

Supplemental digital content for Sinclair S, Kondejewski J, Jaggi P, Dennett L, Roze des Ordons AL, Hack TF. What is the state of compassion education? A systematic review of compassion training in health care. Acad Med.

Supplemental Digital Appendix 3

Details of the Data Extracted From the Included Studies

Reference	Learner type	N	Setting	Study objectives	Intervention	Outcomes evaluated	Key Findings & Conclusions	Definition of Compassion	Comments
Education Setting									
<i>Formal Curriculum Based Education</i>									
Ellman MS 2016 ⁴¹	Medical students	50-200	USA	To teach basic competencies in End of Life care.	Curriculum in End of Life care using experiential, skill-building activities with a focus on student self-reflection (4-years).	Self-report and external assessment: Written reflections throughout the course, graduate student survey, and demonstration of 4th-year students' competency in palliative care with an observed structured clinical examination (OSCE).	Enhanced preparedness in End of Life care and competency in primary palliative care on the OSCE.	Not provided	Compassionate physicians are required to meet the needs of patients with life-limiting and terminal illness.
Costello M 2017 ⁴²	Nursing students	Not provided	USA	To describe the course, Care at the End of Life, developed utilizing the End-of-Life Nursing Education Consortium (ELNEC) curriculum.	A course to teach nursing students compassion in end of life care based on the points of Jean Watson's Theory of Transpersonal Care and the Caritas Processes.	Self-report: Reflective assignments, development of a creative, artistic expression representing personal meanings and emotions related to caring at the end of life, and presentations.	Students reported more awareness of how to provide compassion to patients at the end of life.	Compassion was described as the capacity to bear witness to, suffer with, and hold dear within our heart the sorrow and beauties of the world.	Watson's framework was used to introduce students to the science of caring.
Brown JS 2015 ⁴³	Critical care nurses	30	USA	To examine the effects of an educational intervention designed to address palliative	An HIV/AIDS palliative care course delivered in the	Self-report: A pretest and posttest on palliative care were provided to each subject to	All participants showed competence in communication, assessment, and intervention on the post test.	Not provided	Education about palliative care and the complex diagnosis of HIV/AIDs was expected to prepare

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				care in HIV/AIDS patients and families.	conference/classroom (10 weeks).	assess knowledge and confidence in providing palliative care to HIV/AIDS patients.			nurses to provide compassion and informed care to HIV/AIDS patients and families.
Shih CY 2013 ⁴⁴	Preclinical Medical Students	251	Taiwan	To understand the impact of enhancing compassion on ethical decision making in end of life care.	Palliative care training course involving a didactic lecture, a patient visit, contact with members of the palliative care team, and multimedia-directed interactive instruction in clinical skills.	Self-report: A structured self-report questionnaire administered before and after training.	Significant improvement in 5 of 8 items related to perception of compassion ($p < .05$). Significant correlation between the item "Planning for discharge and home care is ethically legitimate for terminal patients" and students' perception of compassionate care ($r = .138$, $P < .05$).	Compassion was defined as the deep awareness of the suffering of another coupled with the wish to relieve it.	The course improved medical students' knowledge and perception of compassion in palliative care and their ethical decision making.
Anandarajah G 2016 ⁴⁵	Residents/Physicians	26 (13 intervention; 13 comparison)	USA	To examine immediate and long-term effects of a required, longitudinal, residency spiritual care curriculum, that emphasized inclusive patient-centered spiritual care, compassion, and spiritual self-care.	A spiritual care curriculum that included interactive didactics, small group discussions, clinical care, experiential activities, and reflection.	Self-report: In-depth individual interviews conducted three times over 10 years: pre-intervention, as post-grad year 1s; as post-grad year 3s; and eight-year post-intervention, as practicing physicians. Comparison group was interviewed in post grad year 3 only.	All participants recognized the relationship between spirituality and compassion in healthcare. Intervention physicians reported that the residency valued them as human beings, provided them protected time to reflect, and restored their ability to provide compassion to patients.	Not provided	After eight years, many intervention physicians noted that reflection on their diverse beliefs and values in safety, coupled with the compassion shown to them through this curriculum, had deeply positive effects.

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Anderson JG 2016 ⁴⁶	Registered nurses	24 (online narratives); 11 (focus groups)	USA	To examine the use of "Healing Touch" in the acute care setting during the delivery of patient care and the impact of education in and use of healing touch on the nurses themselves.	Monthly Healing Touch practice group sessions	Self-report: Personal narratives shared during a 1-hour discussion portion of the monthly meetings	Healing Touch was recognized as a strategy that could be used to provide compassion to patients and was considered beneficial for nurse-patient interactions, nursing presence, and resilience.	Themes associated with compassionate care included indirectly acknowledging and demonstrating concern for suffering, the importance of body language, and the recognition that anxiety is suffering.	Healing Touch provided nurses an empowering and transformative tool to improve patient outcomes.
Aggarwal AK 2013 ⁴⁷	Medical students	250	USA	To determine if a student-led curriculum involving personal mental illness experience, given during a first-year neuroscience course, would reduce stigma of mental illness.	A student led curriculum entitled "Mental Illness Among Us" involving panels, presentations, and discussions	Self-report: Students participating in the curriculum and non participants completed voluntary pre- and post-MIAU surveys including questions adapted from the Mental Illness: Clinicians' Attitudes (MICA) scale and Social Distance scale and a question on the neuroscience course final exam.	Participants had a significant pre- to post-intervention difference in the MICA score ($p=0.010$), representing a stronger agreement with positive statements regarding mental illness, and Social Distance ($p=0.003$), indicating an increased willingness to interact with individuals with mental illness. Non-participants had non significant differences. Participants' responses on the final exam showed the course taught compassion and the importance of treating the whole patient.	Not provided	Participants most frequently reported that the neuroscience course prepared them to be a physician because it taught about compassion and the importance of treating the whole patient. "Compassion" was used 44 times in student responses on the final exam.

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Camp CL, 2010 ⁴⁸	First year medical students	49	USA	To evaluate the effectiveness of delivering feedback in a group setting compared to an individual setting among students enrolled in the Human Structure block of a gross anatomy course (in dissection teams).	Delivering feedback on seven aspects of professionalism (altruism, compassion, respect, honesty/integrity, responsibility, commitment to excellence, and self-reflection).	Self-report and external assessment: Students completed weekly anonymous evaluations of themselves and their teammates. Professionalism scores were calculated using a six-point Likert scale. Written comments were provided.	Overall, students showed significant improvements in self-reflection ($P=0.032$) and a trend toward improvement was seen for compassion ($P=0.074$). Students in the individual feedback cohort showed the greatest improvements, including significantly improved scores in compassion ($P=0.006$).	Not provided	Providing individual feedback to first-year medical students may improve professional attitudes and behaviors.
Frazier M 2015 ⁴⁹	First year medical students UCLA	166	USA	To assess the perceived impact of a required half-day with a hospital chaplain.	Students shadowed chaplains at the UCLA hospital.	Self-report: After the rounds, students wrote a one-page personal reflection on their experience.	Many students (21%) wrote that the visits supported and re-emphasize their determination to provide compassion. Some reported anger when physicians treated patients without compassion.	Not provided	Hospital rounds with a chaplain helped medical students understand the importance of spirituality in medicine.
Konkin J 2011 ⁵⁰	Medical students	25	Canada	To explore the development of an ethic of caring in an integrated community clerkship (ICC) using empathy, compassion, and taking responsibility as descriptors of caring.	Integrated Community Clerkship with guiding principles of continuity of care, preceptor, and learning environment (9 months).	Self-report: Reflective conversations at the completion of the 9-month ICC.	Students' increased their understanding of the importance of compassion, continuity of care, and receptivity and responsibility in expert clinical care.	Not provided	The ICC helped students develop an ethic of caring.
Teskereci G 2020 ⁵¹	First year nursing	73 (37 intervention and 36 control)	Turkey	To examine the effect of the Caring Behavior Nursing course	Caring Behaviour in Nursing (Intervention)	Self-report: Personal Information Form (9 items)	A statistically significant difference in the posttest score on the compassion scale between the	Not provided	The Caring and Behaviour in Nursing course may increase compassion

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	students	control)		on the compassion and emotional intelligence levels of nursing students.	group) Health Protection and Promotion (Control group)	Emotional Intelligence Evaluation Scale (30 items and 5 subscales) Compassion scale (24 items and 6 subscales: kindness; indifference; consciously sharing; separation; conscious awareness; and disengagement).	intervention and control groups (P=0.014).		levels in nursing students.
Chambliss C 1990 ⁵²	AIDS / HIV Staff	6-18	USA	To address staff needs in becoming more aware of their attitudes, anxieties, and a resolution of their concerns about members of a high risk, AIDS/HIV population.	Interactive Training Program: two sessions designed to foster staff involvement and participation with a shared problem-solving strategy using a nominal group technique and large-group, open discussion.	Self-report: Pre- and post-questionnaires Hospital Staff AIDS Questionnaire (HSAQ), measuring 4 factors: Compassion and Acceptance of Obligation to Treat; Appropriate Work-related Risk Reduction; Accurate Perception of Transmission Risk; and Policy Preferences Regarding Segregation and Mandatory Testing. Aids general knowledge profile	No significant differences found in HSAQ scores after partial training. The complete training group scored significantly higher on the 'Compassion and Acceptance of Obligation to Treat' and 'Appropriate Work-related Risk Reduction' factors (P<0.001).	Not provided	Participative staff training increased compassion towards AIDS/HIV patients. Participants shared their concerns and beliefs and set aside their fears and anxieties to meet the demands of their patients.

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						(AGK): 19 items measuring knowledge of HIV/AIDS.			
Krajewski A 2013 ⁵³	Postgraduate year 1 general surgery categorical and preliminary residents	108	USA	To describe a unique 2-month intern curriculum (boot camp) incorporating knowledge-based, experiential, and practical components and the effect on resident performance and teaching faculty and nursing staff perceptions.	2-month boot camp curriculum consisting of two 2½-hour knowledge-based and procedural skills (SimMan) didactic sessions per week and completion of 25 core intensive introductory American College of Surgeons Fundamentals of Surgery web-based self-study modules, followed by a standardized patient clinical skills assessment.	Self report and external assessment: Intern boot camp survey, clinical skills assessment scores, intern American Board of Surgeons In-Training Examination scores, and nursing staff and teaching faculty surveys of intern performance and aptitudes compared with the previous year's interns.	Compared with the previous year's interns, the nursing staff agreed or strongly agreed that the cohort interns were better at providing compassion and respect during patient care.	Not provided.	Residency training programs should institute a competency-oriented curriculum to provide interns with the necessary knowledge and practical skills to attain clinical competence.
Clinically Based Education Interventions									
<i>Service Learning</i>									
Brown KM 2017 ⁵⁴	Nursing students	45	USA	To explore students' experiences and attitudes toward older adults with cognitive and/or	A service-learning course in which students interacted	External assessment and self-report: Four reflective journal entries throughout the	Students reported a "completely changed perspective" of caring, compassion, and respect, a "life-changing" experience, and	Not provided	This teaching strategy transformed students' attitudes toward older adults, reduced students' fear of older adults,

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				physical limitations as well as the effects on students' knowledge and skills.	with older adults in continuing-care retirement communities, partnered with one older adult each week, and implemented a therapeutic intervention activity based on the older adults' needs and desires.	courses and an online survey. Peer evaluation of the therapeutic intervention activity.	improved knowledge of patient centered care, collaboration, communication, advocacy, empathy, assessment skills, and evidence-based practice.		motivated students to work with older adults, improved students' interpersonal relationships, and enhanced nursing knowledge and skills.
Nagle BJ 2018 ⁵⁵	Medical students	12	USA	To examine the attitudes of third-year medical students following a pilot component of an internal medicine clerkship, consisting of an in-home visits geriatric care elective.	Four in-home visits with geriatric patients.	Self-report: Focus groups following participation.	Students developed positive attitudes and compassion for the elderly. Students reported more patience and a better understanding of the need to offer social support.	Not provided	The program may help students understand their role in caring for an aging population.
Pate JD 2013 ⁵⁶	Nursing students	65	USA	To determine if there was a change in college nursing students' attitudes toward nursing home residents as a result of increased intergenerational exposure following an elder care	The treatment group experienced a nursing elder care practicum that involved 3 extended visits caring for the elderly; a control group did not	Self-report: Pretest and posttest scores on Kogan's Attitudes Toward Old People Scale (positive perceptions, negative perceptions, prejudices, respect, disrespect, compassion, and	There was a statistically significant difference between posttest scores in the treatment group and control group while controlling for the pretest on the subscale: Cognitive Style and Capacity of Old People ($P<0.05$).	Not provided	Although not all subscales were statistically significant, there was a trend indicating a positive change in the treatment group's attitudes toward the elderly compared to the control group.

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				practicum.	experience the nursing elder care practicum.	apathy).			
Redfield CS 2016 ⁵⁷	Nursing students	63	USA	To evaluate nursing students' shifts in attitudes, knowledge about aging, and social goals during a program of repeated and structured social interactions with community-dwelling older adults.	Pairs of beginning nursing students provided brief health promotion activities during meetings with high-functioning older adults, four times over 8 months.	Self-report: Students' knowledge and attitudes on aging were assessed at baseline and prior to each visit; social goals were assessed after each visit. Measures included: The Perspectives on Caring for Older Patients Scale; The Facts on Aging Quiz 1; and students' attempts to engage in self-image and compassionate goals, assessed on a scale of 1 (<i>not at all</i>) to 5 (<i>always</i>).	Students' knowledge about aging and positive views on caring for older adults increased. There was no change in motivation to help older adults (i.e., compassionate goals). Students' motivation to defend their competence (i.e., self-image goals) declined.	Compassionate goals were defined as positive attitudes toward aging and accurate knowledge about caring for older adults, as well as an increased strive to help older adults.	While interacting with older adults, students' focus was on health promotion and proving a service to others, leaving little opportunity for an increase in compassionate goals.
Davis LI 2015 ⁵⁸	Pharmacy and nursing students	16 (5 pharmacy students, 11 nursing students)	USA/Botswana	To develop, implement, and assess an inter-professional global service-learning experience in rural government-run clinics and a community hospital for pharmacy and nursing students.	A study-abroad elective course. Students participated in inter-professional activities for 27 days in Kanye, Botswana, including 15 days of clinical	Self-report: Post intervention, a qualitative survey (Likert scale, multiple choice, open-ended question) evaluated student perceptions of the inter-professional clinical experience; reflective papers evaluated service learning.	Students developed cultural competency and compassion.	Not provided	Global service learning was an effective approach for the development of compassion in health professionals.

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					practice in community clinics and hospital units.				
Baldacchino DR 2010 ⁵⁹	BSc (Hons) nursing/midwifery students	31	France	To provide an innovative clinical placement for students.	Students delivered spiritual care to pilgrims in Lourdes (10 hr theory and 6 day pilgrimage).	Self-report: Reflective diary during the students' experience in Lourdes, a written reflective assignment and a focus group discussion conducted a week after the students' return from Lourdes.	Four themes emerged: team work (building a team, sense of belonging), holistic care (giving a patient attention as a whole person), trustful nurse-client relationship (building relationships, active listening, expressing love/compassion, teaching) and strengthening personal spirituality (meaningful life with a purpose).	Not provided	Students developed meaningful relationships through increased carer to client ratios, having available time, and the influence of dedicated role models who provided compassion to clients.
Dhital R 2015 ⁶⁰	Third year medical students	55	Nepal	To demonstrate the learning process of medical students exposed to rural primary health care settings in low-income countries.	Medical students were posted in seven rural Primary Health Care Centers (PHCCs) in two districts for 4 weeks.	Self-report: Students maintained a written log of their daily work, experiences, and reflections.	Students were able to understand and internalize the concept of compassion by developing a deep awareness of another's suffering and a desire to alleviate that suffering.	Not provided	Students developed new knowledge on the concepts of self-development, understanding reality, compassion and sense of responsibility.
Clark DL 2003 ⁶¹	Medical Students	221	USA	To use a learner-centered model, to provide primary health care to the homeless.	A service learning program with 3 components 1) a social hour when students ate breakfast with homeless parishioners; 2) a clinic run by the student	Self-report: One-time survey and analysis of student verbal and written reflections compiled over 2.5 years.	Four reflection themes were social awareness, compassion and empathy, teamwork, and confidence building.	Not provided	The program contributed to students' professional and personal education, and increased their understanding of biopsychosocial issues.

