the underserved& 57% reported improved interprofessional attitudes.

Author, year country	Diagnostic group	Consult offered	Students' Discipline	Study Aim	Sample size *(n=x)*	Study type	Study methods	Key results
Smith (2012)	Underserved	SRFC	Medical students – all years	Assess students' perceptions of the educational value of SRFC	347	Quantitative: Author designed and validated survey instrument – 6 statements on a 5-point Likert-scale.	Statements: • Valuable educational experience • Teaching was excellent • Attitude toward underserved • Connected with sense of purpose • Overall sense of well-being • Influenced decision to come to this University	90% agreed or strongly agreed that the SRFC was a valuable educational experience, 82 % agreed or strongly agreed that the teaching was excellent, 72% students agreed or strongly agreed that the SRFC improved attitudes toward working with underserved patients 71% connected to sense of purpose, 67% improved overall sense of well-being and 52% influenced their decision to come to this university 84% qualitative responses in a free text comment box were positive

Patient outcomes

The patient outcome evaluation studies conducted were mostly quantitative (see Table 2 for listing). These quantitative studies were mostly concerned with defining the demographics of the patient population who were using the student-run clinics (Batra et al., 2009; Frakes et al., 2013; Kent & Keating, 2013) and/or patient satisfaction with the service (Bennard et al., 2004; Ellett et al., 2010; Kent & Keating, 2013). The quantitative methods used included chart reviews (Batra et al., 2009; Kent & Keating, 2013; Liberman et al., 2011); surveys using yes/no questions and the Likert scale (Ellett et al., 2010; Ouyang et al., 2013), as well as use of survey instruments that were either patient or student administered (Frakes et al., 2013 Kent, 2013 #32120). Kent and Keating (2013) used Steine et al.'s (2001) Patient Experience Questionnaire (Steine et al., 2001) and Frakes et al. (2013) used the Kessler10 instrument (Kessler, Barker, & Colpe, 2003) to measure patients' psychological distress. Most commonly student-run clinics worked with patient groups that were socio-economically disadvantaged and with patients who had multiple health issues. Patients' experiences of the clinics were very positive and patient satisfaction very high.

Other quantitative studies were Liberman et al's. (2011) that evaluated the quality of mental health care provided in a USA student-led clinic compared with that of private and public services and found that the quality of care in some aspects exceeded that received by insured patients. Ouyang et al's (2013) study assessed patient retention of hepatitis B virus knowledge after receiving education at a student-led clinic and found that knowledge had improved and retention was still high a month later. The two qualitative studies included (Bennard et al., 2004; Campbell et al., 2013) involved structured and semi-structured interviews approaches and explored with patients their experiences and what they considered the potential role student-run clinics could play in service provision for the particular patient group. In Campbell et al.'s (2013) some patient participants felt that the students because they were more free of social biases than physicians were more sympathetic and less judgmental.

