The effectiveness and cost of providing a nurse practitioner palliative care service in an aged care setting: A pilot study

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Project Aim

To trial a community-based palliative care nurse practitioner service for people aged 65 and over living in the community and residential aged care within a defined health district.

Funded by Department of Social Services '*Better Health Care Connections*' program

Eligibility criteria

- ✓ Aged 65+ years
- ✓ Life expectancy of less than 3 months
- ✓ Complex palliative care needs
- ✓ Live in a nominated suburb
- ✓ GP and family agreement for NP involvement
- ✓ Care at home or at one Residential Aged Care Facility within catchment

Methodology

Survey data was collected

Survey type	Timing	Method	Delivered by
Client/Resident pre-service	At NP's initial assessment	Written survey	Nurse Practitioner
Client/Resident post-service	Following client's discharge (if occurs)	Phone survey	Research Officer
Family member pre-service	At NP's initial assessment	Written survey	Nurse Practitioner
Family member post-service	6-12 weeks after bereavement or following client's discharge (if occurs)	Phone survey	Research Officer
Medical Practitioners	Pilot conclusion, from Jan 15	Email survey	Research Officer
Community nursing staff	Pilot conclusion, from Jan 15	Email survey	Research Officer

Service data has been collected at each NP intervention including physical visits and phone calls

This includes:

- ✓ Intervention type
- ✓ Duration
- ✓ After-hours
- ✓ Crisis / planned intervention
- ✓ Whether a hospital admission was required
- ✓ Palliative Care Outcomes Collaboration (PCOC) scores for Community clients
- ✓ Necessary follow-up from the NP

Existing de-identifiable Blue Care service data has been utilised to provide a baseline (control) group.

Cost data was collected to help determine a cost-effective and sustainable model of care.

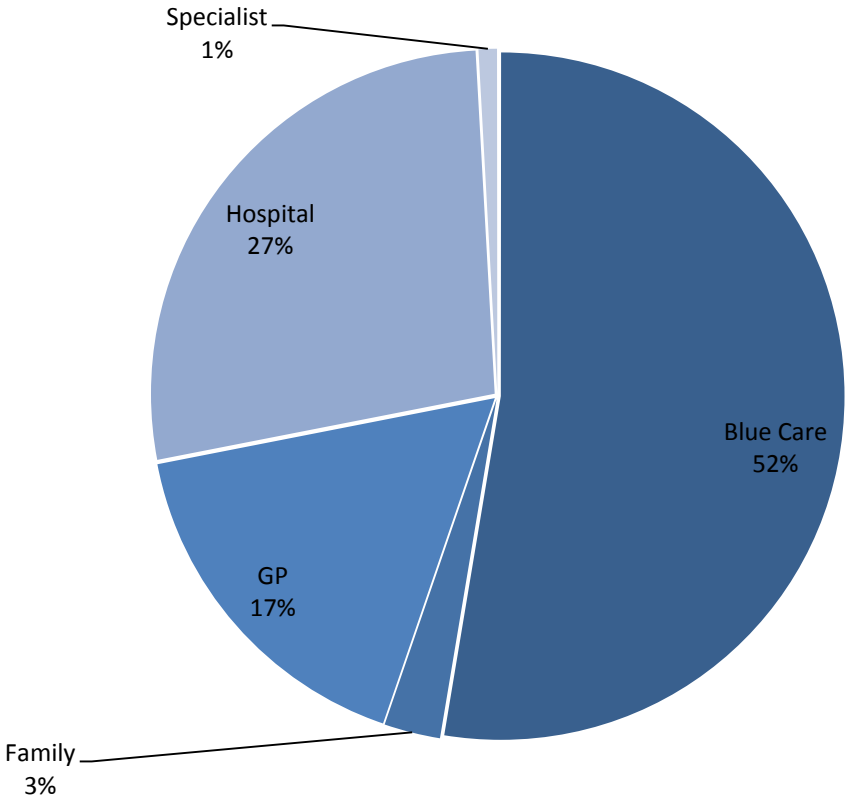
Costs calculated included:

- cost offsets - NP generated Medicare fee
- Differential costs of employment – RN Level 1.4 versus NP
- GP versus NP costs

Overview of findings

Client profile and referrals (n=114)