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					manager (3 hr); 3) a reflection period after the clinic was closed and a reflective journal.				
Levine MA 2009 ⁶²	Nursing students	10	USA	To capture the viewpoints of U.S. baccalaureate nurses who, while in nursing school, participated in international immersion programs.	Students embarked on multiple international journeys (6-9 weeks). Students provided hands-on nursing care while being immersed in the host community.	Self-report: In-depth interviews took place from 3 to 13 years after program participation using semi-structured interview techniques.	Participants reported increased depth of compassion, acceptance of differences, recognition of societal ills, and a willingness to take risks to promote change.	Not provided	“Life-changing” experiences emerge as students live and learn in cultures other than their own.
Smith JK 2006 ⁶³	Pre-clinical medical students	66	USA/ Nicaragua	To describe an international health elective offered at the University of Texas Medical Branch (UTMB) to students completing their first year of study and its influence on their attitudes, awareness, and skills.	Medical students engaged in 1 week of a lectures and workshops and then went internationally to a 3 week practicum to work in a rural health clinic in Nicaragua.	Self-report: Students completed a course evaluation form, which included several open-ended questions for qualitative feedback, on the last day of each elective period.	Students’ reported an increased interest in volunteerism, humanitarian efforts, and working with underserved populations in the United States and abroad. Students’ reported increased compassion toward the underserved, awareness of global public health, and self-awareness.	Not provided	A well-structured, mentored experience in international health had a positive impact on preclinical students’ attitudes, including their compassion, volunteerism, and interest in serving underserved populations.
Schneider AR 2018 ⁶⁴	Nursing professors and students	19	Colombia	To explore the benefits and challenges of establishing a service-learning	Participants engaged with community leaders to perform	Self-report: Semi-structured, in-depth interviews exploring the	Professors and students developed greater compassion for internally displaced persons and the desire to	Not provided	Participants learned about the social determinants of health, developed compassion,

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				partnership between a university nursing program and an isolated community of internally-displaced persons in Medellin, Colombia.	community diagnostics, home visits, health education sessions at the local health and community centers, improve accessibility to services, and identify unmet needs (20-400 hours).	benefits and challenges of the service-learning partnership and recommendations for its improvement.	improve the community.		appreciated the role of community nurses, and reported professional growth and development.
Whelan M 2018 ⁶⁵	Nurse practitioner and doctor of nursing practice students	Not provided	USA/Jamaica	To reduce health care disparities and increase students' awareness of social determinants of health in underserved countries.	Short term international health mission with emphasis on the Four pillars of Dominican life at Molloy college: Community, Spirituality, Service, and Study.	Self-report and external assessment: Self-report by student essay responses, and external feedback from patients and faculty.	The theme of compassion was extracted from student essay responses and reactions from all parties were favorable. Future research is required to assess the impact of the intervention on students and patients.	Compassion was defined as becoming more tolerant and humble toward others, wanting to do more for others and attending to people's needs.	The Dominican tradition calls students to be sanctuaries of compassion among today's culture of individualism and indifference.
Rubin RW 2004 ⁶⁶	Dental students	61	USA	To describe an effective method to teach cultural competence and social responsibility to dental students.	Dental students participated in 40 hours (over a 2-year period) of non-dental community service to link public health, medicine, and dental care.	Self-report: Reflective journals were completed by the end of second year.	Key phrases included compassion, righteousness, propriety, and wisdom.	Compassion was defined as humanity and kindness	The program improved cultural understanding and community spirit in students.

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Romem P 2008 ⁶⁷	Nursing students	136	Israel	To evaluate attitudes toward mental illness and caring for individuals with mental illness in the context of a clinical clerkship by nursing students.	A 4-week clerkship (28 hours per week in a mental hospital) to provide students with the knowledge, skills, and professional attitudes to enable them to care for individuals with mental illness and their families.	Self-report: A pencil-and-paper questionnaire that included The Attribution Questionnaire-27 (AQ-27) was administered before and after the clerkship.	Students developed compassion for psychiatric patients. Students were less frightened by individuals with mental illness, were more willing to provide care for them, and less inclined to segregate them from the community.	Not provided	Students developed self-awareness of their attitudes and responsibilities to patients and their emotional responses, and were no longer reluctant to provide care.
Crandell CE 2013 ⁶⁸	Doctor of Physical Therapy Students	8	USA	To examine how participation in an off-campus service learning center (SLC) impacted the development of professionalism.	Service-learning clinics off campus where students provided supervised <i>pro bono</i> physical therapy care to individuals from surrounding communities.	Self-report: Student perceptions of the role of the off-campus SLC experiences in the development of professionalism and core values were assessed through student interviews, completion of the physical therapy Core Values Self-Assessment form, and analysis of student reflection papers.	Key phrases in the context of the off-campus SL experience included compassion/caring and accountability.	Not provided	Service learning is beneficial for developing professionalism.
Hayward KS 2003 ⁶⁹	Nursing students	8-10	USA	To describe an innovative approach to	Through the Domestic Violence	Self-report: Students completed an	The community partnership prepared nursing students to	Not provided	Students reported an increase in knowledge related to

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				preparing nursing students to respond to domestic violence.	Partnership Project Leadership Clinical Option, nursing students participated in an orientation session, training, outreach, case management, support services, police ride-alongs, shelter admission and intervention research development and referral (85 hours).	Excellence in Leadership project, a written proposal and paper, as part of the experience.	provide compassion to individuals and families experiencing violence.		domestic violence.
Leadership Programs									
Bridges J 2015 ⁷⁰	Nurses	Not provided	UK	To propose a novel intervention designed to improve and support the delivery of compassionate care by health and social care teams.	Creating Learning Environments for Compassionate Care (CLECC), used workplace learning to promote change at the unit/ward/team level through leadership, team, and individual	Self-report and external assessment: Dialogue and reflection within the team and peer observations and patient feedback.	A detailed and evidence-based implementation program was developed to guide provision of compassion and support delivery of care.	Being compassionate was defined as reflecting ways of working that requires 'relational capacity' in practitioners, that is, capacity to experience empathy and to engage in a caring relationship.	Optimizing relational capacity was hypothesized to lead to the provision of compassion and quality care.

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					relational practices.				
Bridges J 2017 ⁷¹	Nursing staff	47	UK	To identify and explain the extent to which CLECC was implemented into existing work practices by nursing staff, and to inform conclusions about how such interventions can be optimized to support compassionate care in acute settings.	CLECC, a workplace educational intervention focused on developing sustainable leadership and work-team practices designed to support team relational capacity compassion in the delivery of care, was introduced to 4 inpatient wards in 2 general hospitals.	Self-report and external assessment: Individual face-to-face semistructured interviews were undertaken with staff over a 12-month period; observer and external-evaluations and senior practice development nurse field notes were evaluated. Coherence, cognitive participation, collective action, and reflexive monitoring were assessed to determine the feasibility of the compassion intervention.	Participants valued the benefits of the intervention to their patient care. However, organizational culture of the ward and limited opportunities for staff participation mediated the impact and sustainability of the intervention.	Compassionate care was described as “high-quality person-centered care every day at a high quality standard.”	Implementation of the CLCC was uneven and required strategies to enhance sustainability.

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Bridges J 2018 ⁷²	Nurses	211 nurses, 639 patients, 188 visitors	UK	To assess the feasibility of implementing CLECC in acute hospital settings, and to assess the feasibility of conducting a cluster randomized trial with associated process and economic evaluations to measure and explain the effectiveness of CLECC.	CLECC was implemented over 4 months and was facilitated by a practice development nurse.	Self-report and external assessment: Outcomes were assessed at baseline and at 4 months after completion of the CLECC implementation period through researcher-rated observations of the quality of staff-patient interactions using the Quality of Interaction Schedule (QuIS), patient-reported observations of emotional care using the Patient Evaluation of Emotional Care during Hospitalization (PEECH) and nursing staff self-reported empathy using the Jefferson Scale of Empathy (JSE).	Staff reported that they already provide compassion but CLECC gave them opportunities to value and be more consistent in these practices. Staff valued the positive contribution of CLECC to their own well-being. Many CLECC practices did not continue beyond the implementation period.	Being compassionate was defined as reflecting ways of working that requires 'relational capacity' in practitioners, that is, capacity to experience empathy and to engage in a caring relationship.	The principles that underpin the CLECC were embedded into the teams but the activities that supported these principles were not sustained.
Dewar B 2010 ⁷³	Staff in an acute hospital setting, caring for older people	Not provided	UK	To explore, develop and articulate strategies that enhanced compassionate relationship centered care in an acute hospital setting, caring for	Part of the Leadership in Compassionate Care Program that seeks to examine the concept of compassionate care in	Self-report and external assessment: Appreciative action research informed the development and evaluation of the project. A range of data generation	Data from the project helped to articulate the acts that make up compassionate care. Data provided evidence of the value of the process 'knowing who I am and what matters to me' Data about the process of doing	Not specifically defined. Text suggests that compassionate care requires a relational approach that enables people to work together to shape the way things are done and thus	Appreciative action research adopted in this project was an important methodology to supporting practitioners to identify what it was they did well and develop practice to

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				older people.	hospital settings and to develop key processes and indicators that will facilitate National Health Service (NHS) Lothian and Edinburgh Napier University, Scotland, in embedding compassionate care in practice and education.	activities were used to examine what worked, including staff noticing practices that worked well and generating positive care practices.	appreciative action research helped to realize its application and relevance in the health care setting.	provide care that feels compassionate to patients, staff and families.	try to make the best caring practice happen most of the time.
Dewar B 2014 ⁷⁴	Nursing Staff	86 in 24 in-patient areas	UK	To support staff to work together to develop a culture of inquiry to enhance delivery of compassion in care.	The 12 month Leadership Program used the principles of appreciative relationship centered leadership. Participants were supported to use caring conversation to explore relationships with self, patients, families, teams, and the wider organization.	Self-report and external assessment: Findings from formative evaluations were fed back into the program, and the impact the program made to individuals, teams and where possible, patients and families was assessed.	A range of themes emerged from the data, including improved communication with patients and families, increased sensitivity to the perspective of others, and reframing their behavior in the workplace.	Not provided	Developments took place at the level of the individual healthcare provider and within their community of practice, with consequent changes to patient and family care.

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Dewar B 2017 ⁷⁵	Care home staff and residents	1-48 depending on outcome measured	Scotland	To explore the relevance of the Caring Conversations framework to the care home setting and the development of an educational intervention, based on the framework, to enhance development of human interaction.	Appreciative inquiry (focus on what is working well, understanding why, and co-creating strategies to help the good practices happen more often) to develop Caring Conversations in care homes (implemented over 10 months).	Self-report and external assessment: Staff self-report, feedback from patients, relatives, and external evaluations by informal observation.	Data were mapped to core themes of the Caring Conversations framework, with findings showing how individuals communicated correlated with the Caring Conversations framework. After understanding what works well, staff developed changes that enabled good practices to happen more often. Caring Conversations helped develop relationships within care home settings and promoted dignity and compassion in the provision of care.	Not provided	Key attributes of Caring Conversations that promoted dignity and compassion in the provision of care included being courageous, connecting emotionally, being curious, considering other perspective, collaborating, compromising, and celebrating.
Saab MM, 2019 ⁷⁶	Nursing and midwifery leaders	79-168	UK	To measure the perceptions of nursing and midwifery leaders regarding the impact of the Leaders for Compassionate Care Programme (LCCP) on their personal development, learning experience, service and care delivery, program quality, and satisfaction with the program.	LCCP; 6 programs delivered between October 2015 and July 2016.	Self-report: Leaders for Compassionate Care Outcomes Evaluation Questionnaire - this includes items to evaluate: personal development, learning experience, service and care delivery, program quality, and satisfaction with the program.	The program significantly increased participants' motivation to lead on the provision of compassion in care, equipped them with the skills needed to deliver compassion in care, provided greater understanding of the concepts of care and compassion, and provided greater ability to demonstrate compassion to people (P≤0.001).	Compassionate care was defined as "a deep feeling of connectedness with the experience of human suffering that requires personal knowing of the suffering of others"	Leadership capabilities were highly developed and resulted in participants reporting that they had developed the ability to apply these capabilities in clinical practice.
End of Life Care									

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Chan B 2018 ⁷⁷	Registered Nurses	51	USA	To evaluate the influence of the CARE (Compassion and Respect at the End-of-life) Program and the CARES Tool at Huntington Hospital.	The CARE program was designed to empower nurses to provide compassion and dignity in the delivery of nursing care at the end of life consistent with patient and family wishes.	Self-report: Pre-test/post-test End-of-Life Professional Caregiver Survey (EPCS) and the CARES Tool Evaluation. Post-test was conducted 6 weeks after the CARE Program training.	On the EPCS, participants reported an 18% increase in scores in the domain of patient- and family-centered communication; 21% increase in scores in the domain of cultural and ethical values; and 18% increase in scores in the domain of effective care delivery.	Not provided	The CARES Tool was an effective educational tool to improve the knowledge and comfort of nurses in the provision of compassion and person-centered care to patients at the end of life or living with life-limiting illnesses.
Moore KJ 2017 ⁷⁸	Nursing home and external health care professionals	10-19	UK	To understand how the Compassion Intervention operated in nursing homes in different health economies; collect preliminary outcome data and costs of an interdisciplinary care leader (ICL) to facilitate the Intervention; check the Intervention caused no harm.	Compassion Intervention' to enhance end of life care in advanced dementia that included two core components: facilitation of an integrated, multidisciplinary approach to assessment, treatment and care; and education, training and support for formal and informal carers. (implemented over 6 months).	Self-report and external assessment: Semistructured interviews were conducted at 7, 11 and 15 months with nursing home staff and external health care professionals and at 7 months with family carers.	Implementation and feasibility of the intervention varied by setting. A longer duration and further training and support were needed to enable staff to shift from providing task-driven care to compassion in care.	Compassion primarily defined as the intervention itself.	Changes in care processes, including advance care planning, pain management and the introduction of wall-mounted care charts became embedded into routine care.
Other Patient Populations									

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Carson NE 2017 ⁷⁹	Caregivers and students	51; 170	Not provided	To describe Caregivers Are Heroes, an interprofessional educational strategy designed to imbue compassion/caring.	Students conducted caregiver interviews (CGI) in interprofessional groups of 3 to 4 students.	Self-report: Change in student attitudes and perceptions from the CGI experience were measured with pre- and post-CGI surveys that included questions taken from the Attitude Towards Helping Others (AHO) scale and the Zarit Burden Interview Screen (ZBIS).	A significant change in responses for one of the four AHO statements and a significant correlation between caregiver ZBIS score and student post-CGI ZBIS score.	Compassionate care was defined as the recognition and validation of the needs of others coupled with actions to ameliorate them.	This strategy may promote changes in student attitudes and lead to caring and compassion when interacting with patients and caregivers.
Baran Stecker M 2011 ⁸⁰	Nurses in an epilepsy monitoring unit (EMU)	25	USA	To measure nurses' assessments of patients on the EMU in a quantifiable form and to evaluate the effectiveness of an educational program on the scores on the Nursing Assessment Rating Scale.	Didactic lectures and case-base scenarios (4 sessions).	External assessment: Pre/post external evaluation of videos of nurse-patient encounters by an experienced epilepsy nurse practitioner and a graduate student on the investigator developed Nurse Assessment Rating Scale (response time, appropriate neurological examination, provides safe environments, obtains and assess vital signs, pushes event button, exhibits respect and compassion; appropriate	There were statistically significant increases in the area of the neurological exam (P=0.006) and compassion/respect (P=0.0016).	Compassion was conflated with respect and assessed as does not subject patient to painful stimulation; uses respectful language; consoles patient as appropriate.	The multimodal education format targeted aspects of performance such as respect and compassion.

