Author, year, setting, health profession discipline	Country	Institution/Discipline	Aim of education	Activities	Study design	Participants	Findings	Limitations
Alexander-Ruff & Kinion, 2018	United States	Montana State University Bachelor of Science in Nursing Degree Program	To prepare nurses who are culturally conscious	Seven day cultural immersion service learning (CISL) in rural American Indian Reservation Community. Students provided health care screenings, physical examinations, and care for minor injuries and acute illness at public schools. Health and self-esteem related education materials were used. Students participated in cultural activities and met with tribal elders who shared culture, customs and ways of knowing.	Evaluation -descriptive using qualitative methods	30 third year nursing students across 2 cohorts Accelerated baccalaureate of science in nursing program n = 14; Traditional baccalaureate of science in nursing program n = 14	Participants responded to disparity with uncertainty, feeling overwhelmed and by suspending judgement. Participants recognised their privileged circumstances. Most participants achieved cultural consciousness by the conclusion of the experience - may be related to the CISL experience.	American Indian community visited described as 'rurally isolated' and 8 hours drive from campus. Positive outcomes but no control group.
Belton et al., 2010	Australia	The Council for Remote Area Nurses of Australia Maternal care	To develop skills of remote area nurses: in management of unexpected birth in isolated settings; to recognise the complications of pregnancy, birth and the postpartum period; and to provide first-line emergency care for the mother and or baby prior to transfer. Driver: national shortage of qualified midwives.	The Maternity Emergency Care course is a self directed course followed by a 2.5 day workshop using workbook, readings, an interactive CD-ROM and guidelines and case studies for emergency care for non-mid-wives. The course uses adult learning principles and 'situated learning' through simulations using mannequins and live models. Facilitators are midwives and general practitioner obstetricians with remote or rural experience. There is a focus on cultural needs of Indigenous Australians	Evaluation -descriptive using survey and qualitative methods	Course attendees between 2003 and 2006: -Nurses (n= 57/114; 81% worked in communities of less <2000 people) -Remote area health managers (n=6) -Course designers (n=2)	Nurses: All participants agreed their skills were increased to deal with maternity emergencies. Majority of participants felt skilled and confident to undertake routine and emergency antenatal care, birth and postpartum care. Valued skill stations (91%) and case simulations (92%). Managers: All recommended non-midwife nurses to attend. 25% felt antenatal care improved; none felt postnatal care improved; 75% felt care in unplanned labour and birth improved. Course designers: Focus of course should be on non-midwives – not designed to update skills of midwives. Consideration of cultural sensitivities ie. female Aboriginal Health Workers shouldn't be paired with male nurses.	
Condon et al., 2017	Australia	Deakin University Medicine	To train a rural medical workforce	Final two years of the four year course includes clinical placements at five clinical sites – two metropolitan and three rural or remote sites. One site involved a Longitudinal Integrated Clerkship model for year 3 students. Metropolitan placements are led by hospital-based specialists and rural placements by general practitioners/family medicine practitioners.	Retrospective cohort study	Students who completed the course in 2011 or 2012 (236 eligible and 131 completed the questionnaire)	More positive DREEM score at one of the rural sites compared to all other sites. Mean year 4 exam scores higher at two rural schools than metropolitan schools. Smaller clinical schools (2 rural and 1 metro) outscored large metro school. Exam scores at remote site no significant difference compared with metro site.	
Croager et al., 2010	Australia	Cancer Council Western Australia Cancer care	To provide culturally relevant training in cancer management for Indigenous Health Professionals in WA.	Four day pilot workshop in 2008 followed by 2 more workshops run in metropolitan and regional WA. Classroom presentations, interactive session and visits to local cancer treatment centres. Content presented or co-presented by Aboriginal people where possible and appropriate.	Evaluation -descriptive using surveys	26 Aboriginal Health Professionals: 19 Aboriginal Health Promotion Workers; 3 Aboriginal Liaison Officers; 2 Registered Nurses; 1 Indigenous Project Officer; 1 Aged Care Worker	Statistically significant (p<0.0.005) improvements in all confidence items at course completion. At follow up (n=9), reports of increased confidence was sustained in two areas (p<0.05. Statistically significant (p<0.05) improvement in cancer knowledge at course completion for 3 out of 5 items. Improvement not sustained at follow up (n=9).	35 Aboriginal Health Professionals participated in the workshops and 32 were from rural or remote WA. 29 professionals completed the evaluation but it is not clear how many were from remote areas.
