

Appendix A: Literature Comparison Chart

Author/ Year	Journal	Definition of Rural	Definition of PI	Design	Purpose	Sample	Quality Score/ Level of Evidence	Findings/Conclusions
(Bedward & Daniels, 2005)	Learning in Health and Social Care	Not defined	Described as feeling unsupported; not having opportunity to raise issues, or to discuss clinical issues with colleagues; not having anyone to turn to for advice; not feeling able to challenge work practices of colleagues; not having good practice and achievements recognized and praised.	Mixed method study in two phases Focus groups & documentary analysis One-to-one or group models of clinical supervision Grounded theory	Reports an evaluation of the implementation of clinical supervision for nurses in seven pilot sites within a National Health Service Trust in the United Kingdom	<i>n</i> =104 in 1999 and <i>n</i> = 95 in 2000)	Quantitative score 20/Level of evidence VI Qualitative score 22/ Level of evidence VI	Clinical supervision is useful in reducing PI.
(Bowers- Ingram & Nelson, 2009)	Australian Journal of Advanced Nursing	Not defined (regions are described as “rural”)	Described as a lack of communication opportunities in primary health care	Non- experimental Descriptive study Self- administered	To investigate Tasmanian practice nurses preferred means of communication	<i>n</i> =140	Quantitative Score 14/Level of evidence VI	Identifying communication and networking needs will reduce PI, improve job

			(PHC) service settings; lack of or gaps in support in their workplace.	postal survey; frequency analysis	n			satisfaction, and improve patient care.
(Brown, Williams, & Capra, 2010)	Nutrition & Dietetics	Not defined	Described as dieticians working away from other dieticians; those based in a different location or having a different management team; employed in a sole position	Mixed method study Document review; Interviews	To determine recruitment and retention issues for rural based dietetic services	n=40	Quantitative score 18/Level of evidence VI Qualitative score 20/ Level of evidence VI	Recruitment and retention in rural areas may be improved in the future through strategies to reduce perceived PI (p.301).
(Bushy, 2002)	Australian Journal of Rural Health	Defined internationally as “greater distance between services and providers, more georemoteness, and lower population density” (p.108)	Report on rural nursing practice in three countries, Australia, Canada, and USA; Addresses telecommunication as a means of reducing PI	Discusses rural nursing concept development	Analysis of rural nursing practice across three countries	N/A	Level of evidence VII (expert opinion)	Useful in examining rural nursing phenomenon in greater depth

		Comparing Australia, Canada, and US						
(Bushy, 2004)	Journal of Nursing Care Quality	Not defined	Report on use of research by rural nurse professionals; Collaboration with other professional disciplines can reduce PI	None; (narrative article)	Creating nursing research opportunities in small healthcare facilities in rural settings	N/A	Level of evidence VII (expert opinion)	Useful in advancing rural nursing concept development and theory base
(Chapman et al., 2005)	Public Health	Not defined	Those who indicated they felt professionally isolated noted time and job pressures; feelings of being undervalued both within and outside of their organization	Mixed method; non-experimental descriptive design; questionnaire survey; freetext responses were analyzed thematically.	To determine capacity and development needs	n=449	Quantitative score 17/Level of evidence VI Quantitative score 18/ Level of evidence VI	29% of respondents felt professionally isolated. Themes were skill sets, links with other professional, team working, and PI.
(Conger & Plager, 2008)	Online Journal of Rural Nursing and Health Care	Not defined	Described as “connectedness versus disconnectedness”	Interpretive phenomenology; Individual interviews and focus	To describe rural connectedness versus disconnectedness	n=30	Qualitative Score 27/ Level of evidence VI	Address factors which lead to a sense of connectedness in rural nursing practice

				groups				
(Courtney & Farnworth, 2003)	Australian Occupational Therapy Journal	Not defined	Described as lack of contact with peers; cited as a barrier to professional competence;	Semi-structured interviews	To explore the meaning of professional competence and its barriers	n=16	Qualitative Score 20/Level of evidence VI	PI is a barrier to professional competence.
(Cumbie, Weinert, Luparell, Conley, & Smith, 2005)	Journal of Nursing Scholarship	Not defined	Absence of senior mentoring faculty; a distance barrier (also called geographic isolation)	None; (narrative article-report)	To report the results of a multidisciplinary, inter-institutional writing support group established to facilitate faculty scholarly productivity	N/A	Level of evidence VII (expert opinion)	Might be a model to guide other groups of scholars who face geographic isolation related to the process of writing.
(Gibb, 2003)	International Journal of Mental Health Nursing	Not defined	Geographic disadvantage	Interviews and focus groups Grounded theory	Examines community mental health in rural and remote settings, characterized as sole practice.	n=23	Qualitative Score 23/Level of evidence VI	Nurses in sole practices may be highly effective.
(Gibson & Heartfield, 2005)	Journal of Interprofessional Care	Not defined	Feeling alone; compounded by geographical	Focus group techniques and case studies	The article presents findings from a project	n=201	Qualitative Score 16/Level of	PI is now well recognized as an impediment to nursing

