

Improving district nurses' confidence and knowledge in the principles and practice of palliative care: an example of the use of a mixed method design in an evaluation in palliative care

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Mixed methods?

- Bring together methods from *different* paradigms
- to develop a better understanding of the phenomena being studied, eg:
 - expansion – by assessing different phenomena
 - triangulation – to increase confidence in conclusions reached
 - complimentarity – to investigate different aspects of same phenomena to deepen conclusions
 - development – one method leads to next eg interviews to development of questionnaire
- **Not** always appropriate – and purists debate whether it can be done at all!

There are costs involved

- requires expertise within research team (if not within individual) in research methods from both qualitative and quantitative 'camps'
- may increase complexity of study – requiring better study management, increased costs, more time
- relatively new research field – knowledge of 'how to do it' still limited
- presents challenges in writing up and publishing

An example – not an exemplar!

- Reflecting state of 'discipline' at time, methods mixed in pragmatic response to demands of research aims
- Now would consider more carefully:
 - Which method had precedence in terms of resources and status, why and when
 - The relative timing of the methods
 - What we would do if different methods gave different results
 - How to write up the findings in an integrated way – how and when to mix the data
 - Whether less is more!!

Introduction

- In 2001 the Department of Health launched a 3 year national education and support programme in palliative care for community nurses in England
- Low home death rates might partly be due to lack of training and confidence for community nurses
- Post-registration palliative care training for nurses had been patchy
- The programme was carried out through 34 Cancer Networks across England

The evaluation

- An evaluation was commissioned in 2002
- The aim of the evaluation was to evaluate the acceptability and effectiveness of the national education and support programme

Objectives

To identify the range of educational models and methods of delivery

- To assess whether the programme had a measurable impact on:
 - DN confidence in competency and knowledge
 - GPs' perceptions of adequacy of communication with DNs, and of community palliative care
 - Bereaved relatives' views of quality and adequacy of DN support
 - Place of death, and referrals to specialist palliative care services

Objectives

- To describe participants' and local stakeholders' views of the programmes,
- and the educational and support needs of DNs

For 8 networks – qualitative interviews

- Randomly selected 8/34 cancer networks, stratified by region
- Qualitative interviews with 26 stakeholders and 16 project leads/managers (up to 3 times), and 39 DNs to describe their experiences
- Qualitative data analysed using the Framework approach

**What does the evaluation say
about ...**

The impact of the programme on
DNs?

Methods for the evaluation

- Before and after design
- **Postal questionnaires** sent one year apart to assess impact of programme on nurses confidence in competency and knowledge
- Randomly selected 8/34 cancer networks, stratified by region
- Randomly selected 1280 nurses: 160 per network.
- **Semi- structured interviews** with a sample of 39 community nurses attending educational programmes

Postal questionnaire

Examples of questions

How confident are you in your competence

- To assess when an individual is in pain?
- To suggest the use of opioids?
- To assess the causes of breathlessness?
- To suggest appropriate treatment for breathlessness
- To assess the causes of nausea and vomiting?
- To suggest appropriate treatment for nausea and vomiting?

Very confident

Confident

*Not very
confident*

*Not at all
confident*

1

2

3

4

Methods of analysis

Postal questionnaires

- A mean score was developed for each of 9 topics of confidence in competence for phase 1 and 2
- Mean scores for phase 1 and phase 2 were compared using paired samples t-test
- One change score was calculated by subtracting an overall phase 1 score from an overall phase 2 score
- Multiple linear regression was undertaken on the change score to identify factors predicting improvement in scores

Methods of analysis

Interviews

- Qualitative data were analysed using the Framework Approach

Results

Phase 1: 56.5% (651/1152) nurses responded

Phase 2: 56.9% (636/1119) nurses responded

Matched pairs sample: 32% (374) nurses

Change in Nurses' confidence in competencies between phases one and two

<i>Confidence in Competence in</i>	<i>Mean phase 1</i>	<i>Mean phase 2</i>	<i>N</i>	<i>t</i>	<i>P value</i>
▪ Pain	2.09	2.02	351	3.12	0.002
▪ Breathlessness	2.57	2.47	363	3.49	0.001
▪ Constipation	1.92	1.84	362	2.85	0.005
▪ Nausea & vomiting	2.26	2.20	362	1.97	0.050
▪ Agitation & confusion	2.62	2.47	364	4.82	<0.001
▪ Anxiety & depression	2.65	2.54	351	3.86	<0.001
▪ Palliative care emergencies	2.21	2.13	361	2.97	0.003
▪ Emotional support	2.01	1.93	364	2.81	0.005
▪ Communication	2.28	2.19	364	2.90	0.004
▪ Total score	2.28	2.19	321	5.08	<0.001

Change in knowledge scores

4 knowledge based questions to assess

	P value
1. Correct dose of diamorphine when translating from 90mg MST twice daily to a syringe driver	0.021
2. Knowledge of palliative care emergencies	0.005
3. Knowledge of spinal cord compression	0.002
4. And medication to relieve breathlessness	0.43

Statistically significant improvement in scores between phases one and two - except for question 4

Using Wilcoxon test for Q1,2,4; T-test for Q3.

Factors associated with greater improvement in overall confidence in competency

	B	T	P	95% CI
▪ Not having a DN qualification	.13	2.79	.01	.04, .22
▪ Not having access to the BNF	-.33	-2.52	.01	-.59, -.07
▪ Undertaken clinical placement	-.24	-2.89	.004	-.40, -.08
▪ Left the course with resources	-.18	-1.87	.06	-.37, -.01
▪ Not having worked within specialist palliative care	.17	2.53	.01	.04, .31

Themes from the interviews with community nurses

- Increased confidence in communicating with patients and families
- Increased confidence in working with family doctors
- Increased awareness of the extent of knowledge
- Improved relationships with and awareness of specialist palliative care colleagues

“I had more confidence in what to do and who to contact with a patient. I think it also enhanced my practice by giving me ... the local information I need”

What was the impact of the programme on DNs?

- The national programme made a significant difference to community nurses' competence and knowledge in palliative care
- Community nurses without DN qualifications and with less palliative care experience were particularly likely to benefit
- The results from the postal questionnaires were supported by nurses' comments in interviews – an example of triangulation
 - In published paper, quotes are interwoven with statistical data (JAN 2008;63:494-505) – few journals allowed enough words!!
 - If publish in separate articles, 'salami publishing' and telling partial truth.

So, why use mixed methods in evaluation?

- Complex, 'real-world' phenomena
- Need to know **why** services work (or don't) as well as **whether** they do (or don't) (process as well as outcome)
- But, need to make careful, informed decisions about:
 - the purpose of mixing methods
 - How this will inform the design of the study, including decisions about which method has priority, when methods will be mixed (at analysis, interpretation?)
 - Skill mix and funding
 - Presentation and dissemination of findings