Daly et al, 2013	Australia	Multi university partnership Medicine	To prepare medical students for practice	The Broken Hill Extended Clinical Placement Program is an initiative of a multi university partnership that provides training in rural and remote settings over a 6-12 month placement period. Includes three clinical practice communities in general practice, hospital and remote community care.	Descriptive study using qualitative methods	42 participants over 2011 and 2012 24 students in final 2 years; 8 GP supervisors; 10 hospital clinicians	Enhanced opportunity for rural clinical learning especially remote sites with service provision rather than observational role and opportunities to take on more complex roles. Some concern about lack of supervisors in isolated settings to guide students and impact on performance at barrier exams. Students develop initiative and build resilience in remote settings. Students build cultural awareness and cross-cultural skills in rural and remote settings	
Delver et al., 2014	Canada	University of Calgary Medicine	To meet the development needs of rural preceptors of the Rural Integrated Community Clerkship Program facing distance and time constraints.	Family Medicine Preceptor Online Development program for preceptors in the Rural Integrated Community Clerkship Program (9 months placement in rural areas). Each module combines preparatory material (PowerPoint presentations and podcasts) and real-time virtual workshops with other preceptors. Workshops include scenarios and problem-solving activities and encourage preceptors to compare experiences and integrate learning. Methods used encouraged development of a community of learners amongst preceptor participants.	Evaluation -descriptive using survey and qualitative methods	13 rural preceptors (participants' clinics served populations between 2,500 and 18,700, and were based at sites 71km to 1,794km from Calgary)	In comparison with ratings before the program, comfort with technology increased after the program (mean rating=18 to mean rating=22.3; p<0.01; t=4.3). Likewise with teaching skills (mean rating=62.2 to mean rating=80; p<0.001; t=17.3). Learning experience rated highly (mean score=58.6/66). Positive comments on program relevance and practicality.	Not clear how many participants were located in remote settings. Participation in the evaluation surveys declined over time.

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Denz-Penhey & Murdoch, 2009	Australia	Rural Clinical School of Western Australia Medicine	To provide clinical medical education with a rural generalism approach.	Clinical longitudinal integrated clerkship (CLERC) in rural and remote WA undertaken for one year by medical students from two universities. CLERC contains syllabus for University of WA and University of Notre Dame Australia and includes additional curriculum: rural caseloads in primary and secondary care, and ethics, public health and Aboriginal health. Students attend training sites in communities with a population of 4000-50000 located 250km to 2500km from the tertiary training site.	Evaluation -descriptive using qualitative methods	102 student and staff interviews 60/62 students; 27/29 staff; 26 administrative staff	Greatest satisfaction for student and staff at sites where past feedback had been integrated including a strong clinical focus and structured academic learning covering one or two disciplines each week. Some sites reported frustration around resources, curriculum and curriculum delivery. Student relationships and housing was problem free at most sites. Negative staff perceptions of students at some sites prevented responses to address problems. All students passed their academic year and gained equivalent marks to city-trained counterparts.	Information about student grades given in results with no mention of methods used to obtain these results.
Denz-Penhey & Murdoch, 2010	Australia	Rural Clinical School of Western Australia Medicine	To provide students with experience of rural and remote practice.	The Community Learning in Rural Communities program (CLERC) has 5th and 6th year medical students living and working in a rural or remote setting for one academic year. Host towns have population sizes of 4,500 to 36,000.	Evaluation -descriptive using assessment outcomes and qualitative methods	Medical students who trained in a site with a population greater than 30,000 vs those trained in a site with a population of less than 20,000.	All students trained in the CLERC program showed significant increases in their marks compared with city trained students. No significant difference in grades between the CLERC sites. Students at smaller CLERC sites reported greater opportunities for learning and a stronger sense of personal efficacy.	
Deutchman et al., 2012	United States	University of Colorado Medicine, physician assistant, pharmacy, public health, nursing, psychology, dentistry	To provide students with experience of a rural community – mission to supply healthcare workforce to meet needs of the state.	Interdisciplinary, non-clinical rural immersion program is a week long program held in a rural area of identified health workforce need. Partners of students attending may also participate. A stipend of $500 per student is given. The program is broadcast to the hosting town (population 6400-14800 and 65km- 266km from nearest metropolitan area) to inform the community of student activities. Orientation activities include talks by local community members on general topics, scavenger hunt for local landmarks and group dinner. Students allocate themselves into small groups for the week. Students choose a focus area and interview community members and conduct site visits. Students present findings to community members and reflect on the week.	Evaluation -descriptive using survey and qualitative methods	52 students and 4 spouses/partners over 3 year period Medicine n=20; Physician assistant n=6; Nursing n=9; Pharmacy n=12; Public health n=3; Psychology n=2	Majority of students reported the program objectives were met 'mostly' or 'completely'. Objectives included role of community organisations and interactions, develop impression of living and working in a rural area, identify aspects of rural community that impacts health care. Qualitative findings indicated that: students observed high collaboration amongst community members; health care was a major component of the local economy and rural people create local solutions together.	Not clear if, or how many, participants had completed their immersion experience in a remote setting.
