

INFLUENCE OF SOCIAL NETWORKS ON UPTAKE OF A FEEDBACK QUALITY IMPROVEMENT INTERVENTION IN LONG TERM CARE SETTINGS



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ACKNOWLEDGEMENTS

- This study funded by the Canadian Institutes for Health Research
- Parent study funded by the Canadian Health Services Research Foundation and the Alberta Heritage Foundation for Medical Research
- Dr. Estabrooks is also funded as Canada Research Chair by CIHR; Dr. Sales was funded as a CRC when this research was conducted



LONG TERM CARE (LTC) IS UNDER-STUDIED

- But a growing health care sector in all developed and many developing countries
- Typically under-funded, care is largely provided by non-professional staff with varying levels of education
 - In North America, health care aides (non-professionals providing the majority of care in long term care settings) are often from immigrant groups in urban settings
- Residents in long term care are mostly frail older people, most with cognitive impairment (some form of dementia)
 - Not able to care for themselves



KNOWLEDGE TRANSLATION IS RARE IN LTC

- Providing care based on current research evidence is beginning to penetrate LTC settings
- Significant barriers to quality improvement activities include severe staffing shortages and related time constraints
- Relatively low levels of formal education among staff is also a barrier



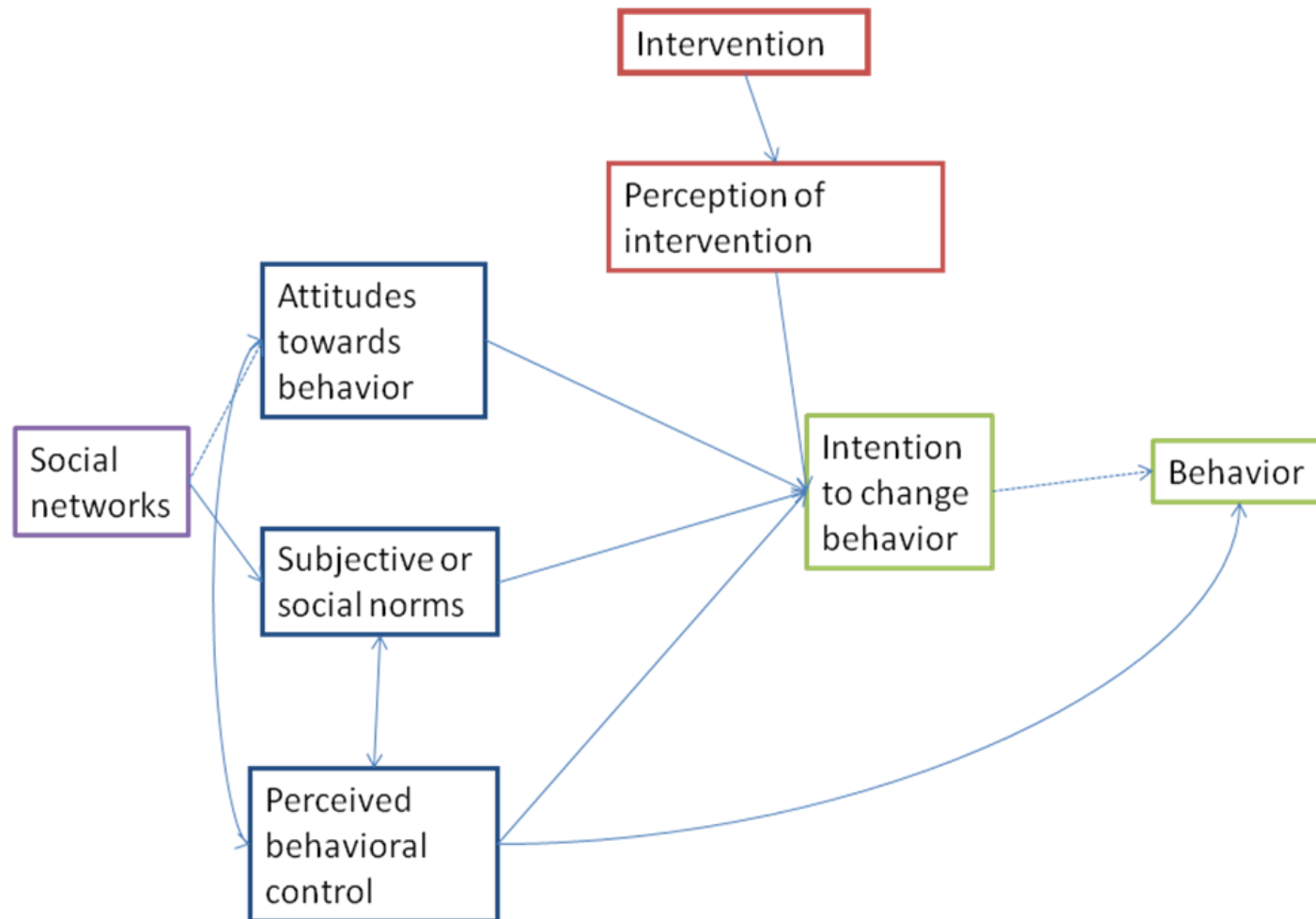
WE KNOW RELATIVELY LITTLE ABOUT SOCIAL NETWORKS IN LTC