Table 2: Evaluation measures – patient outcomes

Author, year country	Diagnostic group	Consult offered	Students' Discipline	Study Aim	Sample size *(n=x)*	Study type	Study methods	Key results
Batra (2009) USA	Homeless	Primary care outreach clinic – assessment & treatment plans – weekly	Medical – 1st & 2nd Years (volunteers)	Describe clinic's population, trends in patient characteristics after 18 months clinic running	189	Quantitative-Chart data review	3 biannual chart reviews	Targeted outreach efforts increased rates of patient follow-up at each subsequent review period. Highest prevalence substance abuse & mental health issues & data used to develop services concordant with patient needs.
Bennard , et al. (2004) USA	Medically underserved – rural area	Rural outreach clinics	Medical	Evaluations of the outreach clinic experience and how it might influence future practice decisions	879/947	Qualitative – structured exit interviews	No detail	96% responded they were satisfied with the student provider, 95% responded they were satisfied overall with the outreach clinic.
Campbell et al. (2013), Canada	Homeless	Evening clinic at a homeless shelter	Medical	Desired role for a SRC within Calgary's primary healthcare system and potential barriers it may face.	11	Qualitative Individual and group semi-structured interviews A semi-structured format was used for all interviews. Separate interview guides were drafted for each type of stakeholder	Convenience sampling was used in the recruitment of client participants. Clients were asked about where they access primary healthcare and barriers they face, as well as about their knowledge of the SRC & its potential strengths and limitations	Some client participants felt students were more sympathetic to their issues, while some physicians were reportedly more judgemental, students were thought to be free of some social biases.
Ellett et al. (2010) USA	Uninsured	Primary care – SRFC	Medical	Patient satisfaction	52	Quantitative: Questionnaire – Yes/No Questions & 5 point Likert scale	Undertaken over 4 week period – 11 items drawn from White (1999) & student suggestions	98 % patients satisfied with service: Highly satisfied with laboratory services, staff friendliness, amount of time spent being interviewed, & depth of the explanations. Less satisfied with the hours of operation and wait time.
Frakes et al. (2013) Aus	Underserviced rural – Chronic disease	Allied health outpatient clinic service – referral GP & hospital	Allied health (6)	Socio-demographic & health related characteristics new established clinic	378	Quantitative – Self-report and observer (student) administered measures	Undertaken in first 10 months of clinic's operation. Data collected at intake. Self-report measures included the number of prescribed medications in use, number of hospitalisations in the previous 12 months, psychological distress measured using the Kessler10 (Kessler et al., 2003) and smoking status (current, previous, passive or non-smoker). Observer-administered measures included height and weight, used to calculate body mass index (BMI).	97% of patients had multiple morbidities. High level of socioeconomic disadvantage. Patients predominantly lived in inner regional areas (77%).

Kent & Keating (2013) Aus.	Older persons 70+ years post hospital admission	Inter-professional student-led primary healthcare clinic – working in teams max 9	Medical, Nursing , Allied (3)	Evaluation of patient demographics, outcomes & perceptions of service	25	Quantitative – Patient demographics, outcomes & patient perceptions	Demographics & outcomes drawn from file data Patient perceptions of the consultation, measured with the Patient Experience Questionnaire (Steine et al., 2001),	Service well-received by users & the student teams provided useful information &education about self-management strategies
Liberman et al. (2011) USA	Uninsured – mental health (depression)	Outreach health clinic	Medical	Evaluation of quality of mental health care provided by student-led clinic compared with other private and public services	49	Quantitative – Using data from Healthcare Effectiveness Information Set (HEDIS).	Indicators of quality used were demographics, method of diagnosis, type of pharmacological treatment, referral to specialty care, patient adherence to follow-up care and adherence to pharmacologic treatment.	Student-clinic meets and, in some areas, exceeds the quality of depression treatment compared to services provided to insured populations.
Ouyang et al.(2013) USA	Underserviced	Student-run Hepatitis B clinics- 2x per month	Medical, nursing, and pharmacy – 1st & 2nd year students	Assessment of patients' retention of hepatitis B virus (HBV) knowledge after receiving student-led education at clinic	52	Quantitative – Using a 16 question yes /no survey survey	Prospective non-randomized study – undertaken at 3 points: before education, after the initial visit, and at one-month follow-up.	Student-led education produced improved knowledge of HepB transmission, prevention, and management & then was retained 1 month after education.

Other stakeholders

The number of studies investigating the views of other stakeholders on the impact of student-run clinics is far fewer compared to those evaluating patient and student learning outcomes; just three studies were identified (Bennard et al., 2004; Campbell et al., 2013; Kent et al., 2014). Bennard et al's(2004) USA study aimed to capture the views of community health providers with respect to student-run rural outreach clinics through a self-administered questionnaire. 193 providers completed the questionnaire and they gave very high ratings on the skills and attitudes displayed by students. Campbell et al's (2013) study sought to capture the views of a student-run clinic in a homeless shelter from the shelter's staff, service providers and faculty from the medical school. Staff observed that the student-run clinic had resulted in a three-fold increase in the capacity to provide medical services; staff and service providers felt that access to specialists had increased because of clinic's university connections as well as students taking patients to these appointments; faculty members felt the clinic contributed to the university's mandate for education and service to society. In Kent et al's. (2014) study, educators observed that students who participated in the student-led clinic had developed communication and referral skills and had developed an expanded awareness of health domains which they believed they would not have previously considered.