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						conversation with patient and family).			
Stecker M 2012 ⁸¹	Nurses in an EMU	25	USA	To measure nurses' assessments of patients on the EMU in a quantifiable form and evaluate the effectiveness of an educational program on the scores of the Nursing Assessment Rating Scale.	Didactic lectures and case-base scenarios (4 sessions).	External assessment: Pre/post external evaluation of videos of nurse-patient encounters by an experienced epilepsy nurse practitioner and a graduate student on the investigator developed Nurse Assessment Rating Scale (response time, appropriate neurological examination, provides safe environments, obtains and assess vital signs, pushes event button, exhibits respect and compassion; appropriate conversation with patient and family).	There were statistically significant increases in the area of the neurological exam and compassion/respect.	Compassion was conflated with respect and assessed as does not subject patient to painful stimulation; uses respectful language; consoles patient as appropriate.	The multimodal education format targeted aspects of performance such as respect and compassion.
Studentships									
Jeste DV 2018 ⁸²	First year medical students participating in a multi-site program	178 completed MSTAR and M-Streatham from 2011-	USA	To examine the effects of two summer research training programs, funded by the National Institutes of Health, on medical students' attitudes toward	This summer research training program combined mentored research, didactics, and some clinical exposure.	Self-report: Pre and Post program scores from COCOA.	There was a significant improvement in total COCOA scores and four of the six COCOA subscales: Early Interest in Geriatrics, Empathy/Compassion, Attitudes toward Geriatrics Careers, and Ageism (P<0.001).	Empathy/compassion was defined as always taking the time to listen to what older adults have to say and to immediately help an older patient.	Short-term training programs in aging research may improve attitudes toward aging.

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	MSTAR or single site M-STREAM	2016		aging, using the Carolina Opinions on Care of Older Adults (COCOA).					
Lefresne S 2011 ⁸³	Multidisciplinary team composed of clinical nutrition students, medical students and supervising oncologists	Not provided	Canada	To understand the perspectives of students and supervising faculty attending Summer Studentships in Palliative and Supportive Care in Oncology.	6-week inter-professional elective that exposed students to the issues facing patients and their families following a diagnosis of cancer.	Self-report: Student interviews.	Participants gained experience working in a multidisciplinary team, providing compassion, and forming collaborative partnerships.	Not provided	The multidisciplinary placement was feasible, successful, and potentially transferable across healthcare settings.
Teaching Methods									
Self-reflection									
Hawthornthwaite L 2018 ⁸⁴	Nurses	542	Canada	To understand the benefits and consequences of patient storytelling and to explore the impact on health professional audiences.	A 2-part workshop with patients and supporting patient and family storytellers.	Self-report: Surveys of audience members and interviews with the patient storytellers who shared their stories.	Participants indicated that patient stories motivated change in their delivery of patient- and family-centered care. Storytellers were rewarded by the opportunity to educate and connect with participants, but the experience posed emotional challenges.	Not provided	Storytellers aimed to teach lessons about individualizing, humanizing, and communicating with patients. Audience participants reported improvements in “respecting individual needs,” “treating patients as people,” and “introducing self.
Adamson E 2015 ⁸⁵	Student nurses	Not provided	UK	To describe the use of stories within nurse education	Reflective learning based on stories	Self-report: Students listened to stories describing the	Student nurses developed the knowledge, skill and confidence to provide	Compassion was defined as person-centered care.	Research formed part of the LCCP.

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				curricula to enhance knowledge and skills in compassion.	gathered within clinical practice.	experiences of staff, students, patients and relatives, and related these to their personal experiences of practice.	compassion and relationship centred care within their practice.		
Clandinin DJ 2008 ⁸⁶	Family medicine residents	4	Canada	To examine a narrative reflective practice approach to developing residents' identities as technically skilled as well as caring, compassionate and ethical practitioners.	Family medicine residents wrote, shared and inquired into parallel charts. Each resident wrote 10 parallel charts over 10 weeks.	Self-report: All residents met bi-weekly as a group with two researchers to narratively inquire into the stories told in their charts.	Students learned to integrate their practice across cultures, a relational way of practicing medicine, and saw the complexity of attending to patients experiences.	Not provided	The program made residents more caring within their professional practice.
Scamell M 2017 ⁸⁷	First year undergraduate midwifery	111	UK	To explore how low-cost, low-fidelity online storytelling, designed using Moodle, can be used to enhance students' understanding of compassion and empathy in practice.	Students experienced the ability to make autonomous clinical decisions as a midwife and what it was like to be in the shoes of the service user affected by those clinical decisions.	Self-report: An audit of the web based interactive storytelling was performed. Students took the Student Midwife Evaluation of Online Learning Effectiveness (SMEOLE).	Students were able to better understand the patients' perspective, identify quality practice, and explore the anxiety associated with unsympathetic practice. Students were able to directly experience the complexities of the midwife-mother relationship.	Not provided	Web based storytelling may help instill empathy into midwifery practice.
Waugh A 2016 ⁸⁸	Nursing students	13	UK	To explore the learning that occurred from listening to	Narrative pedagogy: Four short stories were	Self-report: Self-evaluation by a questionnaire then thematic	Compassion was a sub-theme of 'learning from the stories', through which students	Compassion was defined as an understanding and accurate knowledge	Digital narratives promoted reflection and discussion about providing

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				narratives of compassion in the delivery of healthcare, and to identify students' preferred story formats and other potential uses of such stories.	used in different media formats.	analysis.	recognized the professional approach of practitioners and good practice, and learned about providing compassion to vulnerable people.	of the feelings of another (empathy) and an emotional reaction of pity towards the misfortune of another (sympathy), which also requires emotion and action on the part of the respondent. Compassion was actualized as the disadvantaging of oneself for the benefit of another.	compassion when delivering care.
Begley AM 2011 ⁸⁹	Post-graduate nursing students	24	UK	To facilitate moral insight in end of life care	Tolstoy's "Death of Ivan Ilych" was used as a stimulus for discussion, as it explores loneliness and fear, collusion and deceit, spiritual trauma, the tension between hope and despair, anger and frustration as well as acceptance of death and the need for comfort and compassion.	Self-report: Students evaluated the use of the novella through qualitative commentary.	Students gained insight into ethical issues at the end of life and the importance of compassion and offering 'comfort' to a dying person.	Not provided	Literature was used to enhance moral sensitivity and to introduce new situations to those with minimal experience.
Deloney LA 2003 ⁹⁰	First Year Medical	138	USA	To explore an experiential learning	Students heard a pre-play lecture	Self-report: Post show evaluation survey	Students (97%) reported that they admired the "science" of medicine	Not provided	Students' self-awareness and emotional resources

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	Students			experience (the drama Wit) to foster empathy and compassion in first year medical students.	on end of life care, watched the drama Wit, and then attended a post-play discussion with the cast.	for the <i>Wit</i> Educational Initiative and within 1 week of the performance, students were asked to reflect on their reactions to the play by responding to journal questions.	but found the “art” of medicine lacking. Some reported that medical education had the potential to suppress their empathy and compassion.		were strengthened, giving them a foundation for providing compassion when caring for patients in difficult situations.
Adam D 2014 ⁹¹	Nursing students	30	UK	To evaluate a teaching approach designed to enhance students' ability to deliver compassion in healthcare.	A learning module "Understanding self in relation to others in professional practice" used class discussion and formative reflections about an incident from the students' first clinical placement that involved their relationship with relatives or other staff.	Self-report: Student written reflections were analyzed with their tutor to identify the key skills or knowledge that was core to their development as compassionate nurses.	To foster compassion, students identified the following learning needs: Communication skills, to challenge practice by staff that lacked compassion and respond calmly and professionally to anxious or aggressive behavior from relatives; assertiveness skills, to respond appropriately to staff bullying; emotional strength, to deal compassionately with highly emotive situations; the ability to recover strength and resilience following emotionally difficult experiences.	Compassion was defined as how care is given through relationships based on empathy, respect and dignity— it was also described as intelligent kindness and central to how people perceive their care.	Students had often blamed another nurse, a relative or the circumstances for their difficulties in providing compassion; however, they were empowered to react differently in the future.
Wiklund Gustin L 2013 ⁹²	Nursing Teachers	4	Not provided	To explore participants' understanding of self-compassion as a source of compassion for others.	Experiential and reflective work.	Self-report: Participants' written and oral reflections.	Participants reported that the ability to be sensitive, nonjudgmental and respectful towards self can engender compassion for others.	Compassion was defined as a way of becoming and belonging together with another person where both are mutually engaged and where the caregiver	Helping nursing students develop self-compassion may promote their compassion towards others.

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								compassionately is able to acknowledge both self and Other's vulnerability and dignity.	
Reisman AB 2006 ⁹³	Residents	15	USA	To help participants become better physicians by reflecting on their experiences and on what gives meaning to work and life.	A 2.5 day workshop on writing in medicine. Participants learned the craft of writing and each participant's writing was shared and reviewed.	Self-report: Focus group with participants to evaluate the workshop.	Themes in the writing included dysphoria (insecurity, discomfort with breaking bad news, conflicting emotions, and burnout), impotence of the physician (moral dilemmas, futility of ICU care, awareness of how little physicians know their patients), and the healing power of compassion and its capacity to renew one's interest in and passion for medicine.	Not provided	The workshop enhanced participants' self-awareness and awareness of patients' humanity and created a sense of community among participants.
Fresa-Dillon KL 2004 ⁹⁴	Osteopathic medical students	Not provided	USA	To have the class develop a policy or vision statement during orientation that was recited during the white coat ceremony as a promise or oath.	A class vision statement reflective of student consensus on professional ethics, honesty, and responsibilities.	Self-report: Development of vision statements and post-orientation evaluations.	Central elements of the vision statements included commitment to altruism, treating patients with compassion, and honesty and integrity in all professional interactions.	Compassion was defined as taking extra time to communicate, listen, and earn a patient's trust.	The development of a class vision statement emphasized the importance of professional attitudes, behaviors, and ethics at the earliest stages of medical education.
Jack K 2015 ⁹⁵	Nursing students	42	UK	To explore the use of poetry writing as a way for undergraduate nursing students to identify and understand their feelings about important nursing issues such as communication,	Students wrote a poem that focused on an important nursing issue e.g. compassion, communication or the therapeutic	Self-report: Students read the poem aloud to a small group and discussed its meaning.	Students developed a better understanding of others' experiences, considered compassion in different ways, reflected openly and honestly on their feelings, and developed confidence.	Not provided	The writing and reading of poetry helped students to explore their feelings about nursing practice.

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				compassion and the therapeutic practice of nursing.	role of the nurse.				
Shapiro J 2003 ⁹⁶	Medical students and residents	Not provided	USA	To enhance aspects of professionalism, including compassion and caring towards patients, as well as to hone clinical communication and observational skills.	A program in Medical Humanities & Arts with small-group learning experiences and use of creative projects, such as poetry, to reflect on patients and themselves.	Self-report and external assessment: Self-report by anonymous evaluations and external-assessment by faculty/role-model.	Positive response among learners so future directions include involvement of local artists and writers.	Not provided	Compassion was described as an aspect of professionalism
Shapiro J 2006 ⁹⁷	Medical students	11	USA	To teach students to develop self-reflective skills; improved awareness of and the ability to modify personal attitudes and behaviors that compromise patient care; increase altruism, empathy and compassion toward patients; and sustain commitment to patient care, service and personal well-being.	Elective course, 'The Art of Doctoring' (2-weeks) that involved learning from role models and peers; in-class readings; self- and other-observation; self-reflective techniques; and case-based problem solving.	Self-report and external assessment: Class discussions and course evaluations.	The course involved a project related to improving personal compassion, caring and empathy toward patients. Students learned to use a coping algorithm in difficult clinical and interpersonal situations. Students identified three issues of recurring importance: loss of idealism, non-compliant patients, and indifferent, harsh or otherwise unpleasant attendings and residents.	Not provided	Course objectives included understanding the usefulness of reflection and imaginative perspective in developing insight into how to best convey compassion to others.

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Coleman D 2015 ⁹⁸	Adult and mental health pre-registration student nurses	10	Scotland	To explore the use of reflective writing and poetry in pre-registered nursing students	Students wrote poetry, which was discussed in reflective practice assessments.	Self-report: Focus groups.	Students reported poetry freed up their expression and allowed them to demonstrate compassion to their patients.	Not provided	Poetry writing may increase the capacity for compassion, empathy and critical thinking in student nurses.
De Souza JM 2014 ⁹⁹	Cancer nurses	Not reported	UK	To explore the use of family sculpting as an educative tool to achieve a better awareness of a patient's support needs from a family and social system approach.	A sculpting exercise in which family members create a physical representation of their relationships by arranging their bodies and those of other family members into an observable sculpture in response to different scenes or triggers.	Self-report: Evaluation questionnaires and verbal feedback session.	Family sculpting engendered compassion by allowing a student to enter into a patient's experience within their support system, understand the patient's burden, and share some of that burden with them.	Compassion was defined as entering into that person's experience so as to develop an understanding of their burden and to share some of it with them, promoting the development of their resilience and dignity.	The sculpting exercise improved students' awareness of the complex nature of patients' social networks and helped students provide compassion within those networks.
Petkari E 2017 ¹⁰⁰	Psychology students	26	United Arab Emirates	To examine the effectiveness of an intervention to change stigmatizing attitudes of future mental health professionals.	Movie-based education and related discussions (10 weeks)	Self-report: Opening Minds Stigma Scale for Health Care Providers [OMS-HC] at baseline and after the intervention and qualitative questions at the end of the intervention.	Students reported increased compassion, reflected in a more flexible attitude towards people with mental illness and an increased intention to help people with mental illness.	Not provided	There was a general attitudinal change as a result of participating in the Cine forum, but this was not supported by statistical results.
Arnold BL	Palliative	Not	USA	To elucidate	A qualitative	Self-report:	The visual metaphors	Not provided	New approaches to

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2016 ¹⁰¹	physicians	reported		palliative physicians' core experiences with their patients' dying and death.	visual analysis of 75 images created by physicians completing a one year palliative medicine fellowship.	Analysis of visual metaphors.	underlying the images expressed the relationship and transitional dynamics of life and death: portraits (n=30, 40%) and nature (n= 45, 60%), reflecting the empathy and compassion in the physician- patient relationship.		visual analysis present (1) insights from physicians' personal and clinical experiences in providing compassion in palliative and end of life care and (2) facilitate communication with patients, their families, and other caregivers.
Karkabi K 2014 ¹⁰²	Physicians or physicians-in-training	23	Not provided	To enhance reflective capacity in medical educators using a combination of abstract paintings and writing reflective narratives.	A multinational faculty development workshop that used abstract paintings and reflective narratives to enhance reflective capacity in medical educators.	Self-report: In the final part of the workshop, participants were asked to share their feedback and take-home messages with the group.	Participants' responses generated the following themes: (1) narratives from different countries are similar; (2) the use of art helped access feelings; (3) viewing abstract paintings facilitated next steps; (4) writing reflective narratives promoted examination of educational challenges, compassion for self and other, and building an action plan; and (5) sharing of narrative was helpful for fostering active listening and appreciating multiple perspectives	Not provided	The workshop was an innovative approach to promote reflection through the combined use of art and narrative.
Newell GC 2003 ¹⁰³	Residents and medical students	15-20 per session	USA	To describe an eight-session "music and medicine" course for residents as part of an	Music was played and was followed by a discussion over	Self-report: A post-course survey.	Music facilitated humanism training (i.e., caring, empathy, human dignity, compassion, and the fostering of relationships).	Not provided	Residents valued the course as an academically valid approach to humanism training.

