Full title of project

Measuring quality in community nursing: a mixed methods study

Background and rationale

The setting and measurement of quality standards have been formally incorporated into community health service commissioning decisions since 2009 [1] and a menu of quality indicators has been published for use in community services.[2] The use of standardised quality indicators across community services should in theory enable similar services to be compared. Despite substantial investment in quality indicator schemes little is known about how quality measures are used in practice. This is especially relevant at a time when costs are constrained. Knowing what is useful can help to maximise the usefulness of the schemes, save money and improve impact on patient care.

The NHS is expected to make £20 billion in efficiency savings by 2014/2015.[3] A key factor in meeting this target is to shift care from acute services provision to the community [4]. Currently 10% of the National Health Service annual spend, a total investment of more than £10 billion each year, is spent on community services. [5] An effective, safe and high quality community sector is vital in offering alternative or complementary provision to acute services, to reduce avoidable hospital admissions, lengths of stay and therefore, NHS costs.

Community nursing is the largest service group within community health provision. Community nurses work in a range of roles supporting patients in their homes to prevent unnecessary hospital admission and facilitate timely discharge. They undertake specialist roles such as palliative care or work as part of community nursing teams (e.g. district nurses and community matrons) providing a full range of nursing care to people who are housebound, therefore serving the most vulnerable and frail NHS users.[6] Our focus is on community nursing as care provided in the home is largely invisible to planners and managers and therefore finding ways to capture the quality of care is even more urgent. Furthermore, although our understanding of how to measure the quality of services is growing in the hospital and primary care sectors, we know little about service quality in the community sector and knowing how to measure quality is an essential precursor to improving it.

Quality indicator schemes can be nationally mandated, regional, local, voluntary, incentivised or penalty based. One example of a quality indicator scheme is Commissioning for Quality and Innovation (CQUIN), which offers community service providers additional income to meet quality goals (e.g. death in preferred place) [4] with an intention to provide information for comparison purposes. Currently the NHS spends an estimated £275 million annually on community CQUIN, yet there is scant evidence of its success. Other quality indicator schemes include Quality Premium [3] and the Never Events Framework.[7] Indicators of the quality of community nursing can come from multiple sources including Transforming Community Services Quality Standards[8], Community Information Dataset [9, 10], Health and Social Care Information Centre database of over 2,000 indicators [11], NICE Quality Standards [12] in addition to local derivation[13].

Quality indicator schemes have the potential to improve care quality yet we know little about how service users perceive their value and if there are unintended consequences to their use. A study exploring primary care professionals' experiences of the GP Quality Outcomes Framework (QOF), another pay for performance quality scheme, suggested the nature of professional and patient consultations had been changed since its introduction [14] and patient-centredness and continuity negatively affected.[15]

In preparing for this bid, we analysed 2010/2011 community nursing CQUIN schemes. Most schemes had between 3-12 indicators. Of 94 community providers, 52 had indicators for community nursing covering 24 topics such as dementia and pressure ulcers. Often indicators addressing the same goal were worded differently e.g."% expected deaths on Liverpool Care Pathway [LCP]" "75% on LCP" "embed principles of LCP" which preclude benchmarking across organisations because the indicators are not comparable. As comparison is not possible, we need to know what other benefits quality indicator schemes may (or may not) generate. Previous studies identified that community data were too poor for reliable quantitative analysis.[16, 17, 18, 19] A national evaluation of CQUIN provided an overview of implementation in 12 community and acute case sites, explored relationships and staff engagement and found the impact of the scheme was 'disappointing'.[6]

The proposed research builds on studies conducted previously on quality indicators for district nursing ([13, 19] a DH funded evaluation of Community Foundation Trusts [20], and a DH funded study of financial incentives in community services [21]. It expands on previous research by focusing in-depth on community nursing services, includes service users as study participants and incorporates the perspectives of national, regional as well as local quality leads. A key focus of data collection is on frontline teams and their managers. The robustness of community derived data on quality will be tested through observations of data collection and analysis of datasets. Furthermore, since the national evaluation of CQUIN, new clinically led CCGs have taken over from the managerially led primary care trusts (PCTs) which were previously undertaking commissioning and it is not known how quality schemes will be implemented and assessed in the future. Previous studies have either not covered these areas at all [16, 22, 23, 24] or they need further amplification.[19]