- 83% malignant primary diagnosis for community clients
- 91% non-malignant primary diagnosis for residential clients
- Residential clients were generally older, 71% aged 85 years +
- Community clients generally younger, 69% aged 65 – 84 years

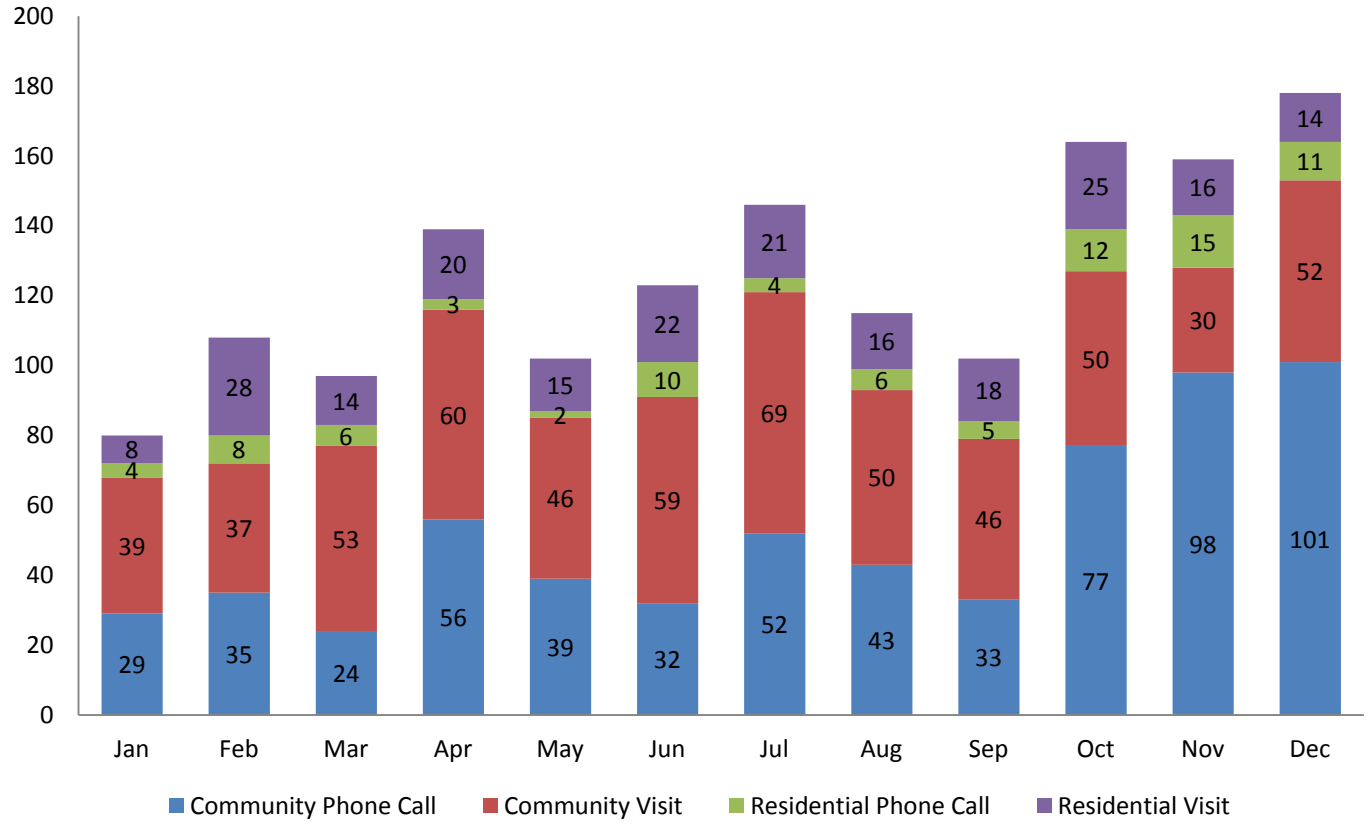


NP Interventions

- Total of **1,670** interventions
  - 913 (**55%**) in-person visits
    - 102 crisis visits (11% of visits)
    - 42 after hours (3% of all interventions)
  - 757 (**45%**) phone calls
    - 511 crisis calls (68% of calls)
    - 166 after hours (10% of all interventions)
  - 716 scripts
  - 48 pathology requests

NP Interventions

Face to Face Visits (55% of activity) generate Medicare Rebate



Outcomes – place of death

Place of death (All clients)	Community and RACF NP (n=73)	Community and RACF Control (n=57)
Death at home/RACF	69.9%	49.1%
Death in hospital	49.1%	50.9%

Statistically significant ($X^2 = 5.78$, $p = .02$).