- One prior study in Canada (Cott 1997) looked at social networks in one LTC facility in Toronto
 - Found disconnected networks made up of different provider groups, segregated by job title (and degree of professionalization), few bridges, high degree of hierarchy and control by more professional groups
 - Similar to other health care settings, perhaps more extreme in degree of hierarchy and disconnected networks
- Only one other social network study in LTC setting also in Canada focused on relationships with family members of residents

Cott C: **"We decide, you carry it out": a social network analysis of multidisciplinary long-term care teams.** Soc Sci Med 1997, 45(9):1411-1421



THEORY BASIS: ADDING NETWORKS TO THE THEORY OF PLANNED BEHAVIOR



OBJECTIVE

- To assess the influence of social networks among LTC staff on uptake of a knowledge translation intervention
 - Feedback reports delivered to LTC staff every month for 13 months



METHODS

- Embedded in parent study of feedback intervention in two LTC facilities in Edmonton, Alberta, Canada
 - Six nursing units in two facilities (out of four in larger feedback intervention study)
 - Social network study was conducted in the ninth through eleventh months of the larger feedback study (13 months total)
 - Primary outcome from parent study was intent to change behavior in assessing pain among residents
 - Used survey based on Theory of Planned Behavior to assess intent to change behavior as well as theoretical determinants of intent to change behavior



SOCIAL NETWORK METHODS

- Paper survey, hand distribution
- Obtained lists of all staff working on the six nursing units as well as staff working on multiple units
 - Unit based staff are mostly nursing staff (registered nurses, licensed practical nurses, health care aides)
 - Multiple unit staff are mostly allied health professionals (occupational therapy, physical therapy, pharmacy, social work)
- Asked questions about five types of networks
 - Two relevant to this analysis are advice network and “Who did you discuss the feedback report with?”
- Linked responses to this survey to responses to post-feedback survey for intent to change behavior



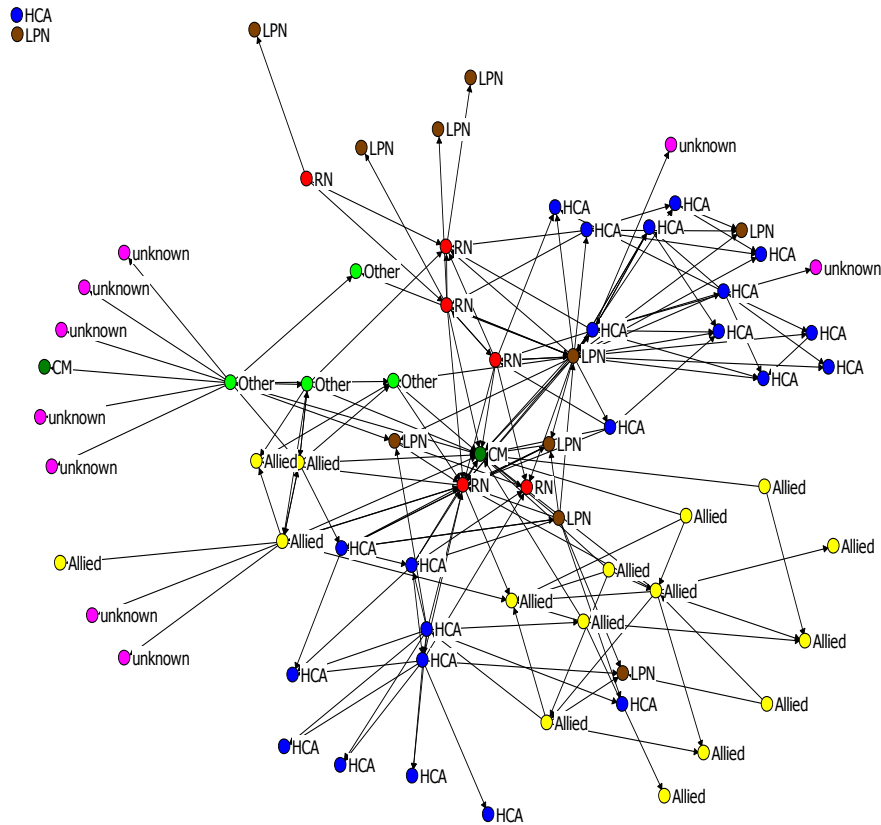
RESPONSE RATES DIFFICULT TO CALCULATE

- Varied from 39 to 68% across the six units
 - Overall response rate across the units 52%
 - Generally the smaller units had lower response rates
- Overall, total of 144 respondents across the six units with usable network data
 - Range from 14 to 39 respondents
- Final sample size of 116 for multivariate analysis of intent to change behavior
 - Linkage between questionnaires resulted in some lost observations