This project was initially developed from a concern raised by a service user that individualised care might be compromised if nurses have to meet standardised quality indicators. Our research questions and objectives have also been developed in close collaboration with community nurses, commissioners and NICE who want to know:

- if quality indicators align with patient priorities (service users)
- how colleagues select indicators and examples of best practice (commissioners)
- about data collection and community team engagement (district nurses)
- if NICE Quality Standards are a useful source of indicators (NICE Associate Director)

The proposed study will provide evidence on (1) what, how and why particular indicators are selected locally, regionally and nationally for community nursing services (2) service user views on the appropriateness of selected community nursing indicators (3) how quality indicators are introduced successfully to frontline community teams (4) which indicators generate good quality data and (5) the usefulness of the indicators in identifying good quality services and driving service improvement. The over-arching aim of the study is to provide local NHS commissioners and service providers with the information they need to improve community nursing quality indicator schemes for the benefit of service users and NHS staff. Currently, preliminary evidence suggests the costs in staff time and administrative burden may potentially outweigh any gains.[15] Moreover, we do not have any information from service user perspectives. This study is therefore needed to understand this previously unexplored terrain of community nursing services and quality indicators.

The recent reforms have created significant change for commissioners and community providers. Clinical Commissioning Groups have been introduced with the aim of placing doctors and nurses at the heart of decision making.[25] As clinicians, their priorities expressed through quality indicators may alter substantially. Moreover, community providers have themselves reformed into new organisations [26] such as Community Foundation Trusts and social enterprises, with further independent private (e.g. Virgin Care and Serco) and voluntary sector providers (e.g. hospices). In some cases, community providers have integrated horizontally with social care departments or have merged with hospitals or mental health trusts[20] and these organisational forms are significantly different from previous incarnations, with greater emphasis on competition and demonstrating 'value for money'. The way in which these organisations introduce and utilise indicators, therefore, may be different. In addition the measurement and capture of quality data has changed substantially as electronic data recording systems have become more embedded into the community sector. [9, 10]

Improving quality remains a very high priority [22] with the recent publication of the Francis inquiry.[23] Although the Francis inquiry focused on a hospital trust, the recommendations are likely to apply to all healthcare providers. The recommendations include the introduction of a hierarchy of quality standards: *fundamental* quality standards that are minimum requirements to be set by the government; *enhanced* quality standards to drive service improvements, to be set by NHS England and CCGs; and *developmental* quality standards which are longer term goals. A recent King's Fund report reinforced Francis' findings that there may be unintended consequences to target use, with aspects of care not covered by standards being relatively neglected. Its survey of NHS staff (clinical and non-clinical) found 80% of nurse respondents stated that not enough attention is paid to quality of care and a large proportion of nurses and clinicians (43%) said not enough attention was paid to quality by commissioners.[27]

There is an urgent need now to understand how to maximise the benefits and minimise any potential unintended consequences of the implementation of quality indicator schemes in community nursing, serving some of the most frail health service users. Our study will share knowledge and understanding of good practice in use of quality indicator schemes to enhance services and more closely align with patient priorities.

Aims and objectives

Aim

The primary research aim is to investigate how the indicators used to assess quality of community nursing services are selected by commissioners and providers, implemented by frontline staff, and their usefulness, from the perspectives of commissioners, providers and patients. The findings will enable us to identify what works, for whom and in what circumstances to ensure the schemes achieve their intended goal of improving patient care.

Research Questions

The research questions being addressed through this study are:
1. Which quality indicators are selected locally, regionally and nationally for community nursing?
2. How are they selected and applied?
3. What is their usefulness to service users, commissioners and community provider staff?