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				ongoing humanism-in-medicine initiative.	consecutive weeks				
Penson RT 2010 ¹⁰⁴	Clinicians	>50,000 clinicians attend monthly at 195 sites in 31 states	USA	To support and advance compassionate health care	Schwartz Center Rounds.	Self-report: Evaluations typically comprised attenders completing evaluation forms post-round attendance, followed by interviews or focus groups, one study comprised case studies (observation/interviews) together with descriptive analysis of evaluation forms and one used both quantitative and qualitative methods to analyze evaluation forms.	Participants reported increased insight into psychosocial aspects of care, enhanced compassion, a better ability to respond to patients' social and emotional issues, improved communication and teamwork among caregivers, and decreased feelings of stress and isolation.	Not provided	Schwartz Center Rounds have helped deepen and strengthen health care providers' resolve to provide compassion.
Farr M 2017 ¹⁰⁵	Community and mental health providers	Not provided	UK	To explore staff experiences of Schwartz Rounds in mental health and community settings and the mechanisms within them that may support compassionate care.	Schwartz Rounds: evidence-based interdisciplinary discussions where health care staff can share experiences of the emotional and social aspects of	Self-report: Round observations, staff interviews, and post-Round evaluation sheets were used to evaluate the perceived effects of Rounds within community services and mental health	Staff reported being more patient aware and better able to communicate with patients and colleagues, understand the emotional impact of work, and demonstrate empathy and compassion.	Compassion defined as being open to others suffering, being moved by it and acting or feeling committed to relieve it. It may also involve the toleration of difficult feelings that arise in seeing suffering and recognizing human commonalities.	The wide geographical dispersal of staff and work pressures were challenges in attending Rounds, and strong leadership is needed to support their implementation.

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					care, to support improvements in patient care.	services.			
Gishen F 2016 ¹⁰⁶	Medical students	677	UK	To examine the potential of Schwartz Centre Rounds to enhance communication and compassion within the undergraduate curriculum.	Rounds included a presentation of cases by a multidisciplinary panel followed by an open discussion with the students.	Self-report: Evaluative questionnaire immediately following the sessions and a focus group.	Presentation of cases gave students insight into how others feel and think about caring for patients.	Not provided	The sustained benefits of Schwartz Centre Rounds to medical students has not been fully explored.
Clinical Simulation									
Loomis J 2017 ¹⁰⁷	Nursing students	110	USA	To expose students to the health care barriers faced by people living in poverty and to prepare students for clinical placements among this patient population.	Poverty simulation in which participants were assigned different roles and lived through a 3 hour simulation of life lived in poverty.	Self-report: Participant pre- and post-evaluation. Student reflection.	Post-evaluations revealed common themes, including empathy, compassion and insight into the lives of a homeless individual for participants.	Not provided	Participants recognized that the patient is a person that should be treated with dignity.
Johnson KE 2015 ¹⁰⁸	Nursing students	Not provided	USA	A poverty simulation exercise.	In Their Shoes. Scenarios of clients needing health and social services.	Self-report: Student reflection.	Students acknowledged the challenges associated with accessing community services and became committed compassionate advocates for underserved clients.	Not provided	Students became aware of the challenges of living in poverty and its impact on health and nursing practice.
Mal F 2016 ¹⁰⁹	Nursing students	18	USA	To compare Case study vs. Simulation in teaching end of	The end of life course covered end of life care,	Self-report: Twelve question survey on students personal and	Students involved in the simulation based learning experience had an enhanced awareness	Not provided	Education in end of life care increased students' confidence, communication

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				life care to determine which provides the best outcome for learning.	communication, ethical issues and self care.	professional experiences with death and dying, Collette- Lester Fear of Death Anxiety Scale.	of the patient's and family's needs and demonstrated a higher level of compassion than the case study group.		skills, and clinical reasoning, and decreased the fear and anxiety associated with caring for a dying patient.
Betcher D 2010 ¹¹⁰	Nurses	Not provided	USA	To help nurses communicate effectively and compassionately with patients in palliative care and their families.	The Elephant in the Room" project involved a 45-minute didactic lecture on communication techniques, role-playing, simulated conversations between palliative care patient/family and nurses and discussion.	Self-report: Debriefing as soon as possible after the simulation and pre-and post-intervention scores on the Caring Efficacy Scale.	Nurses reported increased confidence in using communication to express a caring attitude and engender a caring relationship.	A compassionate bedside manner was defined as a demonstration of warmth and caring while making an effort to understand the patients' fears, values, and goals.	The program represents an effective method of learning communication skills, promoting open communication, and increasing participants' confidence when communicating with patients and families at the end of life.
Ross AJ 2013 ¹¹¹	Health care professionals	Not provided	UK	To improve inpatient care for older people by using mixed modality simulation exercises to enhance teamwork and empathetic and compassionate care.	2-day simulation training program involving a 1-day human patient simulation course with six scenarios and a 1-day ward-based simulation course involving five 1-h exercises with	Self-report: Simulation participants completed premodule and postmodule questionnaires and interviews.	Staff self confidence improved after human patient simulation and ward based exercises (P<0.001). Key learning points highlighted by debriefing included: how to communicate with relatives (welcome their perspective, gather information, be clear and calm, aim for resolution); being aware of individual differences and preferences in individual patients (treat patients as individuals);	Not provided	The learning had a positive effect on practice at 7–9 weeks post-training, but post-program support from senior staff was required to maintain the change.

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					integrated debriefing.		and appreciating the impact of ageing (physical, cognitive and social functioning).		
Kalish R 2011 ¹¹²	Medical students	11	USA	To design and conduct an outpatient rheumatology patient-partner exercise that integrates the assessment of student compassion into an outpatient clinical skills training exercise.	Reflection of annotated videotapes of clinical encounters	Self-report and external assessment: Students tagged segments in video tapes of observed or missed opportunities to provide compassion, completed a questionnaire on compassion pre- and post-intervention, and participated in post intervention focus groups. Patients completed a patient-partner questionnaire.	Students desire to alleviate their patient's concerns (comforting the patient or offering help and maintaining eye contact) was increased. The patients described the students' interactions as: respectful, overly cautious to avoid discomfort, thorough in history-taking, able to connect, attentive, concerned, sweet, gentle, compassionate, nice, personable and professional.	Compassionate care was defined as having empathy to understand and be moved by a patient's emotions, in addition to showing a desire to help relieve patient suffering or distress.	Students agreed that reviewing the videotape allowed them to recognize demonstrations of compassion and missed opportunities to show compassion.
Riches S 2019 ¹¹³	Trainees or qualified clinical psychologists	15-25	UK	To determine whether simulation would increase clinical psychologists' understanding and compassion towards voice hearers and impact on clinical training and practice.	Auditory hallucinations simulation aimed to improve understanding of what it feels to hear voices.	Self-report: Pre- and post-exhibition measures of mood and attitudes towards auditory hallucinations and other unusual sensory experiences. Semi-structured interviews, 6 month post-intervention were conducted to determine how	Post intervention revealed significant increases in compassion towards people who hear voices ($P < 0.001$) and more confidence in their clinical work. The compassion that was gained during the simulation was maintained 6 months post-intervention.	Not provided	Because there was no control group and because the voices were tailored to individual participants, they didn't have identical experiences, which may have affected the validity of the results.

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						the intervention impacted clinical practice (i.e. engagement, relating, coping, empathy, compassion, comfort, stigma, and identity).			
Hayes C 2018 ¹¹⁴	Second-year undergraduate nursing students	528	Australia	To describe the effect that immersive simulation experiences and guided reflection can have on the undergraduate nurses' understanding of how stressful environments impact their emotions, performance and ability to implement safe administration of medications.	Role-play simulation designed to represent a realistic scenario in which students may find themselves in the clinical environment. Students self-selected one of the five available roles, which dictated whether they administered or received medications, caused interruptions, or observed peer performance.	Self-report and external assessment: Students' written reflections on self and their peers.	Students reported that self-efficacy and improved patient care outcomes were facilitated by self-awareness, effective communication, compassion and empathy. Students gained new insight into the concepts of compassion and empathy and an increased understanding of the patient perspective.	Compassion was defined as incorporating empathy, caring, reflection, and self-awareness, and requiring a level of engagement, intervention and action.	Taking on the role of the patient and reflecting on the experience during debriefing allowed students to understand patients' emotional needs.
Role modeling									
Blanco MA 2013 ¹¹⁵	Medical residents	41	USA	To promote the teaching and learning of clinical skills and	Resident-as-teacher role-model program.	Self-report and external assessment: Resident's	Resident's reported improvements in their relationship-centered skills and recognized the	Not provided	Residents validated their commitment to provide compassion during care and

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				compassion in an outpatient rheumatology clinic setting.		completed a pre- and post-program empathy scale, a standardized patient exercise, a self-assessment of their performance on relationship-centered care skills; and presentations delivered at their site, which were evaluated by attendees. Journal writing throughout the intervention asked residents to reflect on whether or not they demonstrated or taught compassion.	importance of mindfulness, active presence and slowing down in daily practice.		inspire other providers, residents and students.
Contemplative practices									
Bell T 2017 ¹¹⁶	Trainee cognitive-behavioral therapists	7	Not provided	To explore the possibility, and potential benefit, of training therapists to develop a 'compassionate internal supervisor'.	Adapted versions of compassion-focused therapy interventions focused on guided imagery exercises and reflective practices undertaken for a 4-week period.	Self-report: Semi structured interviews.	The analysis identified six super-ordinate themes that described how participants created and experienced their compassionate supervisor imagery: (1) the varied nature of the supervisor image, (2) blocks and their overcoming, (3) increased compassion and regulation of emotion, (4) impact on cognitive processes, (5) internalization and integration, and (6) professional and	Compassion was defined as a sensitivity to the suffering of self and others, with a deep commitment to try and relieve it.	Participants gained a deeper understanding of the nature of compassion and its potential to support them in their training, practice and personal lives.

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							personal benefit.		
Gale C 2017 ¹¹⁷	Mental health therapists	10	UK	To explore therapists' experiences of personal practice in relation to Compassion Focused Therapy (CFT), and the impact this has upon them and their therapeutic work.	Personal practice in CFT after a three-day introductory workshop and advanced training or a personal practice workshop.	Self-report: Semi-structured interview.	Participants identified five themes: (1) experiences of personal practice often felt strange to start with but were surprisingly powerful; (2) with practice, the exercises became more automatic and could be adopted as a 'way of life'; (3) personal practice was felt to increase both self-compassion and compassion for others; (4) personal practice often helped participants to feel more present for their clients; and (5) participants were more aware of what they were bringing to therapy.	Compassion was defined as helping others, wisdom, strength and commitment to care.	CFT training had a positive impact upon therapists both personally and professionally. Personal practice was needed.
Mascaro JS 2016 ¹¹⁸	Second year medical students	32	USA	To (1) investigate the feasibility of cognitively-based compassion training (CBCT) for second-year medical students, and (2) test whether CBCT decreases depression, enhances compassion, and improves daily functioning in medical students.	CBCT derived from Tibetan Buddhist mind-training (1.5 h once per week for 10 weeks)	Self-report: Pre- and post-training surveys included the Compassionate Love for Humanity Scale, the UCLA Loneliness Scale, the Depression Anxiety and Stress Scale; the Pittsburgh Sleep Scale, The Substance Use Inventory, and exercise.	Compared to the waitlist control group, the CBCT group had significantly more compassion at the post-assessment ($P = 0.010$).	Compassion was defined as the deep wish that another be free from suffering, coupled with the motivation to alleviate such suffering.	Individuals reporting high levels of depression at baseline reported the greatest change in compassion, implying that CBCT may break the link between personal suffering and a decrease in compassion in these individuals.
Beaumont	Post	21	UK	To explore	Compassionat	Self-report:	Post training, there were	Not provided	Post training,

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E 2017 ¹¹⁹	graduate students in Cognitive Behavioral Psychotherapy			whether cognitive behavioural psychotherapy increases self-compassion, compassion for others and dispositional empathy.	e Mind Training (CMT).	Pre and post-training scores on the Self-Compassion Scale, Interpersonal Reactivity Index and the Compassion for Others Scale.	no statistically significant differences on the Interpersonal Reactivity Index or the Compassion for Others Scale.		compassion for others scores were higher (M = 4.10, SD = 0.4 versus M = 4.24, SD = 0.4) than pre training scores, but not significantly different (P =0.139).
McEwan K 2020 ¹²⁰	Mental health professionals	17-28	UK	To evaluate a brief intervention (CMT) for mental health professionals and to assess to what degree staff were able to implement the training at 1-year follow-up.	A two-day CMT, which entailed: 1) defining compassion, 2) psychoeducation, and 3) compassion practices (i.e. soothing rhythm breathing and compassion imagery, such as imagining giving compassion to others).	Self-report: Qualitative interviews via focus groups, consisting of 9 questions targeting overall impressions of the training and changes in service as a result of compassion training.	Most staff saw CMT as self-development and to some extent had been embedded in their team's practice in terms of being mentioned or utilized on a daily basis. Participants reported increased compassion and a reduction of criticism of colleagues and patients (by sharing their approaches with their patients and guiding them in CMT). Staff gained an awareness in environmental challenges related to compassion implementation (i.e. lack of time with patients, organizational culture).	Compassion in mental health as conceptualized by CMT: "the creation of those contexts within which compassion competencies can flourish and also the empowerment of people living with mental distress through knowledge about the function of emotion".	There was no opportunity to determine if CMT improved patient care.
Weingartner LA 2019 ¹²¹	Preclinical second-year and fourth-year medical	45	USA	To help students feel more connected to others and to promote wellness strategies early in their medical	Elective course that is modeled after the Stanford Center for Compassion and Altruism Research and	Self-report: The Kentucky Inventory of Mindfulness Skills (KIMS) and an open-ended questionnaire via an electronic	Post-test mean scores for all of the KIMS mindfulness items were higher than the pre-test values (although not statistically significant). Students learned to demonstrate compassion	Compassion was defined as "recognizing emotional distress by others (or oneself) and the resulting desire to reduce	The intervention addressed student wellness, with the added benefit of improving clinical care.

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	students			careers.	Education's (CCARE) Compassion Cultivation Training (CCT)	survey platform.	and be caring towards patients and were able to apply compassion more readily in clinical situations. Students demonstrated more compassion if they used mindfulness when speaking with patients.	suffering"	
Fortney L 2013 ¹²²	Primary-care physicians	30	USA	To investigate whether an abbreviated mindfulness intervention could increase job satisfaction, quality of life, and compassion among primary care clinicians.	Abbreviated mindfulness training course.	Self-report: Participants completed the Maslach Burnout Inventory (MBI); the Depression Anxiety Stress Scales-21 (DASS-21); the Perceived Stress Scale (PSS); the Resilience Scale (RS-14); and the Santa Clara Brief Compassion Scale at baseline, and 1 day, 8 weeks, and 9 months post intervention.	There was no significant change in compassion over time.	Compassionate love was defined as an attitude toward others that is focused on caring, concern, tenderness; and an orientation toward supporting, helping, and understanding others.	Abbreviated mindfulness training course was associated with reductions in indicators of job burnout, depression, anxiety, and stress
Kemper KJ 2015 ¹²³	Medical students	6	USA	To assess the feasibility of providing a hybrid of free online mindfulness-based stress reduction training with small group peer facilitation.	8 weekly group sessions using a free online mindfulness-based stress reduction course.	Self-report: Pre- and post training questionnaires included Cohen's Perceived Stress Scale, the Cognitive and Affective Mindfulness Scale-Revised, Smith's Brief Resilience Scale, the Self-	Changes in the expected direction (significance testing not done) were observed for perceived stress, mindfulness, resilience, and confidence in providing calm, compassionate care. The Calm, Compassionate Care Confidence Scale score (maximum possible,100) improved pre-course 55.3 ±14 to post-course	Not provided	This hybrid training model that included online training with peer support encouraged mind-body practices among medical students.