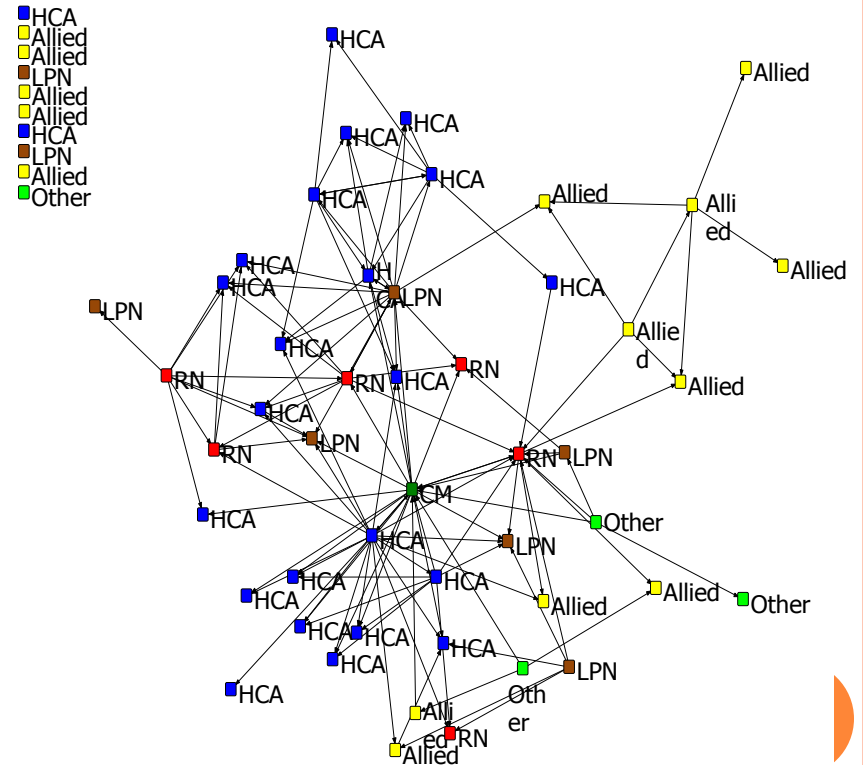


UNIT 1 NETWORKS

○ Advice Network

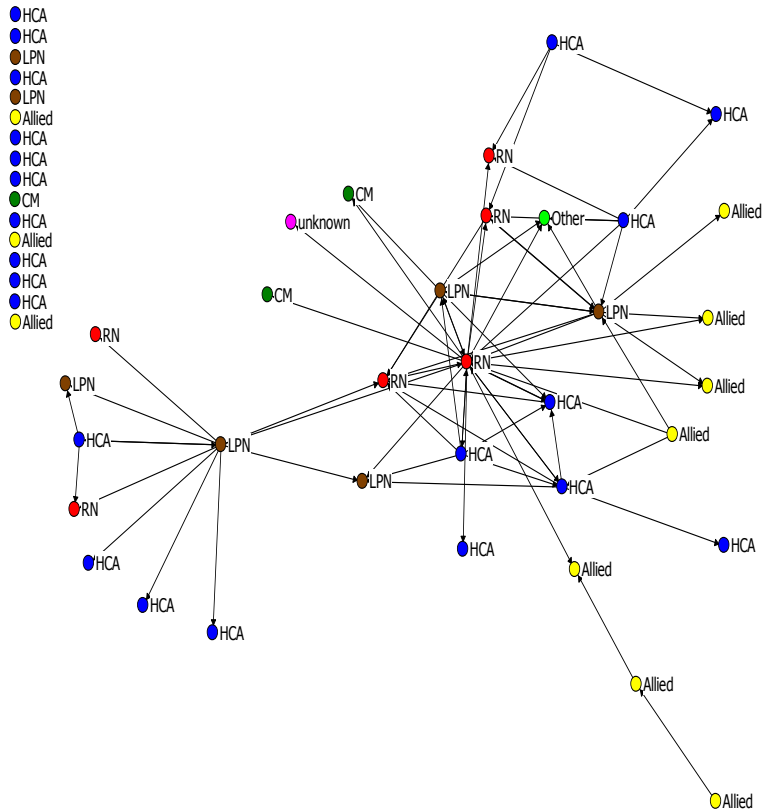


○ Feedback report discussion network

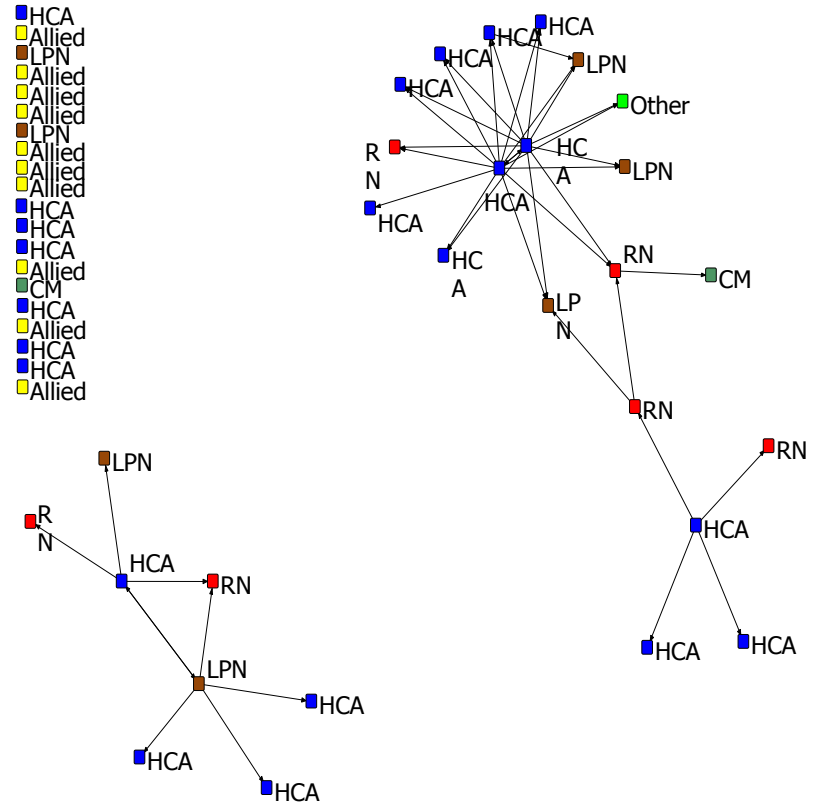


UNIT 2 NETWORKS

Advice network