Objectives

The associated objectives are:
1. To **map** quality indicators in use for community nursing to understand which indicators are currently selected.
2. To identify the processes for the s**election** of quality indicators for community nursing at local, regional and national level including which indicators are chosen, their source and rationale for inclusion.
3. To clarify the processes for introducing and **applying** quality indicators into community nursing services and understand how data are collected, analysed and quality assured.
4. To explore the **usefulness** of indicators in terms of meeting priorities, assessing the quality of services, influencing commissioning decisions and bringing about changes in service delivery from the perspective of service users, front line teams and commissioners.
5. To produce actionable messages and best practice recommendations to **disseminate** proactively to service users, NHS staff, DH policy makers, NICE and academic audiences to improve the selection, application and usefulness of quality indicator schemes for community nursing.

Research plan /methods

We are proposing to conduct a mixed methods study which includes a national survey of quality indicator schemes, in-depth qualitative case studies in five sites followed by the testing of the transferability of the findings with a further ten sites.

Design and conceptual framework

The proposed mixed methods study utilises an integrative approach of ‘connecting’ quantitative and qualitative data rather than ‘merging’ or ‘embedding’.[28] Mixed methods will be employed sequentially to provide breadth and depth of description of quality indicator use in community nursing. The quantitative data will be collected first in order to describe the current range of quality indicator and incentive schemes in use in community nursing, and will also provide a sample of providers from which to select 5 case study sites. The qualitative case study will identify and probe the processes of selection and application of quality indicator schemes in practice to provide an in depth understanding of the relationship between national and regional policy directives and broader influences such as the context of social care on local implementation.

Individual and local contextual factors can affect the success of national policy implementation so an understanding of the interplay between these is fundamental in ensuring any benefits from national initiatives such as quality indicator schemes are obtained. In order to conceptualise our study we will use a framework originally developed by Franco et al [29] and utilised successfully in our earlier work .[30] This multi-level framework incorporates contextual determinants that influence behaviour and attitude factors, which include, but go beyond a focus on individuals, to incorporate contexts (e.g. organisational and wider health system contexts) and relationships since these are all likely to have a bearing on which indicators get selected, as well as the application and views on what is useful with regard to indicators.

The overall project design incorporates a dissemination strategy based on ‘linkage and exchange’[31]. Developed and extensively tested by the Canadian Health Research Institute, the principles of this approach are that research ‘producers’ (e.g. academics) and research ‘consumers’ (e.g. commissioners, healthcare practitioners, patients, the public) should work in partnership at every phase of the research process, including formulating the research question(s), collecting and analysing data and identifying key messages, mediums and target audiences for dissemination. Given that this particular study has arisen from a long partnership between the universities at Bristol and local community nurses in conducting research studies and applying findings and was initiated by concerns and interests voiced from service user representatives, community nurses and commissioners, 'linkage and exchange' has guided our actions throughout. Our dissemination strategy enables us to test our analyses and interpretation of evidence from the case study sites in workshops in a further ten sites nationally to improve the dependability and transferability of our findings.

Setting/context

This study will investigate the selection, application and implementation of quality indicator schemes in the context of community nursing services providing home based care for patients in 5 case sites across England. Service providers may be NHS or independent providers (e.g. social enterprises; voluntary organisations, such as Marie Curie Cancer Care; or private providers, such as Healthcare at Home or Virgin Care) contracted to provide care by the local CCG. We will ensure that at least one case study site includes an independent provider and one site where health and social care provision has been horizontally integrated The community nursing services will provide nursing care to support people in their own homes, prevent unnecessary hospital admission or support patients on discharge from hospital. The geographical spread of the case sites and different types of community nursing provider will enhance the reach of the project and transferability of findings.

Participant inclusion criteria

Commissioners and community service provider managers eligible to take part in this study are those who are directly responsible for community nursing services, and in particular agreeing and implementing quality indicators schemes. We anticipate that other stakeholders such as social, independent and voluntary sector care provider services could be instrumental in enabling community nursing services to achieve their CQUINs and other quality measures, especially in care of people with long term conditions and end of life care. Where this is perceived to be the case, for example during observation of commissioning meetings we will interview such stakeholders to better understand the interrelationship of service provision and its impact on quality indicator selection.

