What happens to where people die when two palliative care services are amalgamated?: An analysis of the socioeconomic and symptom burden factors that impact on site of death

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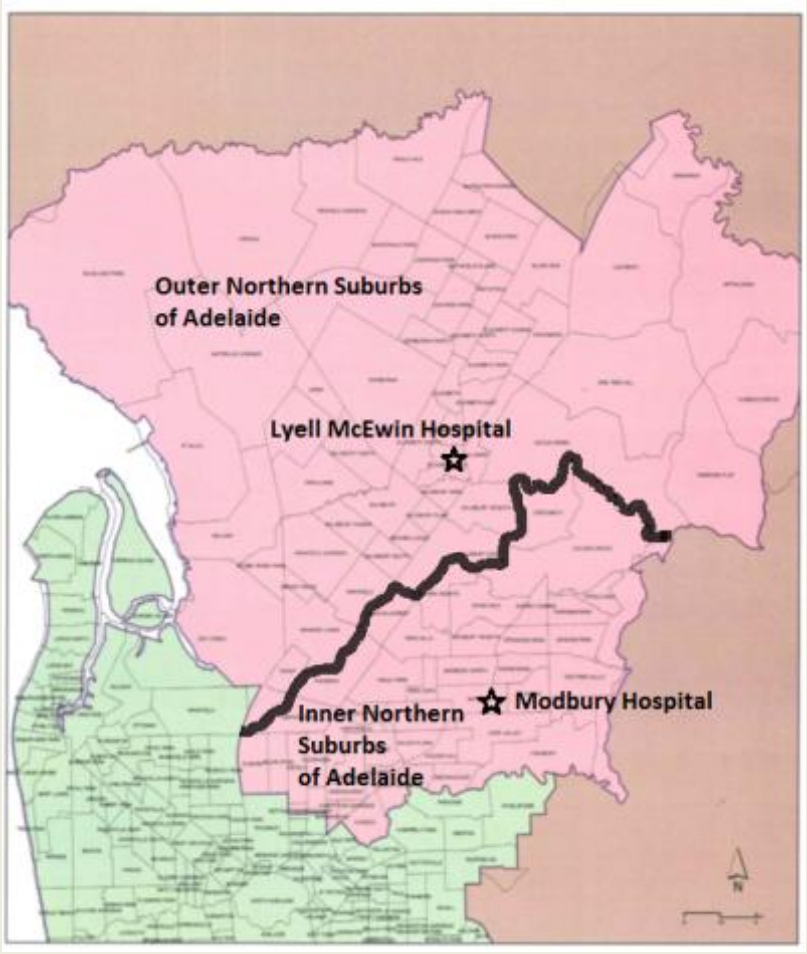
Thanks

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Introduction: Northern Adelaide Palliative Service (NAPS) geographical area



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Study 1 Method

Data Collection

Client Management Engine Database (CME).

Modbury Hospital (Inner Northern, I.N.) and

Lyell McEwin Hospital (Outer Northern, O.N.) palliative care services in 2009.

NAPS (I.N./O.N.) in 2013.

Statistical analysis utilising Chi square and Mann-Whitney U tests.

Study 1 Results

Geographical Area Distribution 2009, 2013.

Area	2009	2013	Total
I.N.	280	330	610
O.N.	296	331	627
Year Total	576	661	1237

χ^2=0.21 (*df* =1, *N*=1237), p=0.64

Study 1 Results

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Study 1 Results

Length of time between referral to death.

	N	Median	Std Deviation	Range	Mean
2009	563	51	145.41	757	109
2013	653	38	122.59	797	81
Total	1237				

Mann-Whitney U (U=161233.5, Z= 3.699, p<0.01)

Length of time between referral to death excluding referrals <28 days.

	N	Median	Std Deviation	Range	Mean
2009	352	109	156.56	728	168.14
2013	367	88	139.55	797	138.02
Total	719				

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Malignant/Non-malignant diagnosis

	2009			2013		
Area	I.N.	O.N.	Total	I.N.	O.N.	Total
Malignant	202	225	427	193	209	402
Non-malignant	74	71	141	101	76	177
Unknown	4	3	7	36	46	82
Overall	280	296	576	330	331	661

Entire NAPS Area 2009, 2013: χ^2=4.72 (*df* =1, *N*=1148), p=0.03
Inner Northern Area 2009, 2013: χ^2=3.80 (*df* =1, *N*=576), p=0.05
Outer Northern Area 2009, 2013: χ^2=1.07 (*df* =1, *N*=578), p=0.3

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Study 1 Results

SEIFA* decile ranking applied to geographical area

Area	Mean SEIFA Score	SEIFA Ranking	Socioeconomic Advantage
Inner North-East	6.36	7-10	High
Inner North-Central	4.0	4-6	Moderate
Outer North-East	2.8	1-3	Low
Outer North-West	2.7	1-3	Low

* Australian Bureau of Statistics 2011 Census Socio-Economic Indexes for areas report

Study 1 Results

Direct linear distance (km) to palliative care bed.