Eley & Baker, 2009	Australia	University of Queensland Medicine	To provide students with rural educational experiences	A Rural Medical Rotation is provided through rural clinical schools. The compulsory rotation is 8 weeks in duration and occurs in the third year of the 4 year course. The rotation includes a 6 week placement in a rural or remote setting. Students have a rural preceptor and are part of a rural health care team. Preceptors are provided with course information materials and supported by academic staff. Students are supported through a discussion board, and a personal digital assistant with medical textbooks and resources.	Evaluation -descriptive using survey	463 third year students over 2005 and 2006	Modest impact on students' interest in and understanding of rural medicine. Hands on practical experience highly regarded. Mixed impact on intention to practice rurally – mostly in positive direction.	No remote outcomes specifically reported.
Ellis & Philip, 2010	Australia	Australian Rural Nurses and Midwives Health clinicians	To train rural and remote health providers in managing mental health emergencies.	The Mental Health Emergencies two day course is underpinned by adult learning principles and uses scenarios, role plays and case studies. A workbook accompanies the course.	Evaluation -descriptive using survey and qualitative methods	475 workshop participants 58% registered nurses; 19% enrolled nurses; 7% Aboriginal Health workers; 15% other allied health including counsellors and paramedics. 456 participants for pre-workshop questionnaire responses and 163 post-workshop questionnaire responses. 44 participants interviewed 3-6 months after workshops.	Significant difference in pre- and post- workshop responses for: assessing suicide risk, violent situations and psychotic symptoms; differentiating between delirium and dementia, substance intoxication and psychosis; communicating effectively and conducting a mental status exam. Qualitative findings indicated changed attitudes and clinical practice, increased confidence in assessing mental health conditions and communication with clients, and improved written communication/documentation.	Unclear how many participants were located in remote settings. This study was included as the study was introduced in the context of rural and remote services, and the challenges of education in these areas.
Hill, Raftis & Wakewich, 2017	Canada	Northern Ontario School of Medicine Dietetics	To prepare and train dietitians for rural practice	The postgraduate Northern Ontario Dietetic Internship Program is a 46 week program that sees interns complete at least one rural placement of 4-8 weeks in a community hospital, family health team, Aboriginal health centre, community health centre, diabetes program or with organisations serving Indigenous and Francophone populations. Interns work in pairs on practice-based research topics.	Evaluation -descriptive using survey	58/62 graduates over five cohorts.	Program attracted learners with desire to serve northern and rural regions. 75% took up first positions in underserviced northern and rural regions 25% took up first positions in towns of <5000 (n=10) and <10000 (n=4) Graduates remained interested in rural and northern practice Career aspirations, availability of support and personal commitments influence decision to remain in rural practice	

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Hofer at al., 2014	Australia	Kimberley Population Health Unit	To provide prevocational training in public health medicine.	The Kimberly Population Health Unit is located in a remote setting and offers a 24 week prevocational placement in public health and primary health. Registered medical officers undertake activities such as screening programs, disease surveillance and clinical audits.	Evaluation -descriptive using survey	23 of 27 registered medical officers between 2001-2012	Increased knowledge and skills in public health and primary care. 30% currently working in Aboriginal health on full-time basis and 57% at least one day a week. 30% working in rural/remote health full-time and 43% at least one day a week. 61% reported the placement influenced desire to work in public health and Aboriginal health 52% reported placement influenced desire to work in rural and remote health.	
Hudson & Marr, 2014	Canada	Northern Ontario School of Medicine Medicine, Nursing	To foster competence in providing culturally safe care to Aboriginal patients.	A two week placement in Aboriginal communities was piloted. Learning included an additional 2 weeks on campus. Seven communities selected based on levels of involvement, location, ICT capacity and accommodation requirements. After the pilot, the program was revised to include Aboriginal health curriculum provided 2 weeks in advance, community experiences increased to 10-12 hrs, clinical experience reduced to 6-8 hrs. Curriculum guided by each Aboriginal community.	Evaluation -faculty analysis -post-pilot symposium	Faculty 15 medical and nursing students participated in the pilot in 2005	Community support, better coordination, administrative support, adjustments to delivery methods needed. Adjustments to include Aboriginal health curriculum needed to prepare students for immersion. Early and collaborative community engagement needed. Students reflected on cultural stereotypes and remote nursing and built on cultural awareness.	
Jamar et al., 2013	Australia	University of Adelaide Medicine	To train a rural health workforce	Students in their fifth year of the six year course complete a whole year at one of 8 rural or remote locations.	Retrospective cohort study	74 domestic students who have completed firth year at a rural location between 2003-2010	85% intend to work in a rural area 28% spent two or more years in a rural area – No increase in rural workforce	
Jeffery et al., 2014	Australia	Centre for Remote Health Remote area nurses	To prepare nurses to practice as remote area nurses.	The Graduate Certificate in Remote Health Practice aims to prepare health professionals in remote area nursing. Students learn about pharmacotherapeutics and clinical management of people experiencing altered health status in isolated, remote and Indigenous contexts. Two week block in Alice Springs or Darwin, two week placement in a remote community and online learning over the semester. Students undertake an OSCE using a simulated patient. OSCEs are based on best practice guidelines and students are expected to show developed interviewing skills, communication and cultural sensitivity.	Evaluation -descriptive using survey and qualitative methods	Students (n=15; registered nurses with 3 practicing as remote area nurses) and tutors (n=5)	Students agreed that an integrated approach to the OSCE was good. Students reported that the OSCE extended their knowledge and practice and challenged them to consider situations encountered by remote area nurses. Students reported that skills needed for remote area nursing were different to their current skills. Tutors reported that OSCEs gave students opportunity to practise the skills needed for remote area nursing. Students and tutors reported they were able to develop and practise cultural sensitivity.	