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						Compassion Scale, assessment of self-efficacy in providing nonpharmacologic therapies, and the Calm, Compassionate Care Confidence Scale.	77.5±6.		
Mahon MA 2017 ¹²⁴	Registered nurses	90	Ireland	To explore the effects of a mindfulness meditation intervention on nurses' perceived stress and compassion.	Mindfulness meditation intervention for registered nurses (6 and 8 week courses)	Self-report: Participants completed the Perceived Stress Scale and Compassion Scale at the beginning and at the end of the training.	Compassion scores were increased after the intervention; the finding was significant for nurses working at one hospital (p<0.001)	Not provided	Mindfulness may be a suitable self-care, stress-management intervention that can teach nurses coping skills to assist them in managing stressors in their personal and professional lives.
Kemper KJ 2015 ¹²⁵	Medical, nursing, social work students and dieticians and residents	60	USA	To assess the impact of online Mind Body Skills (MBS) training on clinicians' and trainees' stress, mindfulness, and confidence in providing calm, compassionate care.	An online elective integrative health course on MBS: 12 one hour modules) vs. a course on herbs and dietary supplements (14 one-hour modules).	Self-report: Online surveys were completed before and 12 weeks after enrolling in the online elective, including Cohen's Perceived Stress Scale, the Cognitive and Affective Mindfulness Scale-Revised, Smith's Brief Resilience Scale, the Self-Compassion Scale, the Calm, Compassionate Care Scale, the Empathic Concern	Perceived stress levels increased 2.5 points (a 17% increase) among those not engaged in MBS, but decreased nearly a point (a 5% decrease) among those engaged in MBS (P = 0.006 for difference). Mindfulness and confidence in providing calm, compassionate care decreased among those not engaged in MBS, but increased in those enrolled in MBS (P = 0.008 and P = 0.03, respectively, for differences). Self-compassion was increased significantly more among those	Not provided	Online elective training improved mindfulness, stress, and confidence in providing calm, compassionate care.

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						Scale, and the Santa Clara Brief Compassion Scale.	engaged in MBS compared to those who were not ($P = 0.008$). There were no significant differences in changes in resilience, empathy, or compassion.		
Kemper KJ 2017 ¹²⁶	Health professionals and trainees	149	USA	To assess the dose-response relationship between the number of hours of online mind-body skills training for health professionals and relevant outcomes a year later.	Online training for mind-body skills (up to 12 hours of training on mind-body practices).	Self-report: Surveys collected at registration and post course measured frequency of practice, Cohen's 10-item Perceived Stress Scale, the Mayo Clinic Physician Well-Being Index, absenteeism, the Cognitive and Affective Mindfulness Scale-Revised, Smith's Brief Resilience Scale, and the Confidence in providing Compassionate Care scale.	71% of participants reported that they had made changes in caring for others as a result of their online training. The frequency of engaging in mind-body practices was significantly associated with mindfulness and resilience, which were associated with increased confidence in providing compassionate care.	Not provided	Online training in mind-body therapies was associated with changes in self-reported behavior one year later; increasing training doses were associated with more frequent practice, which was associated with less stress, burnout, and missing work, and higher levels of mindfulness, resilience, and confidence in providing compassionate care.
Nguyen MC 2020 ¹²⁷	Residents and faculty volunteers from emergency medicine, internal	66	USA	To determine the impact of a Mind-Body Skills Training (MSBT) curriculum on physician mindfulness and compassion, their associated effects on reducing stress and burnout, and	Four online modules on MBST for Resilience, Effectiveness, and Mindfulness. Three monthly, 1-hour in-person	Self-report: Cognitive and Affective Mindfulness Scale, Calm Compassionate Care Scale; Perceived Stress Scale, Physician Well-Being Index. A	Participants who completed at least 1 hour of training had significant mean differences in pre- and post-intervention scores on the Calm Compassionate Care Scale ($P=0.03$). Compared to participants who did not use any of	Not provided	Participants completed more online modules than in-person lecture-based discussions (most likely due to time constraints as lectures were scheduled in the evenings).

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	medicine and surgery			impacts on patient-specific outcomes.	presentations on MBST concepts and practice.	post-module self-reflection questionnaire was completed to evaluate the immediate impact of the module training.	the training, those that completed at least 1 hour also had a significantly greater confidence in providing calm, compassionate care ($P < 0.01$).		
Boellinghaus I 2013 ¹²⁸	Trainee psychological therapists	12	UK	To explore in-depth how a sample of trainee therapists experienced a course of Loving Kindness Meditation	6 session loving-kindness meditation course	Self-report: Semi-structured interviews	Participants integrated compassion into their clinical work reporting being more compassionate towards their clients.	Compassion was defined as a nonjudgmental openness to and understanding of the suffering of self and others, which involves the motivation and behavior to alleviate such suffering	Discussion of compassion states that empathy is necessary for the development of compassion toward others.
Rao N 2017 ¹²⁹	Nurses, physicians and social workers	177	USA	To determine the impact of brief, online training for health professionals in 3 types of positive emotion-generating meditation: Gratitude-focused Meditation; Positive- or Sacred-Word-focused Meditation; and Loving kindness/Compassion-focused Meditation.	3 online meditation training modules	Self-report: Pre and post test surveys were administered. The “Gratitude-focused Meditation” module invited participants to complete the 6-item Gratitude Questionnaire; the “Positive- or Sacred-Word-focused Meditation” unit invited participants to complete the World Health Organization Well-Being index; the “Loving-	Training was associated with statistically significant improvements in gratitude ($38.3 + 4.6$ to $39.5 + 3.3$), well-being ($16.4 + 4.0$ to $17.9 + 4.2$), self-compassion ($39.5 + 8.1$ to $43.1 + 7.6$), and confidence in providing compassionate care ($73.3 + 16.4$ to $80.9 + 13.8$; $P < .001$ for all comparisons).	Compassion was defined as the strong desire to relieve suffering.	Brief, online training appealed to a variety of healthcare providers.

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						kindness/Compassion-focused Meditation'' unit invited participants to complete the short form of Neff's Self-Compassion Scale and the Confidence in providing Compassionate Care scale.			
Suyi Y 2017 ¹³⁰	Mental health professionals	37	Singapore	To examine the effectiveness of a mindfulness program in increasing mindfulness and compassion, and reducing stress and burnout, among mental health professionals in Singapore.	A range of mindfulness techniques to teach participants to cultivate compassion and non-judgmental attitudes toward their inner experiences (six, two-hour sessions offered once a week over six weeks).	Self-report: Data were collected at pre, post and follow-up time points using the Five Facets Mindfulness Questionnaire, the Self-Compassion Scale-SF, the Compassion Scale, the Perceived Stress Scale-10, and the Oldenburg Burnout inventory.	Participants reported significant changes in compassion for others across the three time points (p=0.02).	Compassion was defined as compassionate love, social connectedness, and empathy.	The gain in compassion for others after the intervention was not sustained at three months post intervention.
Schroeder DA 2018 ¹³¹	Physicians	33	USA	To examine the impact of a brief mindfulness-based intervention on burnout, stress, mindfulness, compassion, and resilience among physicians in a randomized	A Mindful Medicine Curriculum (MMC) with elements of compassion skills.	Self-report and external assessment: Surveys at baseline, post-MMC, and 3 months after the MMC included the Mindful Attention Awareness Scale, the Brief	There were significant improvements in stress (P < 0.001), mindfulness (P = 0.05), emotional exhaustion (P = 0.004), and depersonalization (P = 0.01) in participants in the MMC group but not the control group. The MMC had no impact on patient-reported DCC or	Compassionate love was defined as an attitude toward others that is focused on caring, concern, tenderness; and an orientation toward supporting, helping, and understanding others.	Brief mindfulness training for primary care physicians reduced stress and burnout and increased mindfulness.

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				controlled trial.		Resilience Scale, the Perceived Stress Scale–10, the Santa Clara Brief Compassion Scale, the Maslach Burnout Inventory, and the Meditation Practice Questionnaire. Patients self-reported satisfaction with their primary care physicians was reported using the Doctor Communication Composite (DCC) and the Overall Doctor Rating (ODR) pre and post intervention and at a 3 month follow up.	ODR; however, DCC and ODR were significantly correlated with several physician outcomes, including resilience and personal achievement.		
Orellana-Rios CL 2017 ¹³²	Interdisciplinary palliative care teams	28	Germany	To explore the feasibility and effectiveness of an on the job” mindfulness and compassion-oriented meditation training for interdisciplinary teams designed to reduce distress, foster resilience and strengthen a prosocial motivation in the clinical	10-week MMBI, including Loving-kindness and Tong-len meditation training.	Self-report: Pre- and post-training surveys included the Perceived Stress Questionnaire, the Maslach Burnout Inventory, the somatic complaints subscale of the SCL-90-R, the Emotion Regulation Skills Questionnaire, the Hospital Anxiety and Depression	Significant improvements in two burnout components, emotional exhaustion and personal accomplishment, anxiety, stress, two emotional regulation competences, and joy at work. Participants already had a compassionate attitude in their work before the intervention but wanted to underpin their professional competence in this area.	Compassion was defined as another-oriented quality, characterized by positive and warm feelings of concern for the suffering of others and a wish to relieve it.	Training may reduce caregiver-distress and enhance the resources of palliative care teams.

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				encounter.		Scale and Work Situation and Goal Attainment scaling. Participants were interviewed and an external measurement of cortisol was made.			
Richards TA 2006 ¹³³	Registered nurses	24	Not provided	To assess the experience of an intervention that provided spiritually based self-management tools to hospital-based nurses.	Spiritually based self-management using a nonsectarian meditation-based program.	Self-report: Semi-structured interviews were conducted with a treatment group pre-intervention and following the completion of the training (within 8 weeks) and a control group.	Nurses reported an improved ability to demonstrate compassion after participating in the classes.	Not provided	After the classes, nurses felt better able to fulfill their caregiving missions.
Kemper KJ 2017 ¹³⁴	Faculty, staff, or in training at Ohio State University's Center for Integrative Health and Wellness	24	USA	To evaluate training in acupuncture, guided imagery, massage, and Reiki on clinicians' sense of self-efficacy in providing nondrug therapies, self-confidence in providing compassionate care, and engagement with work.	Guided imagery, acupuncture and Reiki	Self-report: Pre- and posttraining surveys included Self-Efficacy in using Non-Drug Therapies, the Confidence in Calm, Compassionate Care Scale, a single item on absenteeism in the past 30 days (days missed aside from scheduled vacation or holidays, also known as unplanned work missed) and presenteeism on	There were statistically significant improvements in Self-Efficacy in using Non-Drug Therapies to relieve common symptoms and the Confidence in providing Compassionate Care Scale ($P < 0.05$ for both). There was a significant decrease in the percentage of participants who had unplanned work absences ($P = 0.04$). There were no significant pre- to posttraining changes in presenteeism, mindfulness, resilience,	Not provided	Training in integrative therapies was associated with significant improvements in clinicians' sense of self-efficacy, confidence in providing compassionate care, and engagement with work.

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						the Stanford Presenteeism Scale, the Cognitive and Affective Mindfulness Scale–Revised, the Brief Resilience Scale, the Perceived Stress Scale, and the Physician Well-Being Index.	stress, or burnout with the in-person training programs.		
Keng S-L 2017 ¹³⁵	Therapist trainees	25	Singapore	To examine the effect of Analytic Psychotherapy therapist training (FAPTT) on FAP-specific skills and competencies and a set of broadly desirable therapist qualities (labeled <i>awareness, courage and love</i>).	8 week FAPTT course or a waitlist condition.	Self-report: Pre- and post-training and 2-month follow-up surveys that included the Interpersonal Reactivity Index, the Compassionate Love Scale: Stranger-humanity Version, the Five Facet Mindfulness Questionnaire—Short Form, the Authenticity Scale, the FAP Impact Scale, FAP Vignettes, and the Treatment Evaluation Inventory.	From pre- to post-training, compared to the waitlisted group, FAPTT participants reported significant increases in overall empathy, FAP skill and treatment acceptability. FAPTT participants reported improvements on several outcome variables at the 2-month follow-up (overall empathy, compassionate love). Within-group analyses showed significant increases in compassionate love in the FAPTT group.	Not provided	The FAPTT was effective for improving specific FAP competencies and selected broadly desirable therapist qualities among therapist trainees.
Brathovde A 2017 ¹³⁶	Registered nurses	24	Not provided	To investigate if health care providers can benefit from using Reiki Level I energy therapy to demonstrate	Reiki energy therapy.	Self-report: Pre-Reiki Caring Efficacy Scale was administered before the start of the Reiki Level I training. Post	Pre- to post training showed a positive change in the participants' perceptions of their own caring behaviors. Themes arising from qualitative	Not provided	Overall, 21 participants reported a change in their perception of caring as a result of practicing self-Reiki three to five times

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				more compassion to their patients and to enhance their own caring behaviors.		training evaluation included the Caring Efficacy Scale, and a survey regarding participants' perceptions of any changes in self-care and for clients.	data were calm presence, spiritual connection, the importance of caring for the self in order to care for others, and using more personal self-care and reflective practices.		per week
Moffatt-Bruce SD 2019 ¹³⁷	Residents and Faculty of cardiovascular ICU: Nurses, physicians, residents, respiratory therapists, rehabilitation team members and environmental services personnel.	66	USA	To describe the process and programs on mindfulness training and to disseminate findings in order to change the culture and ready the Ohio State University Wexner Medical Centre (OSUWMC) institution for mindfulness and resilience training.	A "flipped" classroom mindfulness training (where students learn independently and then teach their peers during interactive sessions), followed by an intervention phase consisting of two components: Four free online modules on mind-body skills training and three interactive discussion sessions.	Self-Report: <i>Primary Outcomes:</i> Cognitive and Affective Mindfulness Scale-Revised (to measure feasibility and improvements in mindfulness) and the Self-Compassion Scale (to measure compassion) <i>Secondary outcomes:</i> Self-reported reductions in physician stress and burnout, 30 day medical errors and patient mortality, and provider-specific patient satisfaction scores.	Model of a "flipped" classroom was found to be feasible and have immediate improvements in compassion and reductions in burnout. Participants who completed at least 1 intervention had significant improvements in confidence in providing calm, compassionate care (P<0.01) A positive correlation was also found between the numbers of interventions completed and the Calm, Compassionate Care Scale scores. Post-intervention, no significant differences were found in self-reported 30 day error rates, patient mortality or patient satisfaction scores.	Not provided	Cultural transformation allowing mindfulness training, was required to establish this initiative within the organization.
Verweij H 2016 ¹³⁸	General practitioners	50	Netherlands	To gain insight into the feasibility and	8 weekly sessions each lasting 2.5	Self-report: Pre-/post waiting list-controlled	Some participants indicated that mindfulness training	Not provided.	MBSR for GPs also resulted in fewer burnout symptoms

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	(GP)			effectiveness of mindfulness-based stress reduction (MBSR) on burnout, empathy, and (work-related) wellbeing in GPs.	hours, and a 1-day silent retreat. between the sixth and seventh session	study. Measures included the Utrecht Burnout Scale for Contactual Occupations (UBOS-C), Utrecht Work Engagement Scale, 20-item Jefferson Scale of Empathy (JSE), Five Facet Mindfulness Questionnaire (FFMQ). Participants reflected on what they had gained from the course	taught them to accept and have compassion for others, including their patients.		and increased work engagement and wellbeing.
Verweij H 2018 ¹³⁹	Residents	148	Netherlands	To explore the influence of MBSR on residents' professional lives—how they work and develop as a physician, how they manage stress at work, and in the balance of their home and work responsibilities.	8 weekly sessions of 2.5 hours and a 6-hour silent day.	Self-report: Pre-/post training measures included the Utrecht Burnout Scale. Interviews were conducted at least 6 months after the MBSR training.	Some residents recognized a shared humanity and had an increased sense of compassion and empathy toward colleagues and patients.	Not provided.	Mindfulness training may engender professional qualities in residents.
Other interventions									
Crow SM 2012 ¹⁴⁰	Medical students	157	USA	To foster and promote students' empathy, respect, and compassion for an anatomical donor prior to dissection in the	Students attended a Donor Luncheon and either met with family of the donor	Self-report: The human dissection questionnaire measured students' attitudes at 2 weeks, 6 weeks,	There were significant differences between the intervention and control groups for viewing the Donor as Person ($p<0.001$) and Donor as Patient ($p<0.001$).	Not provided	This program may help students maintain humanistic attitudes at the beginning of their medical education career.