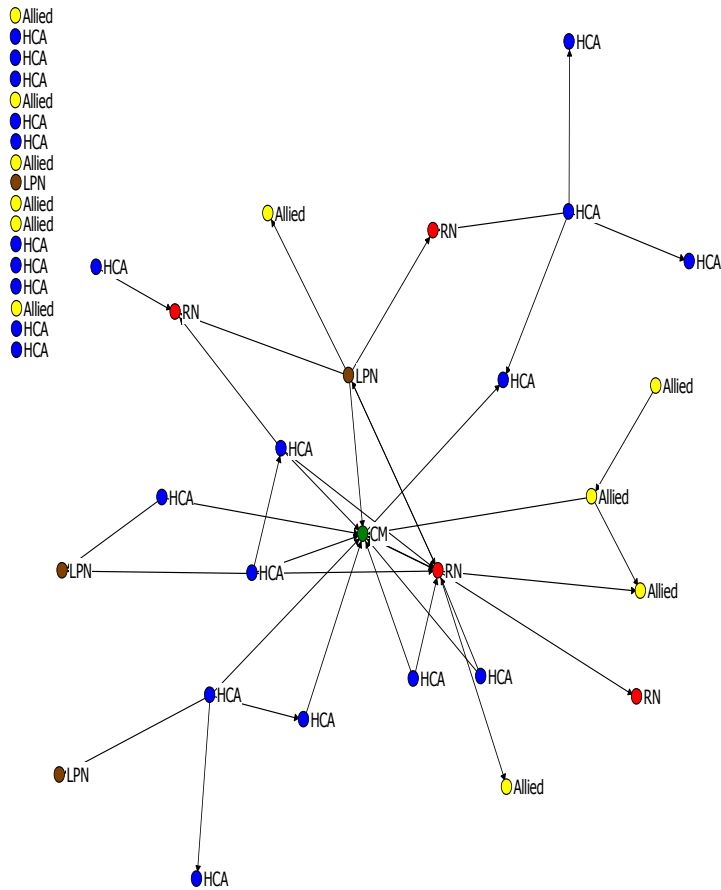


Feedback discussion network

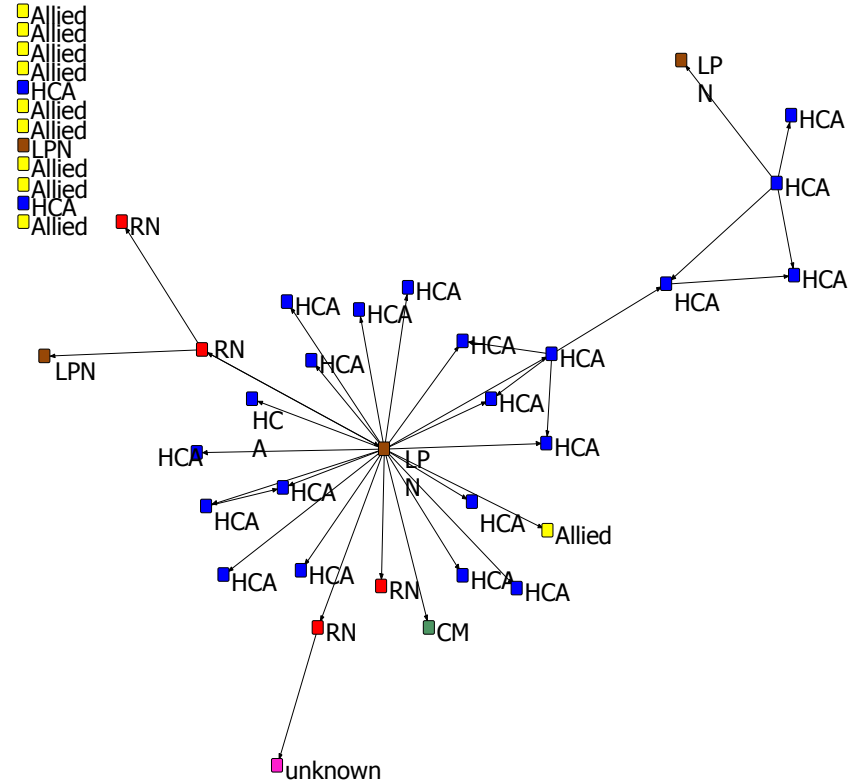


UNIT 3 NETWORKS

Advice network

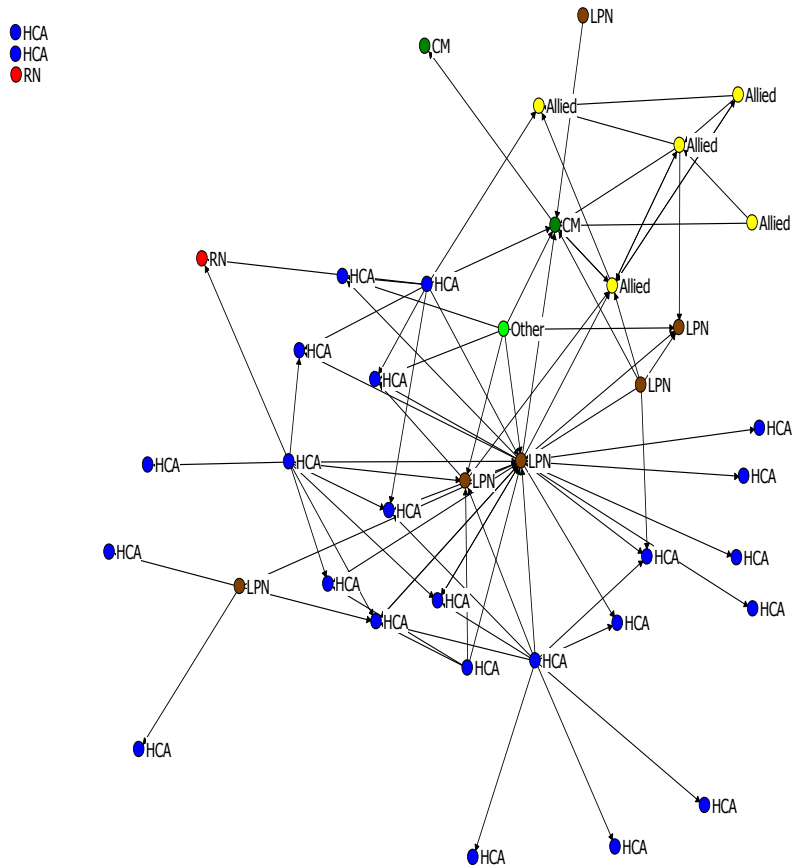


Feedback discussion network

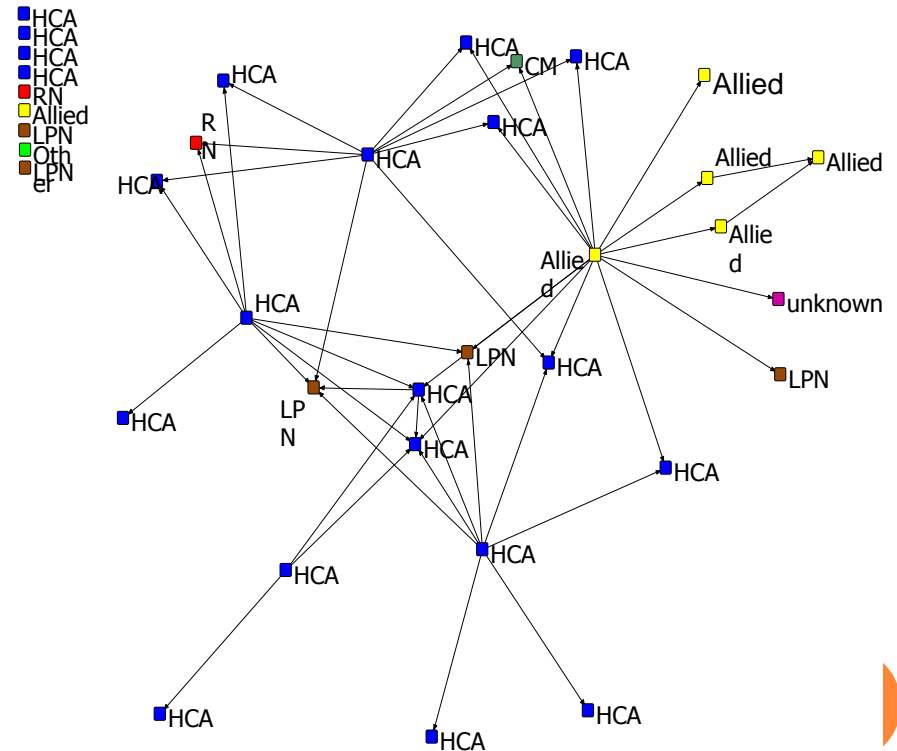