Table 3: Evaluation measures – other stakeholders

Author, year country	Diagnostic group	Consult offered	Students' Discipline	Study Aim	Sample size *(n=x)*	Study type	Study methods	Key results
Bennard, et al. (2004) USA	Medically underserved – rural area	Rural outreach clinics	Medical	Evaluations of the outreach clinic	193	Quantitative – Self-administered questionnaire to community health care providers	No detail	Community health care providers gave very positive ratings to medical students on a range of skills/attitudes: "interest in and respect for patients" (96%), "cooperativeness in working with local providers and agencies" (94%)), "sensitivity to issues of confidentiality" (93), "appropriate initiative versus recognition of need for supervision" (92%), "competence related to tasks" (91.4%), and "adequate effort and contribution to activities" (95.1%). In response to the question "Would you consider hosting a similar activity next year?," 182 of 193 (94%) responded yes.
Campbell et al. (2013), Canada	Homeless	Evening clinic at a homeless shelter	Medical	Desired role for a SRC within Calgary's primary healthcare system and potential barriers it may face.	Shelter staff & agency directors other services =13; University Faculty member = 4	Qualitative – Individual and group semi-structured interviews	A semi-structured format was used for all interviews. Separate interview guides were drafted for each type of stakeholder. Staff & service providers questioned on health care needs of clients and role SRC could play in meeting these. University faculty questioned on role of SRC in curriculum and university's mandate for education & service to society	Staff observed capacity to provide medical services increased substantially through operation of the SRC; Staff & service providers thought because of students university connection access to specialist was increased also through student attending appointments with clients. University members believed SRC fulfilling role of both caring for underserviced & meeting curriculum needs of students
Kent et al.(2014) Aus.	Aged care – post hospital admission	1 day per week over 4 weeks – screening, establishing health care needs, and making referrals	Medical, nursing & allied health	Evaluation of the effects of clinic for students and educators	14	Qualitative – Focus groups	Educators perceptions of the clinic were sought	Educators observed students development of communication and referral skills and expanded awareness of health domains which they believed they would not have previously considered.

Summary

The literature identifies a broad range of evaluation measures that are able to be used to assess the effectiveness of student-run clinics in particular for student learning outcomes and patient outcomes. The evaluation approach taken and instruments selected and/or measures developed were most often selected/tailored for the specific circumstances and guided by feedback from stakeholders as well as the literature. This tailored evaluation approach is recommended for the Coledale student-led clinic drawing on the knowledge and needs of stakeholders as well as the approaches taken and measures used in this literature review and selecting those that best suit the aims and circumstances of the Coledale clinic.

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Appendix 2 - Engaged Scholarship Outputs

Engaged scholarship is what occurs at the intersection of research, teaching and service. Its impact can be judged by the extent to which the outcomes of that intersection have addressed the needs of students, health consumers, workforce, and academy. The outputs of engaged scholarship include traditional academic outputs such as refereed articles and conference papers as available to the scientific community. But more substantially, they include dissemination products such as forums, websites, legislation, policy and applied products such as innovative intervention programs, technical reports, guidelines, toolkits, videos, curricula, and media which are more often accessed by the public, consumers, teachers, practitioners, administrators and policy makers. Below includes the range of engaged scholarship outputs from the UNE/Coledale Student-led Clinic.

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Publications – High Impact Engaged Scholarship

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Stuhlmiller, C. M., Latimore, K., & Hitchener, J. (2014-2015). *Policies and procedures for the operation of the UNE/Coledale student-led clinic.* A 350 page manual in preparation for accreditation of the Coledale Clinic by the Australian General Practice Accreditation Limited (AGPAL). (significant undertaking including community engagement)

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UNECOLEDALECLINIC.ORG.AU

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Awards and Prizes

6th International Clinical Skills Conference (Prato, Italy): Prize for Innovation for paper on Developing an Student-led Clinic: UNE/Coledale	2015
Northern Inland Innovation NSW Australia Award for Research and Education (UNE/Coledale Student-led Clinic)	2014

Appendix 3 - References

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