Johnston et al., 2017	Australia	University of Newcastle, New South Wales, Australia Bachelor of Physiotherapy	To provide students with clinical experience in the workplace setting.	Clinical placement experience supervised by physiotherapist takes place in various workplaces with various clinic foci and across metropolitan, rural and remote areas. 29 weeks placement across years 2, 3 and 4.	Retrospective cohort study using placement data	3964 student placements between 2003 and 2014.	Most placements took place in MMM1 locations and the proportion of placements at MMM1 was decreasing. Small number of placements in MMM6 (n=13; <1%) and none in MMM7 (n=0) may reflect small number of physiotherapists in these areas. Majority placements in MMM3-6 classified as 'general' reflecting diverse caseload of physiotherapists in rural and remote areas. Lower assessment marks in MMM1 compared with other locations (except MMM2).	
Johnston et al., 2013	Australia	Program developed with support the Australian Lung Foundation and in consultation with rural and remote health care providers and Aboriginal Community Controlled Health Services. Rural and remote health practitioners	To provide rural and remote health practitioners with education on pulmonary rehabilitation and support to establish pulmonary rehabilitation programs.	The Breathe Easy Walk Easy (BEWE) program translates recommendations in the Australian Pulmonary Rehabilitation Toolkit into clinical practice. It is an interactive program with a two day workshop, online and hard copy resources, awareness-raising materials for the community and ongoing telephone/email support. Some materials are tailored for delivery to practitioners who provide care for Australian Aboriginals. The workshop consists of didactic, practical and case-based sessions delivered by clinicians.	Evaluation -descriptive using survey and patient outcome data	Health care practitioners: nursing, physiotherapy, doctors, occupations therapists, dietitians. Pre and post workshop questionnaires: 25 health care practitioners with backgrounds in nursing (n=13) and physiotherapy (n=11). Site in rural New South Wales (n=13) and site in remote Northern Territory (n=12). Follow up questionnaires at 3 months (n=10) & 6 months (n=6)	Health practitioners: Significant improvements in self-reported knowledge and confidence. Pulmonary rehabilitation programs at participant's health service: none at baseline. At 12 month follow up, 3 programs were established including one at the remote site. Patient outcomes: significant increase in 6-minute walk distance following rehabilitation of 48m	
Johnston et al., 2014	Australia	Program developed with support the Australian Lung Foundation and in consultation with rural and remote health care providers and Aboriginal Community	To provide training in pulmonary rehabilitation for health providers in rural and remote Australia.	The Breathe Easy Walk Easy (BEWE) program translates recommendations in the Australian Pulmonary Rehabilitation Toolkit into clinical practice. Interactive program with a two day workshop, a follow-up visit at 3 months and a review/update workshop at 12 months. Online and hard copy resources, awareness-raising materials for the community and ongoing telephone/email support. The workshop consists of didactic, practical and case-based sessions delivered by clinicians.	Quasi-experimental pre-test/post-test	Rural sites: Rural 1 services 36,000-75,000; Rural 2 services population of 9000 and located 250km from Rural 1 Remote sites: Remote 1, 2 and 3 service population 25,000-50,000 in town, 100km from town and more than 100km from town; Remote 4 services population of	Pulmonary Rehabilitation programs became established at Rural 1 (12 patients) and 2 (9 patients), and Remote 1 (12 patients). Patient outcomes for newly established programs indicated that pulmonary rehabilitation was being delivered effectively (mean improvement in 6 minute walk test, n=22; and mean improvement in St George's Respiratory Questionnaire total score, n=10).	

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		Controlled Health Services. Rural and remote health practitioners				600 and located within remote Indigenous community (250km from town); Remote 5 serviced Indigenous population over diverse area including very remote land.		
Kennedy et al, 2013	Australia	Deakin University, Western District Health Service Rural and remote nurses of the Sustainable Farm Families program	To equip nurses with knowledge, confidence and skills to work with alcohol misuse among the farming community	Four sessions are run over 2 days. Sessions are about understanding misuse of alcohol, detecting and assessing alcohol problems, communication and interventions for alcohol problems. Learners were given worksheets, presentations and a post training information kit.	Evaluation -descriptive using qualitative methods	Participants from rural, regional and remote areas of Victoria and Queensland.	Nurses felt that they gained increases in knowledge and confidence and desired ongoing training, support and networking opportunities. Participants valued the practical and interactive training. Remote nurses thought the material was useful. Nurses identified barriers to implementing their new knowledge in practice including difficulty separating professional and social relationships and difficulty building rapport for fly in fly out nurses.	