			isolation; lose touch; “hanging from a string in the wind” (Gibson & Heartfield, 2005, p. 57); not connected to professional networks or organizations	within a qualitative framework; content and thematic analysis	conducted to recommend a national framework for mentoring for general practice nurses in Australia.		evidence VI	practice.
(Helitzer, Health,	Telemedicine Journal and E-Health	Not defined (New Mexico, a “large rural state”)	No	Qualitative; interviews and content analysis ; grounded theory Diffusion of innovations theory	Hypothesized that telehealth would diminish PI.	n=31	Qualitative Score 18/ Level of evidence VI	Importance of telehealth for the extension for patient care. Themes were relative advantage, compatibility, complexity, observability, and trialability
(Kemp, Zuckerman, & Finlayson, 2008)	Journal of the American College of Surgeons	Yes; RUCA codes	Related to keeping up with new technology and maintaining skills used on infrequent procedures; fewer opportunities	Non experimental ; retrospective descriptive comparison	Is PI an obstacle in adopting new technologies?	Nationwide inpatient sample; n=4,985,465	Quantitative Score 16/ Level of evidence VI	Physicians in rural settings adopted laparoscopic technology as readily as their counterparts in urban settings. However, there was a delay in

			for peer review and proctorship.					adopting the technique in urgent (versus elective) cases.
(Kohlwes, Koepsell, Rhodes, & Pearlman, 2001)	Archives of Internal Medicine	Not a rural article	Informants rarely talked to colleagues; professional code of silence creates PI; lack of knowledge sharing and lack of social support from peers	Qualitative; Focused ethnography	Describes how experienced physicians assess and respond to requests for assisted suicide.	n=20	Qualitative Score 20/ Level of evidence VI	Stresses the importance of improved dialog between practitioners and support for colleagues.
(Kurzydlo, Casson, & Shumack, 2005)	Australian Journal of Dermatology	Rural Remote Metropolitan Area (RRMA 3-7) (Australia)	Solo practitioners, geographic isolation defined as distance (178 km) to nearest colleagues	Quantitative; non-experimental descriptive design	The authors report the results of a survey designed to collect demographic data and establish a technology option for remote delivery of metropolitan clinical meetings.	n=57	Quantitative Score 16/ Level of evidence VI	Interactive CD-Rom may be instrumental in linking urban and rural physicians, thus reducing PI.
(Lee & Winters,	Online Journal of	Communities < 1300	Not defined	Qualitative; interviews,	To validate concepts from	n=38	Qualitative Score	Discusses rural people, not

2004)	Rural Nursing and Health Care	persons		naturalistic inquiry Rural Nursing Theory	Rural Nursing Theory		22/ Level of evidence VI	rural professionals. Importance lies in discussion of related topics (themes): definition of health (updated), distance, SATL process, and choice.
(Lewkonia, 2001)	Medical Education	Not defined	Yes; Described as physical distance, separation or geographic distance from learning environments, and detachment from peers; isolated from day-to-day contact with colleagues engaged in similar tasks; no network of clinical colleagues; lack of	Commentary	Examines the reasons to be concerned about professional isolation and the educational challenges that arise	N/A	Level of evidence VII (expert opinion)	Isolation from peers may lead to medical incompetence. Importance: article asserts that the extent of one's isolation may be measured by "social disengagement scale" (Lewkonia, 2001, p. 528); one of only two articles mentioning a measurement tool for isolation. May

			postgraduate trainees					or may not be useful in measuring PI.
(Long, 1999)	Scholarly Inquiry for Nursing Practice	Sparsely populated areas	No.	Theory of Rural Nursing	A look back on the development of the original manuscript.	N/A	Level of evidence VII (expert opinion)	Since the original article, rural nurses are increasingly networked
(Long & Weinert, 1989)	Scholarly Inquiry for Nursing Practice		Yes; Described as, “Health care providers must deal with a lack of anonymity and much greater role diffusion than providers in urban or suburban settings” (p.120). One emerging theme from this is “sense of isolation from professional peers” (p.120). “Rural nurses see themselves as being cut off from the	Theory of Rural Nursing	Development of an integrated theory base for rural nursing	N/A	Level of evidence VII (expert opinion)	Seminal article Education for rural nurses should emphasize generalist skills and a strong base in change theory and leadership; Rural nurses need education in techniques to access the most recent literature and other current information; networks linking rural nurses in distant sites is beneficial for