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				anatomy course at the University of Oklahoma College of Medicine.	(intervention) or attended the luncheon with no donor family present (control).	and at the conclusion of the anatomy course.			
Talarico EF 2013 ¹⁴¹	Medical Students	Not provided	USA	To describe a paradigm of teaching in the anatomy laboratory where students interact with the families of the deceased persons whom they are dissecting.	Learning anatomy and medicine on the patient via the implementation of five guiding principles: First Patient; Knowledge; Reflection and Reflective Practice; Treating the Total Patient; and Professionalism.	Self-report: Student narratives.	Students learned anatomy and how their patient died, and had an opportunity to learn compassion and the social and spiritual components involved in patient health through communications and meetings with the patient's family.	Not provided	Medical students were treating their donors as their very first patient, not as anonymous cadavers.
Chiou RJ 2017 ¹⁴²	Medical students	158	Taiwan	To explore if an initiation ceremony before a dissection class and the course can help students care more about others, develop more positive attitudes toward death, improve learning effectiveness in the course, and decrease negative emotions the first	Initiation ceremony to commemorate the donor and lay a wreath.	Self-report: The Attitudes Towards Death and Love and Care subscales of the life attitude inventory, Learning Effectiveness of Gross Anatomy Laboratory Scale (LEGALS), and Emotional Reactions Towards Cadavers Scale were	There was no significant difference post-ceremony in the Love and Care subscales.	Not provided	The LEGALS measures the extent to which medical students become appreciative, cherishing, compassionate, aware of life and death, and willing to do their best to learn when taking a Gross Anatomy Laboratory course.

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				time they see a cadaver.		adopted to examine differences before (T1) and after (T2) medical students attended the initiation ceremony, and at the end of the semester (T3).			
Han A 2017 ¹⁴³	Staff in care facility for people with dementia	24	USA	To determine the feasibility of training and delivering Compassionate Touch (CT) to people with dementia.	Participants were trained in the Compassionate Touch (CT) program, which uses a person-centered approach and touch protocol to provide skilled human touch and a compassionate presence.	Self-report: An online survey was sent via email to staff who attended the CT coach training.	Participants reported the CT program calmed and redirected residents, decreased residents' behavioral issues, improved residents' mood, and promoted the development of interpersonal connections between residents and staff.	Not provided	The CT program has potential benefits for residents with dementia.
Altamirano - Bustamante MM 2013 ¹⁴⁴	Health care personnel	2891	Mexico	To establish the foundations for a continuing medical education (CME) program aimed at encouraging the dialogue between Evidence Based Medicine and Values Based Medicine by determining the values relevant to everyday medical activities.	Free online clinical ethics course	Self-report: Each participant responded to a set of online survey instruments before and after the CME program.	After the CME intervention, values such as respect, compassion and justice were predominant over the others.	Not provided	The educational intervention modified participants' configuration and hierarchy of ethical values.

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Hofmeyer A 2018 ¹⁴⁵	Nursing students	Not provided	Not provided	To explore final year nursing students' perceptions of compassion and practicing compassion before and after studying an online compassion module.	5000 word online compassion module that took 4–6 hours to complete. The compassion module addressed the concept of compassion; practicing compassion in health care; practicing compassion towards patients, colleagues and oneself; leading with compassion; cultivating self-care and resilience.	Self-report: Pre- and post-intervention survey.	The following themes were derived from the analysis: being present, acting to relieve suffering, getting the basics right, going forward (being mindful to act with compassion).	Compassionate care was defined as understanding of another's pain or suffering, with commitment to doing something to relieve this.	Online learning may inform compassion education.
Turnbull P 2013 ¹⁴⁶	Nursing students	284	UK	To evaluate an innovation around the introduction of a student nurse pledge to enhance patient care.	Following exposure to service user Stories, students documented a pledge, within their practice assessment documents, to improve one aspect of patient care.	Self-report and external assessment: Successful achievement was based on the confirmation by students of their ability to fulfil their pledge 100% of the time and mentor observation when working directly with the student	284 pledges were evaluated, 219 were successfully achieved, and 171 were related to compassion, communication and nutrition.	Not provided	65 students were unable to fulfill their pledge, citing reasons such as poor resources, lack of time.

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Reynolds LM 2019 ¹⁴⁷	Medical students and qualified health care professionals	327	New Zealand	To assess whether clinical experience and induced compassion mitigates disengagement with patients who are perceived as having 'disgusting symptoms'.	A 2-min compassion condition slideshow consisting of images of either humans or animals in various situations depicting helplessness, vulnerability, and physical and emotional pain.	Self-report: Patients rated current emotions and were presented with vignettes that depicted hypothetical patients. State compassion – the degree to which they experienced 14 emotions while viewing the slideshow pictures from 1 (did not experience at all) to 7 (experienced very intensely) – composite score was calculated on the total mean score of ratings for "compassion", "sympathy", and "moved".	The compassion group reported significantly more state compassion than the control group ($P<0.001$) and were significantly less likely to wear masks with patients who were perceived as having more 'disgusting' symptoms ($P=0.008$).	Compassion was defined as the motivation to help and care and was categorized by two primary components: engagement and action	Induction of compassion eliminated differences between qualified health professionals and medical trainees in terms of being willing to help patients who were perceived as being responsible for their conditions and those perceived as having 'disgusting' symptoms.
Bunyan M 2017 ¹⁴⁸	Nurses working in mental health inpatient rehabilitation wards	19 HCPs received pre-post training evaluations	UK	To determine the feasibility of training nurses on mental health inpatient rehabilitation wards on motivational interviewing.	Motivational interviewing.	Self-report and external assessment: Self-report by questionnaires and external pre-post training evaluations by patient through focus groups, evaluation scores, and diaries. The authors reviewed transcripts for comments by	The intervention was evaluated positively by nurses and patients, but required a larger sample size to draw statistical conclusions. Patients, reported staff behaviors were consistent with motivational interviewing spirit, defined as partnership, acceptance, compassion and evocation.	Not provided	Staff may develop compassion and a skillful, approach through the practice of motivational interviewing.

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						patients.			

HIV/AIDS, human immunodeficiency virus /acquired immunodeficiency syndrome; UK: United Kingdom; USA: United states of America

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Supplemental Digital Appendix 4

Details on the Retained Abstracts/Conference Proceedings

Reference	Learner type	N	Setting	Study objectives	Intervention	Outcomes evaluated	Findings & Conclusions
Albert K 2013 ¹	Medical students	Not provided	USA	To extend education and clinical learning about older adults.	Learning by living module. A 23 year old female osteopathic medical student was admitted to a nursing home with a diagnosis of right-sided weakness from stroke and aspiration secondary to pneumonia for 10 days, 24/7. Standard procedures of care were followed including toileting, bathing, medications, and a diet of thickened liquids and pureed foods. Physical and occupational therapy was administered to rehabilitate the conditions. The student participated in daily activities as a resident.	Self-report: Data were collected in the form of journal notes for pre-fieldwork (before admission), fieldwork (in the nursing home) and post fieldwork (after discharge). Data collection in the form of field notes included subjective and objective reporting of observations, experiences, and resident encounters.	Nursing home immersion provided medical students with a comprehensive view of the dynamic and diverse social and care processes manifested during daily routines of nursing home living. Skill attainment included improved ability to communicate using voice tone, body language, word usage, touch, eye contact and cadence. Compassion for older adults and understanding that they are people improved medical students' desires to work with older adults in their future profession.
Archer-Dyer H 2016 ²	Medical students	313	USA	To provide all students with opportunities in which to engage the Bronx community and have an impact on health and social justice issues.	A program that provided students early career exposure via experiential education, training, workshops and seminars to develop the skills necessary for community engagement.	Self-report: Guided reflection sessions.	Students learned, shared, and nurtured the skills needed for their roles as future physicians, physician-scientists and compassionate professionals needed to work in their expanding communities in the Bronx. The program cultivated strong leaders in service that will help to prepare them for the clinical years and ultimately provide equitable health care as future physicians and physician-scientists.
Banerjee S 2016 ³	Medical, nursing, and paramedic undergraduate students	348	UK	To describe the development, delivery and initial evaluation of the Time for Dementia (T4D) program, a novel interdisciplinary two-year placement with a family with dementia designed to deliver clinicians of the future with the understanding and compassion to care well for people with dementia.	T4D. Students visited a person with dementia and their family in pairs for two hours every three months for two years. They followed a semi-structured interaction guide focusing on broad experience of illness and services.	Self-report: Standardized quantitative instruments and qualitative interviews.	Initial qualitative analyses at 1 year suggested a positive impact on students and families. This case study demonstrated the feasibility of delivering a two year program in dementia to medical, nursing and paramedic students as a core part of their curriculum. The high levels of participation in the evaluation and preliminary data were positive.

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Basaviah P 2011 ⁴	Medical students	Not provided	Not provided	To develop skills of self-reflection; identify coping strategies from peers such as self care, team problems, and burnout; provide a positive influence on professional growth; and promote and maintain humanism and professionalism.	Doctoring with CARE (Compassion, Advocacy, Responsibility, Empathy). Faculty facilitated 90 min small group discussions.	Self-report: Students were encouraged to discuss experiences that challenged them professionally.	Students felt comfortable sharing intense, challenging situations and ethically ambiguous experiences encountered during clinical training. Students learned and/or shared coping strategies by engaging in candid discussions of their clinical experiences. Students learned and/or used skills of reflective practice. With respect to group structure, students appreciated having both specific discussion themes as well as open discussion.
Basaviah P 2011 ⁵	Pre-clerkship students	123	USA	To develop a mentoring system that guides students by assisting in professional development to ensure students graduate with mastery of core clinical skills and to cultivate students' acquisition and refinement of communication skills, physical examination skills, clinical reasoning, and professionalism.	The Educators-4-CARE (E4C) Program. This included 15 faculty mentors from multiple disciplines and was designed to enhance the development of students as skilled and compassionate physicians by providing a curriculum designed to promote compassion, advocacy, responsibility, and empathy in students.	Self-report: A survey assessed student perceptions of effectiveness in: program structure; accessibility, quantity and quality of mentorship; and how well E4C prepared students for training.	Students rated E4C as "very good" or "excellent" for role modeling, instruction of clinical skills, and professionalism/ interpersonal communication skills development. Students felt their mentor was approachable, accessible, and responsive (91%). Students gave positive ratings for faculty being a helpful resource for academic, clinical, and/or professional development issues (82%), and helping them develop a learning plan (69%).
Campos M 2017 ⁶	Medical students	14	Canada	To improve the MD program by introducing a mindfulness-based practice that students can use to enhance both their personal and professional lives by increasing self-awareness, compassion, empathy, and resilience, and thus the quality of medical care.	A 3-hour mandatory workshop (mindfulness in clinical practice).	Self-report: The students were interviewed during the week following the workshop and subsequently 12 weeks later.	Students preferred informal mindfulness practices (breathing, walking, eating, and listening awareness) over formal practice (sitting or lying), likely owing to time mentioned as the main barrier. Stress was the most important motivation to engage in mindfulness practice, and participants reported reduced stress as the main benefit.
Canada R 2014 ⁷	Medical residents	6-8	USA	To train physicians to understand the social determinants of health in order to better care for patients and prevent burnout. To provide experience working in community sites to improve the practice of medicine with vulnerable populations though understanding the patient's life context, the resources available, and barriers to care, improving discharge practices for vulnerable populations, and providing	The Community Health Immersion Curriculum. This involved a longitudinal didactic series on the social determinants of health and a month in the community practicing, touring community non-profits that address social determinants of health, and attending meetings on transitions of care.	Self-report: Residents wrote a reflection of the month, met with the course coordinator, and completed a standardized online evaluation.	Residents learned that understanding where your patients are coming from is an important way to prevent burnout in trainees. One of the best ways to do this is show examples of community medicine at work so that the triumphs and challenges of patients can empower the trainee to care for patients competently and compassionately.

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				experience for career planning.			
Carney D 2017 ⁸	First and second year emergency medicine residents	Not provided	USA	To cultivate empathy among emergency medicine residents through contemplative training of emotional awareness, attention, and emotional resilience.	A 6-session small-group seminar during regularly scheduled didactic time. Learners were guided through sessions that incorporated didactics, group discussion, personal reflection and meditation. Between monthly sessions, residents practiced the self-reflection, attention and meditation practice they had learned during their clinical and nonclinical experience as well as participated in online modules designed to reinforce discussion topics.	Self-report: Surveys and in-person debriefing.	This course enabled learners to describe the characteristics of emotions, state the definition and benefits of attention, identify the three levels of burnout, reflect on intention, define compassion, empathy and practice compassion for self and others, and discuss the core emotions groups of anger, sadness, fear, enjoyment, disgust, contempt and surprise.
Carpenter J 2017 ⁹	Medical students	Not provided	Canada	To examine what health professionals need to know to work in globalized communities, and how global health electives and observerships impact medical students' personal and professional development.	A global health placement.	Self-report: Medical students participated in a pre-global health assessment survey; a pre-departure training session; completed an observership, research placement, or clinical elective in a low-resource setting; participated in a post-departure debrief, and a post-global health assessment survey.	Global health placements impacted students' personal and professional development in the following areas: awareness of the social determinants of health, awareness of resource utilization, adaptability to resource limitations, understanding of community needs and how to address those needs, communication skills, and compassion in clinical care.
Chan C 2013 ¹⁰	Health care professionals	30	Hong Kong	To evaluate the effectiveness of the professional training program in infertility counseling on professional and personal competence among specialized health care professionals working at ART clinics in Hong Kong.	A professional training program. This was comprised of 8 lectures and a personal growth workshop, with content such as various aspects of knowledge related to ART, helping and communication skills, and case consultation.	Self-report: Self-reflective journal after completing the professional training program.	Three meta-themes emerged as most representative of learners' phenomenological experiences: (i) facilitation of self-awareness, (ii) cultivation of humanistic practice, and (iii) engagement in spirituality. This study supported that personal competence in terms of self-awareness and spirituality is essential in maintaining work motivation and compassion.
Cheung D 2014 ¹¹	Pre-health undergraduate students	135	USA	To foster compassion and empathy among pre-health undergraduate students at the University of California Irvine.	A 10 week "Compassion in Medicine" course.	Self-report: Students' level of empathy was evaluated using the Jefferson Scale of Empathy (JSE)-Health Professional Student Version; level of compassion was evaluated using the Santa Clara Brief Compassion Scale (SCBCS).	Participants in the "Compassion in Medicine" course yielded significantly greater post-course incremental scores on JSE, in reference to control when adjusted for age, gender, year in school, intention to become a physician and baseline SCBC score.