Lenthall, Wakerman and Knight, 2009	Australia	University Department of Rural Health, Flinders University and Council of Remote Area Nurses of Australia Remote health professionals	To prepare health professionals for work in remote areas.	The Remote Health Practice program consists of a Graduate Certificate, Graduate Diploma and Master of Remote Health Practice offering with clinical practice and public health content. . Multidisciplinary program content with practice topics for specific professions, and a primary health care approach. A strong focus is cultural safety, self care and Indigenous health. Six streams – nursing, medical, allied health, management, oral health and individual practice.	Evaluation -descriptive using survey and qualitative methods	Survey of graduates (n=18) and current students (n=24). Key stakeholders interviewed (n=11)	Course quality found to be of high standard for academic content, theoretical and clinical teaching, learning materials and commitment level of teaching and support staff. --- Found to be responsive to needs of health services and health professions. Health industry supportive of program	No figures or demographics given for participants. Not clear if remote participants contributed to the evaluation.
Mak & Miflin, 2012	Australia	University of Notre Dame Fremantle School of Medicine Medicine	To provide students with opportunities to develop competencies in rural and remote area living and gain insight into the influence of aspects of rural and remote living on health and well-being.	The Rural and Remote Health Placement program includes experiential learning in a rural community for 4 days (1st year), a remote community for 8 days (2nd year) and multiple placements in rural and remote areas in the final 2 years. Students billeted with community members, in pairs, and undertake non-clinical work. Clinical scenarios are used to develop learning on social and health issues. Orientation, post-experience briefings, lectures and readings support student learning. During the placements, students attend tutorials by local health care staff, visit health services, farm safety demonstrations, speak to primary and secondary students and undertake 4 hours of community service. The year 2 placement focuses on aspects of Aboriginal health and well-being.	Evaluation -descriptive using survey and qualitative methods	Community stakeholders Students: Year 1 n = 95 Year 2 n= 85	Community and school ties are strong and consistent Majority of students reported an appreciation of the opportunities to learn about health in rural and remote communities. Some students with rural backgrounds didn't appreciate the experience. Some students were frustrated by the non-clinical nature of the learning.	
Martin, Bekiaris & Hansen, 2017	Canada	Shock Trauma Air Rescue Service Rural health professionals	To provide critical care and crisis resource management skills for rural Canadian health professionals.	The Shock Trauma Air Rescue Service Mobile Education Unit is a medical simulation lab converted from a motorhome. The lab contains a mannequin that speaks, breathes, blinks and has reactive pulse and pupils. Simulations include polytrauma, severe sepsis and myocardial infarction. A sessions runs for 90 minutes and 5 health professionals can participate in a simulation case. Each session has an introduction and pre-brief, followed by 2 simulated cases and debriefs. Sessions facilitated by STARS transport physicians, flight nurses and/or flight paramedics using the Promoting Excellence and Reflective Learning in Simulation framework.	Evaluation -descriptive using survey	14 educational sessions held in 9 communities with populations ranging from <5,000 to >20,000 people. 131 survey participants nurses 27.5%; med residents 26.7%; medical first responders16% Physicians, 12.2%; Other(paramedics, physician assistants, air ambulance pilots, medical students and medical first responder students)	Overall learning quality excellent. Simulation reported to develop clinical reasoning skills, decision making ability, recognition of patient deterioration and self reflection. Mobile unit provided a believable working environment (87%; n=114) and most had no previous access to high fidelity mannequins (82.7%; n=107).	
Meili, Fuller & Lydiate, 2011	Canada	University of Saskatchewan Medicine	To provide students with opportunities to develop aspects of social accountability	MTL consists of an orientation to health issues of the underserved (20 hr Aboriginal seminar, global health course and language training; a northern community experience (6 weeks in a rural remote community), a volunteer experience at a student-run clinic in an underserved urban area, an international experience in Mozambique, and a reflection and evaluation period.	Evaluation -descriptive using qualitative methods	14 students from 3 first year cohorts between 2005 and 2007.	Students reflected on their own stereotypes, particularly in terms of Aboriginal populations, the social determinants of health and the limits of disease-centred medicine. They also reflected on the power of interdisciplinarity.	

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Playford et al., 2015	Australia	Rural Clinical School of Western Australia, University of Western Australia Medical School Medicine	To address health workforce shortage in rural and remote areas.	The Rural Clinical School has over 12 sites in non-metropolitan to very remote locations. 25% of the fifth year medical student cohort invited to participate in the program.	Retrospective cohort study	324 graduates practising in regional and rural locations at third year of practice between 1980 and 2011	Of those who participated in the rural clinical school, 78.7% were currently practising in outer regional to very remote areas. 4 times more likely to practise in rural area (RA3-RA5) compared to inner regional area if participated in the rural clinical school program.	Comparisons are for rural (RA3-RA5). No remote only outcomes reported but remote participants included in data.