Outcomes – place of death

Place of death	RACF NP (n=26)	RACF Control clients (n=25)
Death at RACF	96.2%	68%
Death in hospital	3.8%	32%

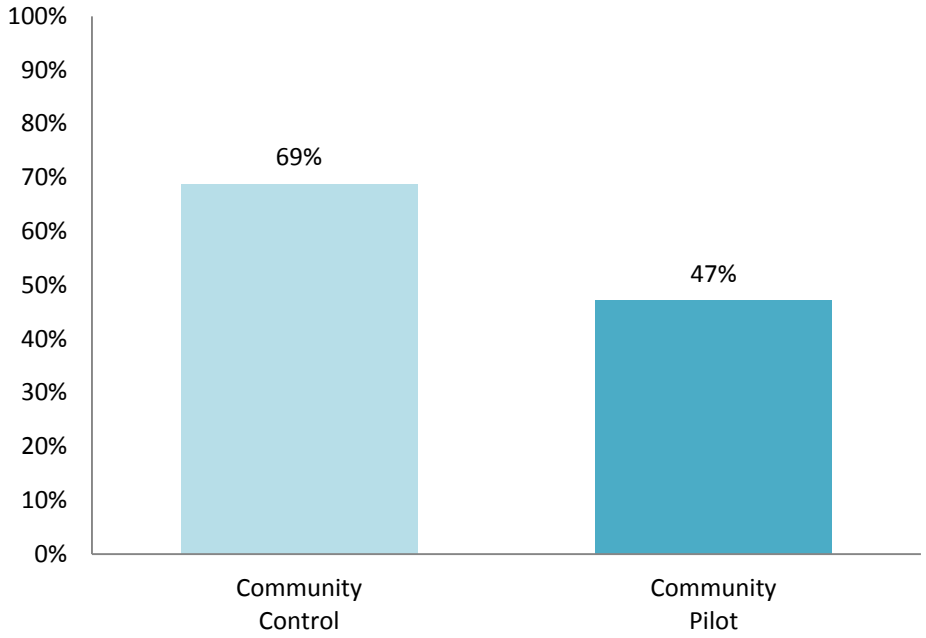
Statistically significant ($X^2 = 6.95$, $p = .01$).

Place of death	Community NP (n=47)	Community Control clients (n=32)
Death at home	55.3%	34.4%
Death in hospital	44.7%	65.8%

Approaches statistical significance ($X^2 = 3.35$, $p = .07$).

Outcomes – hospitalisations

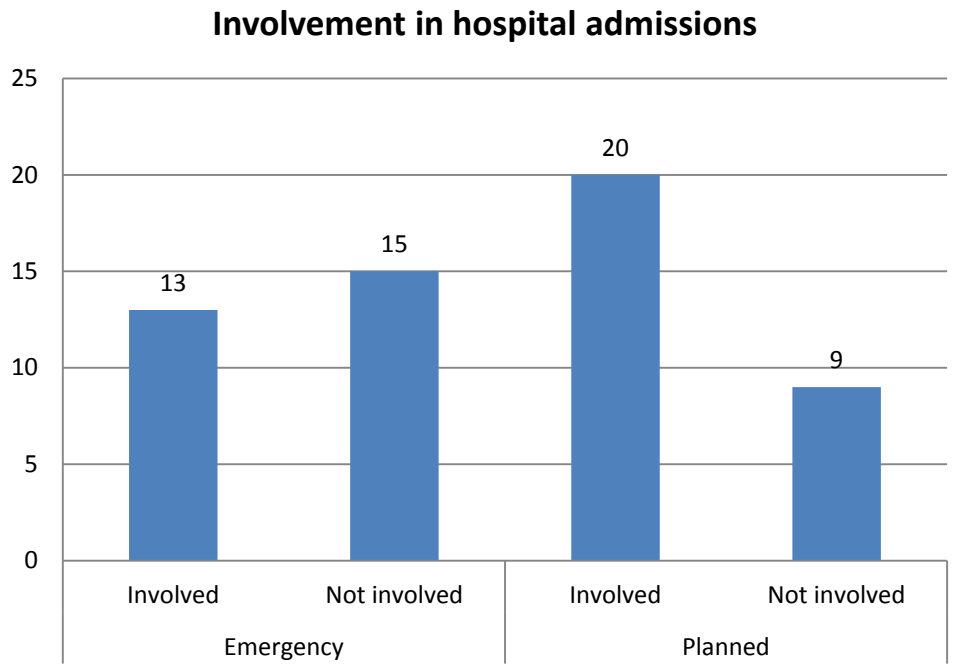
- Average 2.4 fewer days in hospital immediately prior to death for NP clients than for control clients (data for community clients only)