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Chick D 2014 ¹²	Medical and nursing professionals	250	USA	To address awareness of socioeconomic barriers impacting patient care	A sharable online curriculum. This used case-based learning modules and was packaged in a web site: "Caring with Compassion". The website included an individualized learner dashboard, case-based didactic modules, extension resources, a trifold case formulation pocket guide, and a milestone-based assessment tool. The core knowledge curriculum was supplemented with a case-based online game.	Self-report: Student feedback.	Preliminary quantitative outcome data demonstrated highly significant improvement in multiple choice examination scores following exposure to the modules and game for all assessed content areas.
Christopher M 2016 ¹³	Physicians	33 (17 MMC, 16 Control)	Not provided	To explore whether a brief mindfulness-based intervention (MBI), compared with a waitlist control group, would reduce burnout and stress and increase mindfulness, compassion, and resilience from baseline to 3-month follow-up among physicians.	Mindful Medicine Curriculum	Self-report and external assessment: At 3 time points (baseline, post-MBI, and 3-month follow-up) participants completed measures of burnout, stress, mindfulness, compassion, and resilience. Patients reported on satisfaction with doctor communication (DCC) and overall doctor rating (ODR) at baseline and 3-month follow-up.	Physicians who received a brief MBI reported improvements in stress, mindfulness, emotional exhaustion, and depersonalization at 3-month follow-up relative to baseline, whereas control group participants did not. The majority of MMC participants endorsed an ongoing mindfulness practice at 3-month follow-up. These findings suggest that a brief MBI can have a positive impact on physician well-being, and potentially enhance patient care.
Cleeves M 2017 ¹⁴	Medical students	15	USA	To use reflective exercises designed to help students process their experiences in the clinical setting.	The Denver health longitudinal integrated clerkship (DH-LIC). Students completed reflective writing exercises while working in Denver's only safety-net hospital system, providing care for the underserved for the duration of their 3rd year.	Self-report: Small group discussions.	Through the course of the LIC year, students demonstrated a developing sense of professional identity consonant with that needed to provide compassionate care to the underserved. Student reflections demonstrated self-efficacy, identification of and commitment to key values, and resilience in the face of challenges.
Covalesky M 2018 ¹⁵	Nurses, physicians, respiratory care practitioners, and physical, occupational, and speech therapists	Not provided , 2 ICUs	USA	To implement an evidence-based practice interprofessional diary project in 2 ICUs	An interprofessional diary project. Using the San Diego 8A's Evidence-Based Practice model, ICU staff nurses from two 12-bed ICUs in the same hospital system created and implemented ICU diaries within their ICUs.	Self-report and external assessment: Staff nurses measured outcomes for ICU diaries within their ICUs. Family satisfaction was measured using the validated Family Satisfaction with Care and Decision-Making in the ICU (FS-ICU) questionnaire.	ICU diaries may have contributed to an increase in family satisfaction scores. Feedback received from families was that diaries fostered feelings of compassion and caring from the staff. There was a significant increase in referrals to the clinic that was directly attributable to the diary program. Based on program success, the diary program and measurement tools were implemented in all 7 of the

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							hospital system's ICUs.
Cronin A 2017 ¹⁶	Staff at a geriatric ward	36 geriatric wards	UK	To enhance staff value and development whilst having a beneficial effect on care and compassion for frail older patients.	"Sharing Knowledge Sessions". Ten to fifteen minute sessions were held with 3-4 attendees at a time; and repeated as many times as necessary to allow all members of the team on shift to participate. All members of the team took responsibility for presenting a topic if it was relevant to their expertise.	Self-report: Self-evaluations and external evaluation of patient care (e.g. chart completion).	There was an improvement in patient care through the greater understanding of the reasons behind practice and management e.g. stool charts were completed more accurately after the constipation session. The creation of an environment that enhanced personal development allowed for staff to feel valued and appreciated in their duty thus positively impacting on the continuing care of their patients.
De Siun A 2016 ¹⁷	Personnel of residential care centers for older people	>100 residential care centers for older people	Ireland	To embed a sustainable model of support for continuous development of compassionate EoL care in residential care settings	A series of workshops. These were developed to bring staff through one entire cycle of continuous quality improvement. Additional resources, both on-line and tangible, were developed to meet staff information needs and facilitate networking opportunities.	Self-report and external assessment: Evaluation by participating centers.	Compassionate EoL reviews after the death of a resident, which, combined with feedback from bereaved relatives and friends has improved care.
Doering A 2015 ¹⁸	Medical students	Not provided	USA	To teach pre-med students the importance of compassionate patient care.	10 week, 30 hour hospice volunteer training program followed by bedside volunteering on pre-med students.	Self-report: Individual and group interviews at the start of the training, the end of the training, and after participants had logged a semester's worth of volunteer time.	The pre-med students gained a deep and personal understanding of the importance of being fully present with their patients, and expressed great humility at the limits of their own knowledge.
Ekman E 2016 ¹⁹	Residents	33	USA	To pilot test a technology-assisted, emotion regulation and mindfulness meditation training.	SPRUCE: Supporting Provider Resilience by Upping Compassion and Empathy. This included 8 to 10 hours of live instruction and access to supportive e-learning. Each session included meditation practice, group check ins, and psycho-education from Buddhist and Western Psychology of emotion. Online brief guided meditations and resources followed each session.	Self-report: Interviews	Residents experienced challenges to their empathy as a result of stress, found meaning in patient encounters and benefit from supportive, emotion regulation and mindfulness meditation sessions.

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Ellman M 2016 ²⁰	Medical students	Not provided	USA	To create a longitudinal, integrated 4-year curriculum to teach skillful and compassionate EoL care	EoL curriculum. This emphasized experiential, skill building activities with special attention to student self-reflection. Inter-professional learning and education concerning the spiritual and cultural aspects of care were incorporated.	Self-report and external assessment: Analyses of student written reflections and questionnaires; study specific and AAMC graduating student surveys; and demonstration of students' competency in palliative care with a newly developed observed structured clinical examination (OSCE).	Students who participated in the full curriculum felt more prepared in many domains of EoL care than those who did not.
Felteau M 2012 ²¹	Clinicians	Not provided	Canada	To examine the facilitation and program planning elements that promoted transformative learning for participants following a Mindfulness-based cognitive therapy (MBCT) program and to translate findings into a multi-site MBCT training program for clinicians.	MBCT . This integrated aspects of Cognitive Behavioral Therapy (CBT) while participants engaged in an intensive training in mindfulness meditation, which they learned to apply to the challenges of their daily lives. Course were offered over 8- week 1.5 hours per week.	Self-report: Semi-structured interviews.	Data revealed the importance of meditation, compassion, acceptance, and role modeling within a self-reflective group process as key mechanisms of action, differentiating Mindfulness-Based Cognitive Therapy from CBT.
Fitzpatrick D 2015 ²²	Physical Therapy students and a variety of Health and Sciences majors	89	Not provided	To examine the impact global experiences can have on an individual's perception of core professional values and cultural competency.	Global experiences. A control group of students participated in a foundational class that included information on cultural competence and core values. A variable group of students additionally participated in a global experience, which included academic coursework with learning objectives and service projects, with guided reflection.	Self-report: Self-assessment surveys were developed and adapted from the APTA Core Value self assessment for physical therapists.	Students who participated in the global experience, in addition to the educational course were found to have a greater understanding of the APTA core values of altruism, compassion and caring and social responsibility, perception of access to health care services, advocacy for societal health needs and cultural competence.
Ford C 2014 ²³	Health professional working with older adults.	126	USA	To educate trainees from multiple health care professions about the importance of inter-professional health care teams, how these teams can provide better care for older adults with complex care needs, and how utilizing the inter-professional health care team can lead to improved health outcomes.	The inter-professional clinical experience (ICE). This was offered over two-hours. Health professions trainees interviewed an older adult in a nursing home setting as a team before developing an inter-professional care plan.	Self-report: Post/retrospective-pre experience attitudes were measured by the UCLA Geriatric Attitudes Scale, which assesses attitudes toward older adults in terms of social value, compassion, medical care, and resource utilization. Trainees also completed two validated assessment tools about their post/retrospective-pre experience attitudes.	Retrospective-pre and post scores were mostly positive for social value, followed by resource utilization, compassion, and lowest for medical care with statistically significant improvement in attitudes towards older adults after the ICE for social value (p<.002); compassion (p<.001); and resource utilization (p<.001).

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Fox M 2011 ²⁴	Medical students	92	USA	To increase exposure to primary care for medical students; appreciate barriers to care, disparities in outcomes, and quality improvement opportunities within a clinic setting; and promote compassionate patient care as a tenet of medical education.	Crimson Care Collaborative (CCC). This was a student-faculty medical practice that provided high quality, affordable, health care to people in Greater Boston who did not have access to a primary care physician.	Self-report: Surveys and qualitative analyses,	Students voiced an interest in primary care, and qualitative data suggested that working in CCC confirmed and enhanced student-interest in pursuing a career in primary care. Students involved in CCC felt they were motivated by a desire to help patients and to work with the underserved.
Granovsky H 2016 ²⁵	Pre-medical undergraduates.	30	USA	To provide pre-medical undergraduates with a 4-part palliative care curriculum; standard hospice volunteer training; and an opportunity to serve as a hospice volunteer.	The "Compassionate Allies" program. This involved an introductory didactic, and then interested students received training in life-limiting illnesses and the role of stories and compassionate listening, as well as hospice volunteer training. Students were matched with a patient and served as hospice volunteers throughout the semester.	Self-report: Pre and post program quantitative assessments were completed by the students, regarding their attitudes towards dying and their comfort in working with hospice patients. Students were also asked open ended questions at the end of the semester to qualitatively assess their experience.	Quantitative results showed that students who completed the study had more comfortable attitudes about death and caring for the dying than those who dropped out ($p < .001$; $t = 4.7(36)$). The qualitative comments suggested emotional growth and valued life experience.
Grimm K 2017 ²⁶	Medical students	Not provided	USA	To guide trainees and community volunteers through an interactive educational program that encompasses the process of natural dying, stages of grief, spirituality through end of life, and how to be a compassionate companion to dying patients.	A "mercy doula" training program. This emphasized spirituality and humanism in medicine while providing a reflective learning experience.	Self-report: Students' reflections.	Meaningful connections were made that touched the lives of both the dying person and the volunteers. Though difficult, sitting with a dying patient at the end of life was a profoundly humanizing experience.
Hawley D 2018 ²⁷	Medical students	1336 medical students, 340 teams, over 375 senior mentors, and 64 faculty persons	Not provided	To enhance and strengthen health care professional students' training in the compassionate care of older adults.	Seniors Assisting in Geriatric Education (SAGE). This was a unique mentoring program that allowed interprofessional teams of three to four students to learn about each other's professions, from each other in how to work together in the home as a health care setting and with each other about the nuances of this care delivery environment.	Self-report: An 18-item survey using a five point Likert scale was administered to year 2 students ($n = 649$) via Qualtrics Survey Software.	Students gained enhanced skills and understanding, including improved confidence levels about knowledge and attitudes on aging and the older adult population, and appreciation for the value and capabilities of other health care professional teams in clinical application of health care education.

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Hennrikus E 2017 ²⁸	Medical students	150	Not provided	To evaluate the course Scientific Principles of Medicine with the following objectives 1. To provide a memory anchor for which basic science information can be retained 2. To integrate 4 pillars of education: Scientific Knowledge, Clinical Practice, Humanities and Health Systems.	Scientific Principles of Medicine. A patient was interviewed in front of the class. Often spouses, family, and the patient's physician, or nurse-coordinator accompanied the patient. The patient described how they were diagnosed, the life adjustments that were required to live with the condition and the issues that arose during treatment. Time was allotted for questions from the student audience.	Self-report: Student feedback on the course was provided by reflection write-ups.	Students were able to put a face to a disease, help to solidify learning, make learning relevant, and be compassionate enough to help.
Hodgson D 2015 ²⁹	Radiology and oncology medical students	18	Not provided	To explore the ways in which radiotherapy and oncology students learned from the experiences of patients and carers.	Curriculum activities with service users.	Self-report: In-depth interviews.	The curriculum activities highlighted the emotional impact of cancer on patients and carers and demonstrated how emotional experiences can affect students. Students coped with emotional situations by distancing, engagement and a balance of distancing and compassionate behaviour. The curriculum activities had a positive impact on students in their preparation for practice as compassionate and resilient professionals.
Hogan T 2011 ³⁰	Emergency medicine residents	74	Not provided	To identify principal dimensions of baseline emergency medicine resident attitudes toward older adults.	A geriatric competencies lecture was offered to emergency medicine residents.	Self-report: Attitudes of emergency room residents towards older adults before and after an educational intervention were measured using a validated attitude scale and multidimensional analysis.	Post education there was a significant improvement in resident attitudes regarding mental status changes (question 14, p value < 0.005) and residency preparedness to care for elder patients (question 20, p value < 0.002). Compassion towards elders showed the lowest pre-intervention score (3.69) and improved significantly with the intervention (4.01) (p = 0.012). Social value was significantly more negative both post intervention (p = 0.007) and as a trainee progressed through residency (p<0.006).
Hutchens J 2012 ³¹	Health professionals working in oncology and palliative care	500	Not provided	To increase resilience and increase staff retention and job satisfaction in health care providers.	A 3-day residential workshop 'Resilience in the Workplace'. This focused on capacity building and practical tools to provide a toolkit of strategies, from brief stress-relief tips to	Not provided	Evaluations of the workshop consistently showed an overall reduction in stress, greater work-life balance, improved job satisfaction, and greater capacity to provide the standard of care and compassion desired. The techniques were still being used and effective three months

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					longer-term, restorative interventions, such as cognitive behavior therapy, transactional analysis, nutrition, mindfulness meditation and assertiveness skills.		later.
Janes K 2012 ³²	Social work students	Not provided	Not provided	To enhance learning for a social work student about aging.	Learning by Living. A social work student volunteered to live as an elder resident in a nursing home for 12 days, 24/7, complete with medical diagnoses and "standard" procedures of care.	Self-report: Subjective and objective reporting of observations and experiences.	Learning outcomes from living the life of an older nursing home resident included increased understanding and knowledge about patient/ resident resilience, cross-generational relationships, verbal/ nonverbal communication skills and thorough professional development. This life altering experience strengthened the student's knowledge, compassion, and empathy for the aging population.
Jones V 2014 ³³	Health professional students	65	Not provided	To determine if the use of technology in the form of the virtual world of Second Life (SL) enhanced learners' perceptions of knowledge and attitudes of Lesbian, Gay, Bisexual and Transgender (LGBT) health care issues.	Health professional students attended a one hour presentation designed to provide fundamental knowledge and skills in working with LGBT youths. These students were randomly allocated to receive either a traditional workshop or a workshop using a standardized patient encounter in the virtual world of SL.	Self-report: A post-workshop survey gauged students' interest in and satisfaction with the traditional versus SL workshop formats.	The SL group felt more strongly that the session enhanced knowledge of LGBTQ identities and community (rating of 1.9/5, with 1 as excellent and 5 as poor) than control (2.1/5). The SL group (1.6) was more convinced than control (2.2) that the session increased their awareness of disparate health problems within this population. Not only did SL enhance students' self-perceived knowledge of barriers to health care specific to this population (1.67), as compared to control (1.9), but it also increased their perceived sensitivity and compassion for LGBTQ patients (1.3), as compared to control (1.9)
Kalish RA 2009 ³⁴	Medical students	22	Not provided	To examine the outcomes of a videotaped medical student-patient partner exercise aimed at promoting the teaching and learning of both clinical skills and compassionate care in an outpatient rheumatology clinic setting.	Each student performed a complete medical history, which was videotaped, and a complete joint examination on a volunteer rheumatology outpatient; the student's task was to determine the rheumatologic diagnosis. The student repeated the joint examination with the preceptor present. Students viewed their videotape, tagged segments to identify strengths and weaknesses in their rheumatologic history taking and compassionate care skills.	Self-report and external assessment: Self-assessment and patient and preceptor assessment. Students and preceptors completed a Compassionate Care Interactions and Rheumatologic History-taking Skills Rating Form. Patients completed a questionnaire rating the student's interpersonal and compassionate care skills.	Students gained confidence in examining joints in subsequent patients during the clerkship. The exercise increased students' recognition of opportunities to demonstrate compassionate care. Patients unanimously agreed that students demonstrated compassionate care.