Playford et al., 2010	Australia	Nursing	To train a rural nursing workforce	Students at urban nursing schools completed a 2 to 4 week rural placement.	Cohort study	100 graduates between 2000 and 2004 from urban nursing programs. 49 graduates between 2000 and 2004 from rural nursing programs (University Department of Rural Health data)	Rural school nurses more likely to enter rural work	
Ray, Fried & Lindsay, 2014	Australia	James Cook University Rural and remote health professionals	To provide palliative care education to health professionals in rural and remote settings that is context specific.	Educational needs assessment survey was conducted with health professionals and used to develop content for educational video conferences. A palliative care researcher and tertiary level multidisciplinary palliative care team delivered monthly education sessions. Education sessions consisted of lectures with question time, case based discussions (participant experiences) and resources.	Evaluation -descriptive using survey	101 participants Medical student or doctor, n=10; Nurse, n=71; Occupational therapist n=5; Physiotherapist, n=4; Speech pathologist, n=2; Social worker, n=5; Other, n=4. 28 worked in a remote location and 4 worked in a very remote location.	Participants found content of video conferences to be useful for their work, regardless of practice location. All participants reported an increase in confidence after participating in videoconferences. Participants from very remote, remote and outer regional areas reported higher confidence levels in palliative care topics before participating in videoconferences than those from inner regional areas. Participants caring for lower numbers of palliative care patients reported highest increase in confidence due to the educational videoconferences.	
Roberts et al., 2012	Australia	Universities of Sydney, Wollongong and Adelaide Medicine	To train a rural workforce.	The Broken Hill Extended Clinical Placement Programme is a multi-university program for medical students in the final 2 years. Uses a community-engaged model with a commitment to socially accountable medical education. Students live and work in rural and remote settings for 6-12 months. Clinical learning is in community and hospital settings, within remote health care teams and the Royal Flying Doctor Service, and with a general practitioner (four half day sessions per week).	Descriptive study using qualitative methods	10 program participants (Universities of Sydney n=3; Adelaide n=4; Wollongong n=3) 8 General Practitioners (4 supervisors); 7 hospital doctors; 3 community health staff	Personal, contextual and experiential factors influenced students' thinking during longitudinal integrated rural placements. Career barriers related to the impact of geographic isolation on family, availability of supporting services and risks to education	Placement sites were described as rural and remote however it is unclear if participants attended placement at remote sites.
Schoen et al., 2016	Australia		To improve knowledge, attitudes and practice of rural and remote health professionals in relation to diabetic foot care	The program consisted of a 3 hour face to face, interactive, didactic workshop presented by a podiatrist. Workshops included 'Acknowledgement of Country' and hands on training including practice time for a diabetic foot risk assessment. Resources included care guidelines, Aboriginal Health Worker resources and multidisciplinary telehealth, diagnostic imaging pathways and images of diabetic foot problems. Workshops were delivered in 15 rural and remote towns (hospitals, Aboriginal Community Controlled Health Organisations, rural health centres, aged care centres, a rural university centre, a remote nursing post, a rural general practice).	Quasi-experimental pre-test/post-test	117 health professionals Aboriginal Community Controlled Health Organisation, n=10; WA Country Health Service, n=49; General practice, n=18; Private non-medical practitioner, n=9, Home and community care, n=4; Other, n=27)	Participants found workshop content understandable (85%), provided useful information (85%), had appropriate quality and content (87%) and would recommend the workshop to colleagues (87%). Confidence in conducting a diabetic foot assessment increased from 34% of participants to 95% post-training ($p<0.001$) Mean knowledge score (n=117) increased from 6.9±1.6 to 7.8±1.4 post-training though 25% of participants had a pre-test score greater than the post-test score.	Unclear if any participants were located in remote settings.
Toussaint and Mak, 2010	Australia	University of Notre Dame School of Medicine Medicine	To fulfil the school mission to graduate knowledgeable, skilful, dutiful and ethical doctors who will want to work in areas of unmet need.	The Kimberley Remote Area Health Placement Program immerses medical students in non-clinical settings to learn skills for remote area living and introduce them to factors important for health in remote areas. Pairs of second year medical students are hosted by community members at pastoral stations, schools, Aboriginal communities, aged-care facilities, child-care centres and small businesses where they perform non-clinical work. Students also meet with local health professionals and tour health facilities. About 50 placements per year in Derby and Fitzroy Crossing, and surrounding areas. Students receive preparatory course work and reflect on experiences upon return.	Evaluation -descriptive using survey and qualitative methods	-33 interview participants -15 informal discussions -all community members with varying involvement in the program	Majority of participants talked about the benefits of the program. Participants were hopeful about the program and the ultimate outcome that at least one doctor would return to practice long term. Participants thought the program helped students to view remote area living positively. Participants thought the program encouraged understanding of Aboriginal culture and remote area living and impacts/associations with health. Encouraged hosts to reflect on their own work practices. Few participants had negative views of the program. Some limitations of the program included short duration, legal unknowns, the need for a debrief before conclusion of the program.	Unclear how many participants were students, community members etc.