UNIT 4 NETWORKS

Advice network

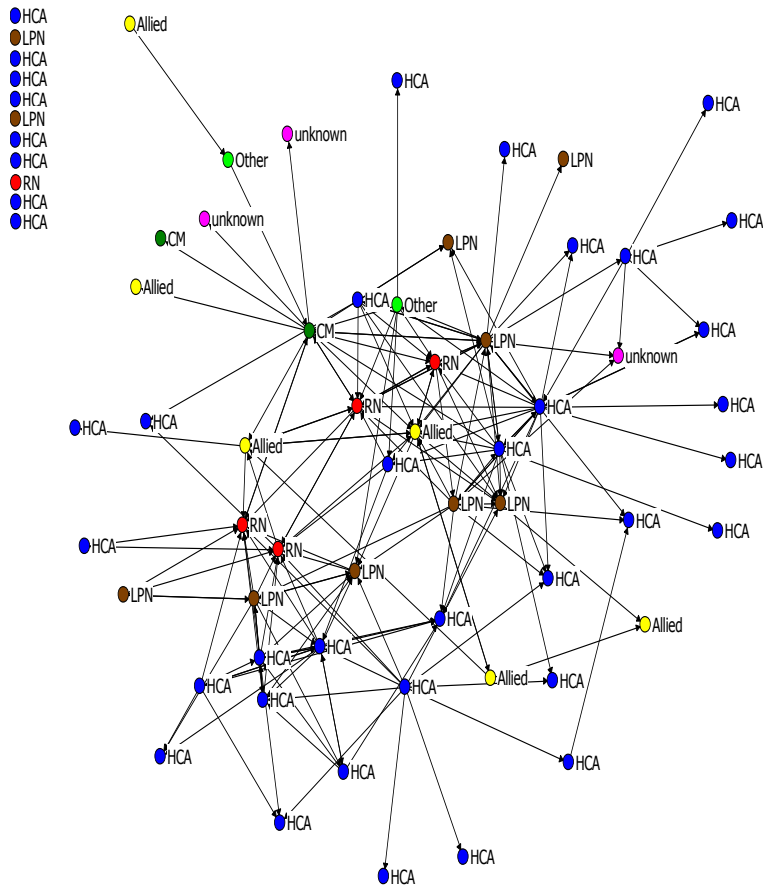


Feedback discussion network

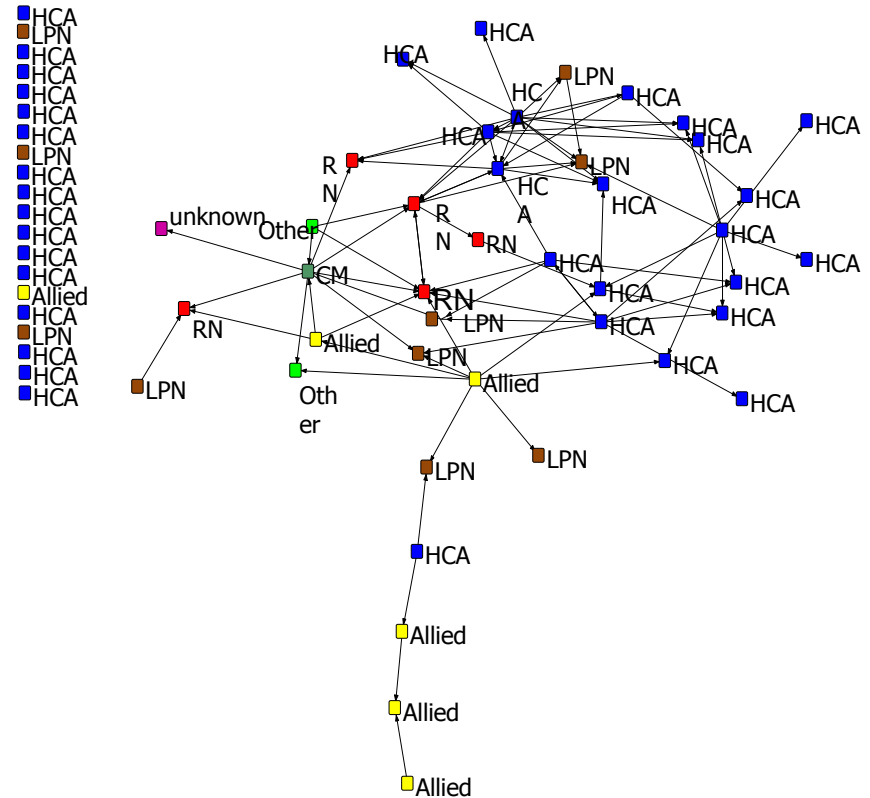


UNIT 5 NETWORKS

○ Advice network



○ Feedback discussion network