Statistically significant ($X^2 = 6.95$, $p = .01$).

Outcomes – hospitalisations

- NP assisted families with hospital admissions.
- Involved in 69% of planned admissions and 46% of emergency admissions.



Cost analysis – Medicare Rebate

- Medicare Rebates generated by the NP are able to offset implementation costs
- Cost analysis compares NP wages with RN Level 1.4
- Assumptions
  - Travel and consumables are assumed to be the same
  - The number of visits per week by the NP and their length have been determined from real time data from the NP project
- Cost difference between an RN and NP was looked at in two ways
  - Comparison of salaries
  - Comparison of salaries factoring for leave (no Medicare Rebate while on leave)

Salaries Per week (38 hrs/wk)		Factoring for NP leave	
NP	$2,249.22	NP/RN wage difference of $862.22 x 6 weeks of leave = $5,173.32	
RN Lvl1.4	$1,387.00	Weekly cost of leave = $5,173.32/46 weeks = $112.46	
Difference	-$862.22	Difference to RN wage plus cost of leave per week	$974.68

Cost analysis

	82200	82205	82210	82215	Total visits	Claimable Medicare	NP to RN
Oct-13	0	2	4	9	15	$ 619	-$ 3,280
Nov-13	0	3	11	31	45	$ 1,969	-$ 1,930
Dec-13	0	4	13	28	45	$ 1,905	-$ 1,994
Jan-14	0	2	14	31	47	$ 2,053	-$ 1,846
Feb-14	0	12	15	38	65	$ 2,613	-$ 1,286
Mar-14	0	10	15	42	67	$ 2,777	-$ 1,122
Apr-14	0	23	31	26	80	$ 2,752	-$ 1,147
May-14	0	16	13	32	61	$ 2,318	-$ 1,581
Jun-14	1	8	27	45	81	$ 3,304	-$ 595
Jul-14	0	15	32	43	90	$ 3,490	-$ 409
Aug-14	1	5	27	33	66	$ 2,653	-$ 1,246
Sep-14	0	9	24	31	64	$ 2,523	-$ 1,376
Oct-14	1	8	34	32	75	$ 2,893	-$ 1,006
Nov-14	1	8	17	20	46	$ 1,721	-$ 2,178
Dec-14	2	1	22	41	66	$ 2,819	-$ 1,080

Additional Cost savings to system

- $36,407 could be claimed for the 913 in-person visits by NP
- GP equivalent of Medicare rebates is approximately $72,085
- Represents a saving of $35,678 to the health system

- Not all visits would have been done by GPs.
- Some visits where script (716) /pathology (48) provided could potentially replace GP visits.
- In these instances differential cost of Medicare reimbursement between GP and NP could be calculated still representing a saving to the health system
- Less potential burden on clients/carers with NP home visit for community clients

Conclusions

- Clinical Setting
  - Clinical considerations – is a mix of residential and community client most desirable?
  - Separate modelling is required to ascertain cost effectiveness of exclusive community and RACF service
- Caseload
  - To achieve a cost positive scenario with a split 75% community and 25% residential requires a monthly visit > 90 patients
  - More modelling is required to ascertain item number to client ratio
  - 55% of service was in person (could this be increased to increase rebates)

Conclusions

- Interventions
  - Scripts and pathology offsets cost to the system compared to services by GP
- Cost effectiveness
  - Cost compared to RN but increasing seniority of comparator will impact on financial modelling (eg CNC)
  - Medicare Rebates for NPs need review
- NP model demonstrated improved Clinical Outcomes
  - Increase in home/RACF deaths for NP clients
  - Decrease in LOS for hospital admissions