Walker et al., 2012	Australia	Rural clinical schools (RCS) at 6 universities Medicine	To train a workforce for rural workforce	No information other than tracking students from rural clinical schools	Evaluation -descriptive using survey	-125 of 166 medical students who had completed an RCS term in 2006	42% intend to practice rurally RCS increased interest in rural training and practice for 85% beliefs about rural life and rural practice Rural background strong predictor of rural practice intention	

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Wearne et al., 2010	Australia	RACGP and ACRRM initiative Australia	To train and support medical doctors working in rural or remote Australia	The Remote Vocational Training Scheme connects supervisors who are experienced in rural or remote practice with registrars. Involves: Minimum 1 hour per week contact in the first 6 months and then 1 hour per week in the next 6 months. Meetings involve case review, teaching of topics as planned, debriefing and mentoring; attend weekly teletutorials; attend twice yearly face to face workshops to develop clinical and procedural skills for remote practice; attend two accredited emergency medicine courses; registrars observed for 3 full working days and given feedback.	Evaluation -descriptive using survey	-24 of 26 doctors who completed the program	17 registrars completed all GP training in RRMA 7 locations, 5 in RRMA 5 locations and 2 in RRMA 4 locations. 5 work in RRMA 6-7 locations Graduates felt prepared for clinical practice 14 practised in rural medicine and 11 in emergency medical service. 5 work in Indigenous health	
Willett et al., 2011	Canada	Department of Family Medicine, University of Ottawa, Office of Professional Affairs, The Royal College of Physicians and Surgeons of Canada Medicine	To prepare residents for assessment and management of critically ill patients, especially in rural or remote clinical settings.	The Acute Critical Events Simulation course teaches basic competencies to recognise and manage critically ill patients in any setting. The 2-day course is simulation-based and includes lectures, video-based discussions, case discussions and hands-on training with equipment, manikins and actors (nurses). Instructors include a family physician and critical care professionals.	Evaluation -descriptive using survey	37 second-year family medicine residents who attended one of four courses held (24% intended to practice in remote settings; 70% intended to practice in rural or remote settings)	Course mostly reported to be of appropriate complexity with airway and circulation modules considered too basic. All participants agreed the course was relevant to their anticipated needs. The course improved technical skills (79%) and confidence in managing and treating critically ill patients (68%). Course book was useful (70%) and case studies also reported to be useful especially by rural remote intention participants. -89% of participants reported the simulator recreated life-like crises and 95% reported the simulations increased confidence in managing critical illness.	Setting where the course was held is not detailed. Staff from the Ottawa Hospital were involved in running the course.
Woolley, Sen Gupta & Bellei, 2017	Australia	James Cook University Medicine	To prepare and educate medical students for practice in medically underserved settings.	The 6 year course includes placements of 4 weeks (2nd year), 8 weeks (4th year) and 8 weeks (6th year) in rural and remote communities.	Prospective cohort study	529 graduates in postgraduate year 4 to 10. Associations for graduates who have worked at least 1 year in a remote practice location.	47 (9%) graduates had practised in a remote location for at least 1 year. 60% of graduates spent more than 1 year: 17% spent 2 years, 21% spent 3 years, 10% spent 4 years and 12% spent 5-8 years in remote practice. Attending Darwin clinical school was strongest predictor for remote practice of at least 1 year. Other significant factors were 'above average' interview score at selection, undertaking a regional or remotely based internship, undertaking rural generalist training, being female, or identifying as Australian Aboriginal or Torres Strait Islander.	
Woolley, Sen Gupta & Murray, 2016	Australia	James Cook University Medicine	To prepare and educate medical students for practice in medically underserved settings in the region.	Clinical schools are based in 4 towns (3 rural). Students attend these clinical schools at various times in years 4 to 6. Students undertake the majority of their clinical training at two sites in year 4 and four sites in years 5 and 6. There are additional 8 week rural rotations in years 4 and 6, and a rural elective in year 6.	Prospective cohort study	Practice location data for 742 graduates in first nine cohorts beginning in 2006 to 2014	Internship availability in town of clinical school strongest predictor of internship in that town. Home town at or near medical school strong predictor of internship in clinical school district. Attending rural or regional clinical school can promote rural workforce.	