Area	2009	2013
Inner North-East	2.57	2.57
Inner North-Central	6.0	6.0
Outer North-East	6.6	14.0
Outer North-West	7.1	11.7

Study 1 Results

Site of Death: NAPS

Site Of Death	2009			2013		
Area	I.N.	O.N.	Total	I.N.	O.N.	Total
Home	26	54	80	68	70	138
RACF	45	46	91	48	47	95
General hospital bed	6	83	89	27	89	116
Palliative care bed	193	98	291	178	103	281
Private hospital	2	14	16	4	16	20
No Record	8	1	9	5	6	11
Overall	280	296	576	330	331	661

NAPS Area 2009, 2013: $\chi^2=12.3$ (*df* =3, *N*=1089), p<0.01
Inner Northern Area 2009, 2013: $\chi^2=28.6$ (*df* =3, *N*=499) p<0.01
Outer Northern Area 2009, 2013: $\chi^2=1.08$ (*df* =3, *N*=586), p=0.78

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Study 1 Discussion

Population demographics were similar and the service grew 14.6% between the two years.

Increased non-malignant referrals occurred between the years.

Time periods between initial referral to death decreased between the years.

Hospital admission rates were not altered through moving site of beds in the outer northern areas.

Better resourcing of NAPS service increased community death rates in the inner northern areas.

Study 2 Method

Sixty-eight consecutive patient reviews.

Palliative Care Outcome Collaborative (PCOC) data collected at initial review and terminal admission/home end-of-life care.

1) A functional dependence assessment using Resource Utilisation Groups – Activities of Daily Living scale (RUG-ADL).

2) Severity of symptoms utilising Problem Severity Scores (PSS).

3) performance status utilising Australia-Modified Karnofsky Performance Scale (AKPS).

Qualitative descriptions for admissions.

Study 2 Results

Patients nominated preferred site of death

Preferred site of Death	Number of patients	Percentage
Home	28	49%
RACF	10	18%
Hospital	12	21%
No preference/Wouldn't discuss	7	12%
Total	57*	100%

*8 living and 3 patients dying with complications of active treatment excluded

Study 2 Results

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Study 2 Results

AKPS decreased for all patients demonstrating decreasing function as disease progressed.

RUG-ADL increased for all patients demonstrating increased dependence upon others for care needs as disease progressed.

PSS Domains.

Pain and Family/carer showed greatest changes.

Psychological/spiritual and other symptoms showed less changes.

Study 2 Results

Actual Versus Preferred Site of Death with Symptom Scores

Preferred site of death	Actual site of death	Number of Patients	Percentage	Average change in PSS- pain between initial and final review	Average change in PSS- carer between initial and final review
Home	Home	20	35%	-1.0 reduction	-2.0 reduction
Home	Hospital	8	14%	0.4 increase	0.6 increase
RACF	RACF	10	17%	-1.4 reduction	-1 reduction
Hospital	Hospital	12	21%	0.8 increase	0.6 increase
No preference/Wouldn't Discuss	Hospital	6	11%	1.0 increase	0.3 increase
	Home	1	1%	-1.0 reduction	-1.0 reduction

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Study 2 Discussion

70% patients stated initial preference to die in community setting.

50% patients died in community setting.

Importance of actively choosing to die at home.

Pain and carer distress featured as reasons for changing preferred site of death.

Average symptom burden increased for patients dying in hospital setting and reduced for those dying at home.

Opportunities for Further Study

Length of hospital stay was not captured.

Number and cost of community visits was not captured.

Involvement of non specialist palliative care was not captured.

Cost of service reproduction (Consult liaison service, Hospital transfer for tests and care) was not captured.

Patient and carer satisfaction with the move of Palliative care beds was not captured.

Conclusion

Moving inpatient palliative care beds did not alter admission rates in the outer northern area.

Length of time period between initial referral to death decreased.

Symptom management and community support were vital in assisting community deaths.

Patients and families needed to make a conscious decision to die in the home setting.

Increased resources through service merger increased community death rates in the inner northern area where the service was based.