Community nurses eligible for this study are registered nurses delivering nursing care to people over the age of 18 in their own homes. This criterion includes district nursing teams, integrated care teams, integrated community nursing teams, community matrons and community nurses for older people (CNOPs) who provide home based care for adults with multiple and advanced long term conditions requiring nursing, and palliative care services. For this group of community nurses service aims are to enable people with long term or deteriorating conditions to live independently for as long as possible, reduce avoidable hospital admissions and facilitate timely discharge of patients not requiring hospital care.

Eligible patients for this study are adults (aged 18 and over) who are receiving care from community nurses in their own home. We will ensure that translators and interpreters are made available where necessary to ensure any patient or carer who is able to can take part.

Participant exclusion criteria

We have kept our exclusion criteria to a minimum to facilitate generalisability, however patients who are under the age of 18, who are in the final stages of terminal illness or where informed consent cannot be gained from the patient or (in the case of reduced mental capacity) their legal representative are excluded from this study.

Community nurses specialising in children's, mental health and learning disabilities nursing are excluded as joint commissioning arrangements often apply in relation to these services and these would broaden the scope of the project significantly, causing a loss of focus.

Sampling

A range of sampling approaches will be used to meet the requirements of the survey, case study site selection and participants for observation and interviews, and these are detailed below.

Sampling of survey

Since the recent healthcare reforms it is not possible to easily identify all providers of community nursing services directly so a two stage approach will be used. Community service commissioner leads from all CCGs (n=211) will be emailed to request: 1) information about quality schemes used locally for community nursing; and 2) contact information for their current community nursing service providers (NHS and independent sector). Non responders will receive telephone follow up. In a previous study a national survey of provider performance managers using this approach achieved a 60% response rate from community service providers[6].

Sampling of case study sites

A purposive sample of five case study sites will be identified on the basis of the findings of the survey, selected using the following inclusion criteria: 1) variation in geographical location across England; 2) range and number of quality indicator schemes in operation across community nursing services; 3) range of provider organisation type (NHS and independent) across the five case study sites. Purposive sampling enables researchers to select sites on the basis of their potential to provide data on the contextual factors considered to be significant for the investigation.[32] Whilst there is no consensus on the number of case sites to include in a multi site case study previous experience suggests five sites will enable depth of study, whilst enabling sufficient cross comparison to check for consistency, and will be manageable with multiple data streams.[33, 34]

We will aim to select at least one site that includes an independent provider and one where the community provider is integrated with social care.

Sampling of one to one interviews with national, regional and local leads for community nursing quality indicators

Currently it is not known how many or who occupies national and regional lead posts but this should be determined once fieldwork begins. National and regional quality leads will be identified through snowball sampling and we intend to interview 2 national leads and 2-3 regional leads per case site.

Locally a purposive and snowball sample of three commissioners and provider lead managers for community services in each case site will be invited to be interviewed (n=15). Data saturation, the point at which the same themes are emerging from interviews and no new ideas or issues are being introduced is the preferred method of determining sample size in qualitative research although the concept is not helpful for providing guidance on estimating sample size for non probability samples.

Sampling of observations of commissioning meetings

Researchers will attend three commissioning meetings including both those negotiating and monitoring contracts at each case study site (n=15) during the commissioning and contracting cycle if 1) the attendees include a community nursing commissioner and where the agenda suggests quality indicator or incentive schemes will be discussed; or 2) where a community nursing service commissioner meets with the potential community nursing provider to discuss quality or contracts. We know that these meetings are sometimes held jointly with other care providers e.g. social care and where there is evidence that the care provided by others may influence selection or be instrumental in achieving a community nurse quality indicator we will interview the other care provider.

Sampling of observation of quality indicator scheme implementation meetings

Quality leads within each provider organisation will identify a sample of relevant management and team meetings where quality indicators implementation is on the agenda. Researchers in the case sites will attend three meetings (n=15).

Sampling of one to one interviews and focus groups with team managers and frontline staff

A volunteer sample of front line nursing and team managers for a total of 2 focus groups and 5 individual interviews in each case site will be identified by the researcher attending professional meetings to inform staff about the project, inserting a short article to a staff newsletter and emailing staff through official channels.