Worley, Esterman & Prideaux, 2004	Australia	Flinders University Medicine	To train a rural workforce.	The program is a four year graduate entry medical program. The rural community curriculum allows a small number of students to spend their third year studies based in small rural general practices in rural and remote regions located 250km from Adelaide. Students may do their third year training at Darwin hospital or Adelaide hospital.	Retrospective cohort study	371 students Rural program, n=40; Darwin, n=68; Adelaide, n=263	Year 2 scores similar for each location Year 3 scores differed significantly for each location: Rural program had higher score over Adelaide group (adjusted mean difference=3.08, 95% CI 1.25 to 4.90; p<0.001); Darwin group higher score over Adelaide group ((adjusted mean difference=1.91, 95% CI 0.47 to 3.36; p=0.001)	
Wright et al., 2017	Australia	Rural Clinical School of Western Australia Medicine - paediatrics	To prepare students for paediatric practice in rural and remote areas.	The Rural Clinical School of Western Australia provides education at 13 sites throughout Western Australia (RA2 to RA5) up to 3500km from the city campus. 3 to 10 students attend one of the sites for a full academic year (40 weeks). Students undertake paediatrics, obstetrics and gynaecology, general practice and general medicine concurrently. Students are predominantly community based and access small regional hospitals. Urban students predominantly learn from specialist paediatrics medical, nursing and allied health staff mainly in a tertiary paediatric hospital.	Retrospective cohort study	Medical students: Rural program (n=75; 1518 rural logs) Urban program (n=76; 1516 urban logs)	Rural students logged more patients in primary care and secondary care settings than urban students (p<0.0001). 91% of paediatric cases logged by rural students in secondary care compared with 90% of paediatric cases logged by urban students in tertiary care. Rural students logged more patients as seen outside medical facilities and less in emergency departments. No difference in end of year written and OSCE assessments for urban vs rural students.	Unable to determine outcomes for rural vs remote participants.
Wyatt & Chater, 2018	Australia	University of Queensland Medicine	To facilitate rural experience for medical students	The third year of the medical course includes a six week clinical placement in regional to very remote area. Students work with their preceptors in hospitals, medical practices or remote settings.	Retrospective cohort study	3727 third year student assessment records between 2000-2014 (42.6% in RA2; 34.8% in RA3; 14.4% in RA4; 8.2% in RA5)	Health project mean score for students placed in RA5 areas was higher than for students placed in RA2 (P < 0.001), RA3 (P = 0.001) and RA4 (P = 0.014) areas.	

Author, year, setting, health profession discipline	Country	Institution/Discipline	Aim of education	Activities	Study design	Participants	Findings	Limitations
							Clinical case presentation assessment mean score for students in RA5 areas higher than students in RA2 (P = 0.001), RA3 (P = 0.017) and RA4 (P = 0.003) areas. Clinical participation assessment score for students in RA5 higher than for students in RA2 (P =0.017), RA3 (P = 0.013) and RA4 (P = 0.01) areas. Rural placement positively associated with overall grade after adjusting for confounders.	
Young, Kent and Walters, 2011	Australia	John Flynn Placement Program supported by Australian College of Rural and Remote Medicine Medicine	To address health workforce shortage in rural and remote areas by facilitating exposure to rural practice and rural life for medical students.	The John Flynn Placement Program supports formation of long-term relationships with a rural community, rural health service and mentors (RRMA 4-7). A $500 stipend (per placement week), travel and accommodation is provided. Mentors and community contacts receive an honorarium per placement week.	Evaluation -descriptive using survey and tracking database	Database participants: for 1450 placements between 2005 and 2009 Evaluation survey: 688 students; 566 mentors	73% of placement sites within RRMA 4 and 5 27.3% of sites within RRMA 6 and 7 Majority of survey participants satisfied with placement planning and, clinical and social aspects of the program. Overall rating of average satisfaction or better: 87% of students and 84% of mentors. Over 40% of survey participants currently or intending to train or work in rural areas. Rates for training in a rural area highest in post-program medical school years.	Unable to determine outcomes for rural vs remote participants.
Young, Rego and Patterson, 2008	Australia	University of Queensland Medicine	To provide medical students with a long-term rural placement and verify an alternate training pathway.	In the Leichhardt Community Attachment Placement (LCAP) program, year 3 students were placed in rural and remote towns in Queensland for one year. Students worked out of their own office at the GP practice and completed rounds at the local hospital daily. The LCAP towns ranged in population from 1,230 to 13,100 and were more than 600 km from the state capital city, Brisbane,and 200 km from the nearest regional city.	Evaluation -descriptive using survey, qualitative methods and competencies log	Year 3 LCAP students n=3; Year 3 students placed at 2 urban tertiary hospitals (n=6); Preceptors (n=3); Preceptor spouses (n=3); Community members (n=6)	All LCAP participants received a final grade of distinction and improved their Year 3 class ranking by 37 to 50 places compared with urban hospital students – not maintained when they returned to the urban hospital in Year 4. LCAP participants more confident in their procedural skills with and without supervision than students at the urban hospitals. Preceptors enjoyed professional and collegial support, and the LCAP experience. Community valued students from a social perspective and hosting students provided a morale boost. Students gained experience and in-depth knowledge about rural life and medical.	