ONLY TWO TPB VARIABLES APPEAR SIGNIFICANT IN PREDICTING INTENT TO CHANGE BEHAVIOR

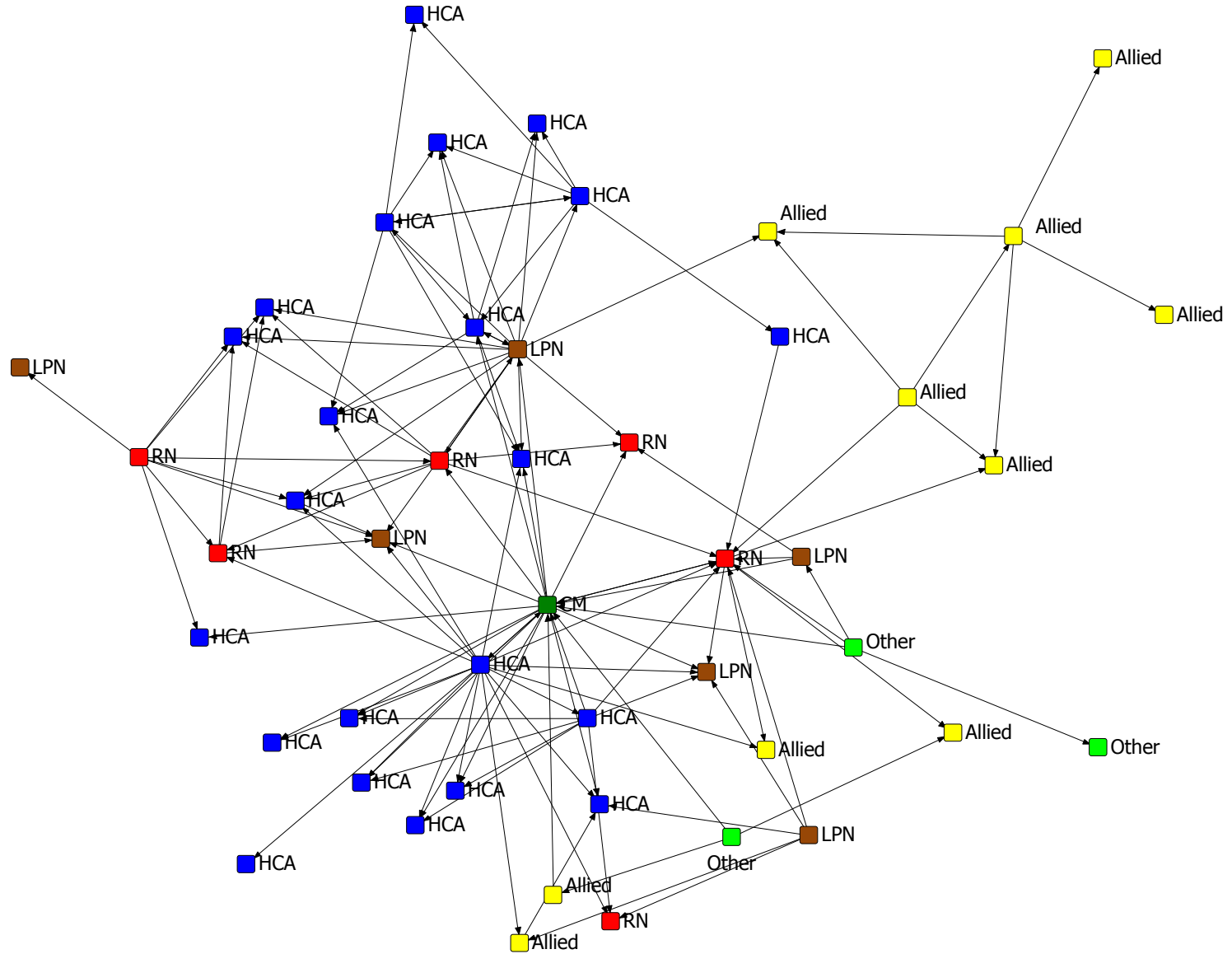
Variable	Odds Ratio	LL 95% CI	UL 95% CI
Unit 2	3.83	0.41	35.54
Unit 3	0.77	0.09	6.95
Unit 4	7.96	0.70	90.00
Unit 5	2.54	0.38	17.04
Unit 6	1.26	0.20	8.01
Outdegree	0.98	0.86	1.13
Indegree	1.48	0.91	2.40
RN/LPNs	3.98	0.88	17.95
Allied Health	2.21	0.28	17.47
Non-Canadian	2.10	0.58	7.63
Attitude	0.96	0.84	1.09
Subjective Norm	1.43	1.23	1.66
Perceived Beh Control	0.81	0.73	0.90