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					The preceptor reviewed the videotape and the student's tags and provided tagged feedback.		
Karkabi K 2006 ³⁵	Family medicine residents	18	Israel	To enhance the understanding of suffering and deepening compassion for sufferers.	A 2-hour workshop on 'Suffering in the Mirror of Arts.' 3 paintings were shown to participants. Each presentation was followed by a group discussion, facilitated by the family doctor, in which all ideas and analyses were welcome	Self-report: A questionnaire at the end of the workshop.	Participants indicated a change in their attitudes towards suffering and compassion for the sufferer.
Kaye E 2012 ³⁶	Medical students and residents	Not provided	Not provided	To provide teaching or guidance in the provision of compassionate care for children with serious or life-threatening illness	The Pediatric Advanced Care Team (PACT) "Code Card." The PACT "Code Card" was developed and distributed to pediatric trainees as one of several interventions to address the need for a high-yield pediatric palliative care (PPC) resource.	Self-report: Focus groups and one-on-one interviews.	Initial discussion sessions with pediatric trainees revealed limited PPC educational resources in the current curriculum. Medical students and residents requested increased training regarding end of life issues, specifically delivery of bad news, symptom management, and the care of an imminently dying child. The PACT "Code Card" addressed these topics and many other high-yield "tips" for providing PPC. The PACT "Code Card" was an effective and easily accessible method for introducing training pediatricians to high-yield strategies to improve the care of children with serious illness and their families.
Kemper K 2017 ³⁷	Health professionals	149	Not provided	To assess the dose-response relationship between the number of hours of online mind-body skills training for health professionals and outcomes one year later	Online training (including up to 12 hours of training on mind-body practices) between December, 2013 and December, 2015,	Self-report: Anonymous online survey returned by February 1, 2016.	The respondents completed one or more mind-body training modules an average of 14 months previously. 71% reported changes in the care of others as a result of participating. Greater practice frequency was also associated with improvements in stress, mindfulness, and resilience, which in turn were associated with increased confidence in providing compassionate care.
Khan G 2016 ³⁸	Health care professionals	50	Pakistan	To measure the effects of a mindfulness meditation workshop designed to teach compassion, patience and acceptance to health care professionals in pediatric oncology.	Training in mindfulness meditation Health care professionals from Indus Children Cancer Hospital were given workshops that incorporated mindful breathing practices.	Self-report: Post-workshop evaluation forms.	The participants reported that after the workshop there was a significant reduction of distress and that they felt calmer and ready to take on their duties. Many reported that they felt their mood lift and were in a happier state of mind than before. Others reported a relaxation of muscles and reduction of aches and pains.

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Klein J 2012 ³⁹	Internal medicine residents	34	Not provided	To explore internal medicine residents' experiences with home visits and how these experiences inform residents' practice of medicine.	As part of a curriculum, residents performed home visits to at least one patient on their continuity clinic panel.	Self-report: The week of their scheduled home visit, residents were invited to complete a brief, anonymous online survey. After the completion of most home visits, semi-structured focus groups lasting 30 minutes were conducted with small groups of residents.	Residents exhibited empathy, displayed compassion, and developed listening skills and an enhanced sense of responsibility for their patients. Residents largely felt that home visits enhanced their clinical care by facilitating communication, improving follow-up, reprioritizing goals of care, enlisting new resources (obtaining mediset, placing referrals), intervening early to ameliorate potential problems and raising awareness of the social complexity of many patients' lives.
Kusz H 2010 ⁴⁰	Residents	Not provided	USA	To teach and practice empathetic, compassionate care of the elderly.	Behavior science curriculum integrated into a geriatric medicine curriculum. Learning objectives included: developing effective communication skills, using appropriate skills in history taking and physical examination of older persons with sensory, functional or cognitive impairments, learning how to conduct family meetings and how to negotiate goals of care with the patient and family.	Self-report and external assessment: Faculty evaluated residents and residents evaluated their rotations and faculty.	Interpersonal and communication skills were considered essential in any patient-doctor relationship although they were especially important when taking care of the elderly.
Lockyer L 2011 ⁴¹	Nurses	457	UK	To enhance clinical leadership and professional practice.	British Heart Foundation education pathway for nurses' continuing professional development.	Self-report: Online survey and external evaluation by patients.	Intervention was viewed as advantageous for continuing professional development and emphasized compassionate nursing.
Mann P 2000 ⁴²	Registered nurses, physicians and social workers	65 sites including 24 cancer centers	USA	To evaluate Schwartz Center Rounds: a multidisciplinary forum where clinicians discuss difficult emotional and social issues that arise in caring for patients with the goal of improving the patient-caregiver relationship.	Rounds were initiated at the MGH Cancer Center in 1997 and have since grown to include 165 sites including 24 cancer centers nationwide.	Self-report: A retrospective survey of caregivers at sites where Rounds had existed for ≥ 3 years; semi-structured interviews with participants at these sites; and pre/post surveys of caregivers from ten hospitals newly implementing Rounds.	After attending Rounds, participants reported increased insight into psychosocial aspects of care; enhanced compassion; increased ability to respond to patients' social and emotional issues; enhanced communication amongst caregivers; and greater appreciation of colleagues' roles and contributions.
Marquez-Hall S 2015 ⁴³	Health professions students	332	Not provided	To help health professions students develop competency with older adults by facilitating compassionate geriatric care, and, strengthening	SAGE program. Senior volunteers 60 years and older were mentors. Students met with the senior mentors for a series of home visits.	Self-report: A quantitative survey using a five-point Likert Scale evaluated student perceptions of learning.	Findings revealed modest levels of student confidence and attitudes toward geriatric patients (3.6), and comfort in performing physical examinations (3.5). Education in geriatrics combined with experiential

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				clinical applications through an interprofessional team experience.	SAGE curriculum was delivered through an online learning system. Student teams participated in the eight home visits, which include conducting environmental home safety and nutritional assessments; medical history, physiology of aging, bio-psychosocial interviews; medication reconciliation, review of community resources, and end of life issues.		inter-professional team learning can provide improved confidence for health professions students in patient interaction. Exposure to the SAGE curriculum in an experiential inter-professional learning program showed a positive impact on student's awareness and understanding of older adults.
Mascara J 2016 ⁴⁴	Second year medical students	33	Not provided	To investigate the impact of compassion meditation on medical student well-being and immune function.	Medical students were randomized to either receive 10 weeks of training in Cognitively-Based Compassion Training (CBCT) or to a wait-list control group.	Self-report and physiological assessments: Students reported pre- and post-intervention levels of compassion, loneliness, negative emotional states, and general functioning. In addition, saliva samples were assayed to assess immune function.	Students randomized to CBCT reported increased compassion (p=.005), decreased loneliness (p=.002) and depression (p=.008), and improved sleep (p=.018). Moderation analysis revealed that the effects were most robust in individuals reporting high levels of depression (p=.017) and inflammation (p=.022) at the beginning of the study
McLaughlin C 2014 ⁴⁵	Registered nurses and nursing students	195	Not provided	To evaluate a nursing internship with the addition of two learning modules: sepsis and end of life care, high priority competencies in the BMT arena for providing compassionate end of life care.	Stimulation training. Each new graduate nurse was required to complete two scenarios for sepsis and end of life.	Self-report: A qualitative study of participant evaluation was completed.	The participant studies demonstrated a 87% favorability in promoting the individual's learning with the orientation curriculum and 91% favorability of confidence with the development of skills and required knowledge managing the deteriorating patient, sepsis assessment and interventions and end of life event.
Miller A 2017 ⁴⁶	Medical professionals	Not provided	USA/Canada	To evaluate a learning module using experiences with art to teach medical professionals how to 1) integrate others' perspectives in diagnostic processing, 2) recognize the need to solicit help, 3) address pessimism towards bias preventing self-awareness.	0.5 day to 2 day workshops. These included 1) guided experiences with visual art; 2) case discussions; 3) critical reflection; 4) dissemination of known best practices in quality and safety.	Self-report: Surveys and field notes.	Participants reported the following themes. 1) increased curiosity towards own biases; 2) increased likelihood to solicit input on patient cases; 3) appreciation of feedback. They further stated intentions to apply learnings in a) thinking (pause, forcing strategies), b) use of time and clinical space (make time count), c) communication (think aloud, teach-back); d) compassion; e) teaching.
Mojs E 2018 ⁴⁷	Medical professionals	Not provided	Poland	To teach medical professionals cultural awareness and communication skills.	The Transcultural Communication Workshop. This included a variety of tasks and exercises related to identity, nonverbal and verbal communication,	Self-report: The Social Competence Questionnaire measured social competence, understanding of cultural diversity and compassion.	The workshops increased participants' social competence, understanding of the issues of cultural diversity and sense of compassion.

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					communication barriers, acculturation strategies, group processes, and lecture content.		
Munro J 2011 ⁴⁸	Nursing students	Not provided	UK	To introduce a new and enhanced approach to learning and teaching clinical compassionate care using diverse multimedia resources.	Nursing students read opinion articles, Nursing & Midwifery Council (NMC) regulatory publications, reports from the patients' association and watched news releases on health care services.	Self-report: An on-line Moodle "wiki" evaluation.	The students' reported this novel approach led to deeper and more meaningful learning and a more balanced approach to caring and compassion and its fundamental importance in clinical nursing care. Furthermore final year examination content demonstrated that caring and compassion were embedded in nursing management redressing the technical focus.
Nordhues H 2016 ⁴⁹	Medical residents	377	USA	To explore the perspectives of a large sample of residents across multiple specialties of how International Health Electives (IHEs) fulfill the six ACGME core competencies.	IHEs. These were offered to address a lack of the six ACGME core competencies: Medical Knowledge (MK), Patient Care and Procedural Skills (PC), Interpersonal and Communication Skills (ICS), Practice-Based Learning and Improvement (PBLI), and Professionalism (PROF).	Self-report: Upon return from the IHE, each resident was required to submit a reflective essay outlining details of the trip and how it impacted him or her personally and professionally.	Multiple themes within each of the six ACGME core competencies were identified. Within PROF, there were 5 themes; responding to patient needs above self-interest; displaying sensitivity and responsiveness to a diverse patient population; exhibiting compassion and empathy; balancing ethical principles with practical care; and rejuvenating their decision to pursue medicine.
O'Connell S 2011 ⁵⁰	Medical students	Not provided	In patient's homes	The Learning by Living Home project offers a unique experience for medical students to learn firsthand about the care provided to patients in the home and coping mechanisms of spouse caregivers.	The Learning by Living Home project. Students (1) shadowed a neurologist for a day to learn the physician's perspective of the patient's disease; and (2) moved into a patient's home for one week (24/7) to learn about the disease and caregiving experiences from the family.	Self-report: Students' journaling on the experience relating subjective (feelings) and objective (medical student knowledge) observations on care of the patient (administration of medications, transferring, toileting, feeding, etc.).	Home immersion resulted in multi-factorial identifications of comprehensive patient care and caregiver involvement, emotionally and physically. Lessons learned included the impact caregiving has on one's health, importance of a routine and adaptability, maintaining close communication with physicians, cost vs. benefit ratio of medications, patient autonomy, and documentation significance. Students gained instrumental skills and were encouraged to become more compassionate, informed physicians in caring for patients and their family living at home.
Otis-Green S 2014 ⁵¹	Oncology social workers	473	USA	To support oncology patients and families in a continuously evolving health care environment by improving the delivery of psychosocial-spiritual health care and developing committed, competent and compassionate social work	The ExCEL program. The curriculum included strategies to enhance screening and assessment, leadership and advocacy, collaboration and teamwork, family caregiver support and	Self-report: Post-course self-evaluation.	Participants reported increased confidence in their competence in the six key skills and maintained this improvement over the 12 month follow up period. Post-program evaluation data indicated that participants left the ExCEL program with enhanced leadership skills. Thirty-five percent of participants

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				leaders.	family conferencing, culturally-sensitive practice and the use evidence-informed interventions. During the course, participants developed and refined an institutional enhancement goal to implement over the following twelve month.		developed screening and assessment goals, with 20% identifying educational goals, 19% developing support programs and the balance working on quality improvement goals.
Poi C 2015 ⁵²	Junior doctors	21	Tertiary hospital and inpatient hospice	The main objective of this study is to investigate the influence of the informal curriculum on learning experiences of junior doctors rotating through the palliative care department.	Seven focus group were conducted with junior doctors who had rotated through the palliative medicine department of a tertiary hospital and inpatient hospice for at least 2 months.	Self-report: Discussions were audio-recorded, transcribed and anonymised.	Junior doctors found solace in the process of having a holistic and patient-centred approach in maintaining the personhood of the individual and the important role of a physician in empowering patients to live life to the fullest, with symptom minimization. Doctor-patient interaction skills relating to bedside manners, communication and the ability to empathize with patients' and families' suffering were learnt via role modeling.
Reilly J 2018 ⁵³	Students from 7 health professional programs	295	USA	To train and prepare a health care workforce to care for older adults with the goal of promoting compassionate care.	Inter-professional Geriatrics Curriculum/IPGC, a home-based, inter-disciplinary geriatrics team training program.	Self-report Pre/post online survey including the Geriatric Attitude Scale (GAS).	There was slight improvement from baseline to follow-up in the overall GAS score (B=0.06 points on a 5-point scale, p=0.005), and in two specific subdomains of the scale (Social Value B=0.09, p=0.043, and Compassion B=0.10, p=0.000).
Sanchez-Reilly S 2010 ⁵⁴	Medical students	222	USA	To incorporate effective Communication, Interdisciplinary team work, Multicultural skills and Education (CIME) in a geriatrics and palliative care longitudinal intervention.	A geriatrics and palliative care (GPC) longitudinal educational intervention throughout the 4 years of medical school.	Self-report: Students evaluated the program.	The program improved levels of knowledge and attitudes towards crucial aspects of GPC such as older adults' pain issues.
Schroeder K 2017 ⁵⁵	Registered nurses	50	Not provided	To develop a a teaching program to support nursing staff in providing competent and compassionate end of life caregiving skills.	The teaching program began with learning modules on palliative medicine, pain management, symptom management and end of life care. Next these concepts were expanded on in a classroom setting. Finally there was a standard patient family simulation.	Self-report: Post-course surveys.	Nurses showed increased knowledge with this multi-tiered educational program. The surveys strongly suggested continued use of open discussion and standard patient simulation in further education. Incorporating this basic end of life course can improve care for the dying and help to prepare nurses at all levels to be change agents within the prevailing health care culture.
Shield R 2010 ⁵⁶	Medical students	Not provided	USA	To develop an educational program to teach effective communication skills with	Three 3-hour Schwartz Communication Sessions. These explored the	Self-report and external assessment: Student and faculty evaluations.	Students had a better appreciation of the humanistic and compassionate side of medicine, gained an enhanced

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				older patients, with the ultimate goal of promoting compassionate and humanistic care.	following themes: 1) empathy and professionalism; 2) cultural competence and humility; and 3) effective communication. Varied media were used to demonstrate the themes, including reading materials, short film clips, and sample cases, which helped facilitate learning and critical thinking. In small groups, students conducted role plays of difficult cases and discussed these with colleagues and faculty.		ability to practice their communication skills, and developed a more holistic perspective on their future patients.

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