			professional mainstream” (p.125)					exchange and mutual support.
(O’Donnell, Jabareen, & Watt, 2010)	BioMed Central	(Conducted in a large urban hospital in Scotland)	Related to working alone and fewer opportunities for inter-professional contact	Quantitative; non-experimental descriptive analysis; regression analysis	To describe the general practice role; to identify how professionally supported nurses felt; to identify career intentions; to explore whether they felt isolated and identify contributory factors.	n=329	Quantitative Score 18/ Level of evidence VI	Providing support to these nurses within their practice setting may help alleviate the feelings of isolation, and could reduce the number considering leaving practice nursing; working alone predicts PI.
(O’Lynn et al., 2009)	Online Journal of Rural Nursing and Health Care	USDA (2007)	Described as “fewer accessible colleagues, mentors, and educational opportunities in which to increase knowledge and skill sets” (O’Lynn et al.,	Cross-sectional descriptive study.	Explores the availability of research findings in rural practice settings, and how rural nurses use those findings. Mentions PI as a barrier.	n=263	Quantitative Score 16/ Level of evidence VI	Provides insights into the access and application of research in rural practice settings.

			2009, p. 35)					
(Rosenberg & Canning, 2004)	Australian Journal of Rural Health	Aust. Health Care Zones: metropolitan areas along with regional, remote and low population areas	“PI has been associated with geographical isolation, with nurses identifying limited access to a number of key means of support and professional development” (Rosenberg & Canning, 2004, p. 167).	Quantitative; non-experimental descriptive study; survey;	To evaluate experiences of a group of rural and remote nurses in providing palliative care and to discuss the implications of this evaluation for the development and implementation of professional support strategies.	n=17	Quantitative Score 15/ Level of evidence VI	Adds to the knowledge base regarding what is known about professional development needs of rural nurses.
(St. George, 2006)	The Journal of Continuing Education in the Health Professions	Not defined	Yes, delineates eight markers of PI	Quantitative; a non-experimental descriptive study utilizing Vygotsky’s social development theory of learning	What is the relationship between professional isolation and underperformance; can PI be measured, and what are its characteristics?	n=26	Quantitative Score 15; Level of evidence VII	Identifies eight markers of PI: (a) personality, (b) solo practice, (c) poor colleague relationships, (d) outlier practice, (e) MOPS or CPD failure, (f) specialist in only private

								practice, (g) stress, no relief, complaints, job dissatisfaction, (h) locum, itinerant, or part-timer, (i) cultural barrier, (j) male gender.
(Stewart & Carpenter, 2009)	International Journal of Therapy and Rehabilitation	Not defined	Yes; a contributing factor to poor recruitment and retention; geographic location; mentoring as a means to circumvent PI; no face-to-face interaction;	Qualitative; action research design	Can e-mentoring adequately support physical therapists in clinical practice in rural areas? What is the experience of mentees using iChat and email with mentors?	<i>n</i> =2	Qualitative Score 12/ Level of evidence VII	e-mentoring program can support sole charge or isolated physical therapists; use of technology may be a solution to health care professional in geographically large and disparate regions

(Taylor & Lee, 2005)	Australian Association of Occupational Therapists	Rural=working outside of Perth metropolitan area; compares rural/urban	Cited as an inhibitor to recruitment and retention of occupational therapists in rural areas	Non-experimental design, descriptive analysis; survey;	To investigate occupational therapists usage if ICT and its association with recruitment and retention in rural Australia	n=413	Quantitative Score 17/ Level of evidence VII	Use of ICT may reduce PI inherent in rural and remote areas.
(Vimarlund, Olve, Scandurra, & Koch, 2010)	Health Informatics Journal	Not rural based (independent of geographical distance or organizational affiliation.	Yes; Described as team members caring for the same patient may not belong to the same organization; appropriate care depends on the ability of care providers to share information	Qualitative; interviews, Theory of cognitive dissonance	To improve communication among individuals working together, independent of geographical distance or organizational affiliation; to contribute to workload efficiency.	n=5	Qualitative Score 18/ Level of evidence VII	Real time peer and specialist contact reduces PI. The creation of a “learning chain” increases information sharing, communication, understanding, and quality of decisions.