HOW NETWORKS MAY INFLUENCE KT; THOUGHTS ABOUT INTERVENTIONS

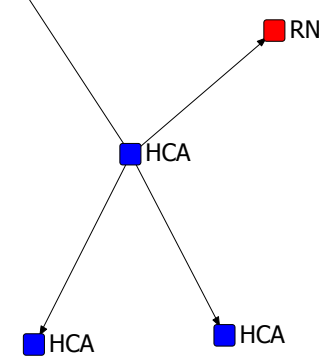
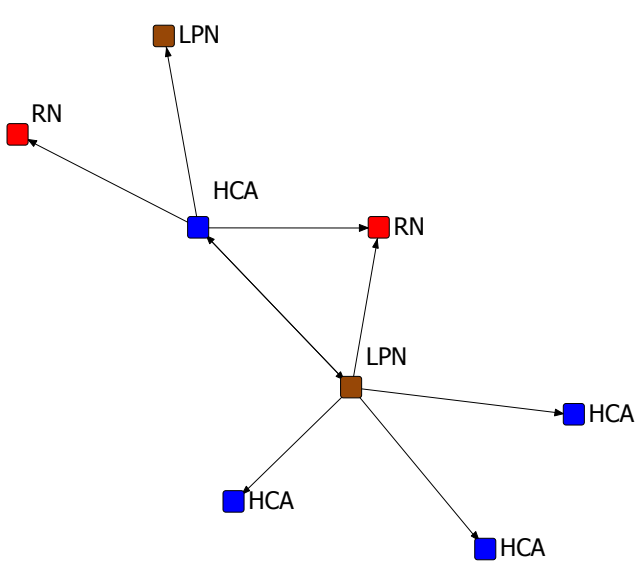
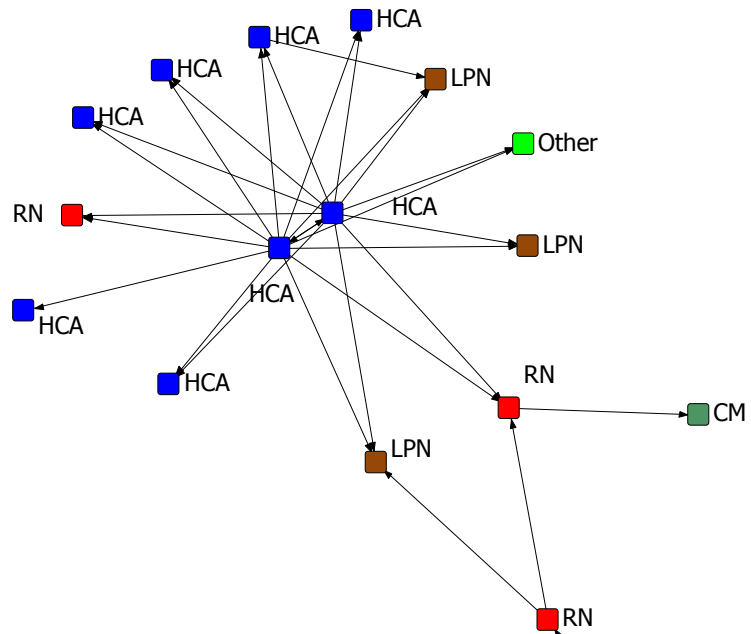
- Units appear to have very different networks for advice and discussing the feedback reports
 - Different actors relating in different ways
 - Suggests that advice was not necessarily the focus of discussion
 - Focus only on CM (care manager/unit manager) in these two units
 - One is very central; one is very peripheral
 - Coaching for peripheral CM might be useful
 - Considerable utility in deciding where to focus qualitative work to understand more about uptake and other issues
 - But there are issues....



- HCA
- Allied
- Allied
- LPN
- Allied
- Allied
- HCA
- LPN
- Allied
- Other



- HCA
- Allied
- LPN
- Allied
- Allied
- Allied
- Allied
- Allied
- Allied
- Allied
- HCA
- HCA
- HCA
- Allied
- CM
- HCA
- Allied
- HCA
- HCA
- HCA
- Allied



ISSUES AND CONCERNS

- Getting the response rates we did required multiple tries
 - Hand delivered surveys four times each week (all shifts including midnight), one week each month for three months
 - Time constraints, concerns about confidentiality, issues of lack of trust of managers
 - However, this was timed for over 10 months into the intervention; RAs were very well known and relatively trusted
- We asked five network questions
 - May have been too many
 - List format of questionnaire may have been too long



DISCUSSION

- Results are still preliminary
- Multivariate analysis under-powered
- We will be looking at several additional analyses and approaches
 - Analyze each unit separately rather than pooling data across units
 - Look at association of unit characteristics (gathered through a third survey not discussed here) with networks
 - Assess additional ways of characterizing networks with uptake of KT intervention



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- Protocol paper published in *Implementation Science* 2010:
- <http://www.implementationscience.com/content/5/1/49>