Sampling of observation of community nursing quality indicator data collection

At each case site 3 to 5 front line staff will be shadowed for the purposes of observing quality indicator data collection and recording. Observation sessions will be sampled to ensure variation of purpose of visit, (first visit/follow up/ discharge) and range of nursing care being provided (wound care, palliative care, catheter care, pressure area care, long term condition related).

Sampling of one to one interviews with service users and carers

A volunteer sample of 20 users or their carers across the case sites will be identified through purposive sampling of community nurse patients from quality indicator data collection observation visit. Participants will be selected on the basis of their capacity to consent, gender, type of nursing care given, range of data on quality recorded at the observation visit, and whether they received a first visit, follow up or discharge care. If required we will also recruit from local user groups, and local charitable organisations such as Marie Curie Cancer Care or Age Concern.

Data collection

Quantitative and qualitative methods will be utilised in the course of this study. For clarity Table 1 below links the study research questions with the methods that will be used to collect the relevant data. An iterative approach to qualitative data collection and analysis will be taken with researchers meeting regularly over the data collection period to compare and discuss emerging findings to inform subsequent data collection.

Table 1 Data Collection

Research Question	Objective	Data collection method
Which quality indicators are being selected locally, regionally and nationally for community nursing?	**Mapping** To map quality indicators currently in use for community nursing to understand which indicators are selected.	**E-mail survey** and **telephone** follow up collecting quality indicator schemes for community services across England; document review. A cross sectional survey can enable a snapshot of the current picture of quality indicators in use over a large geographical area to be obtained. The use of this method has been successfully used before in the national CQUIN evaluation and returned a response rate of 60% [2]. CCG leads for community services will be emailed to request details of their current quality indictor schemes, and contact details for their local community nursing providers. A brief questionnaire incorporating demographic questions about location and size of CCG local population and type of community nursing provider will be used, and requests for copies of the quality indicator scheme made, removing the need for a lengthy questionnaire and transfer of quality data from one document to another, facilitating easy response and reduction in transcribing errors. Follow up phone calls with non-responders will be used to maximise response rates. A content analysis of national data will be conducted to report type of QI (i.e. structure, process, outcome measure), goal (e.g. end of life care), source (e.g. NICE quality standard), focus (e.g. community nursing) and scheme type (e.g. CQUIN) and descriptive statistics will be applied.
How are quality indicators selected and applied?	**Selection** To identify the processes for the selection of quality indicators for community nursing at local, regional and national level including which indicators are chosen, their source and the rationale for inclusion.	**Semi-structured interviews** with national, regional and local community quality indicator leads in five case sites (5 x 3 local, 5 x 2 regional and 2 national interviews n=27). Semi structured interviews using a schedule guided by the research questions will be used. Interviews will explore the different perspectives held of CQUINs, between providers and commissioners, and different commissioning organisations. For example over the application of the rules governing payment. We will also investigate whether application of the CQUIN rules in our case study sites is allowing any of the commissioners to apply some of the earmarked CQUIN funds to other purposes. Semi-structured interviews have been chosen as they enable sufficient focus on the topic under investigation whilst allowing flexibility for the participants to introduce new ideas and experiences for study. All interviews will be audio-taped and transcribed verbatim. **Observation** of local commissioning/contract meetings where quality indicators are discussed, selected, developed and monitored within the five case sites (5 x 3 observations n=15). Non participant observation of meetings will be undertaken and observations will focus on language used to describe indicators, number and types of actions resulting from meetings and

Research Question	Objective	Data collection method
		contextual influences such as the impact of partnership working and other interactions between the meeting attendees. A purpose designed pro-forma for observations will be developed based on attendance at two management meetings to ensure parity of data collected across sites. **Provider quality indicator maps** for community nursing type and source in each of the five sites with local performance and quality assurance managers from community providers. The researcher will work together with the providers' performance managers and associated analysts responsible for community nursing to map out all quality indicators that directly impact on community nurses. The map will be developed specifically for this research. It will be based on a previous successful mapping exercise previously piloted in Bristol by EG. A content analysis of data will be conducted exploring type of quality indicator (i.e. structure, process, outcome measure), goal (e.g. end of life care), source (e.g. NICE quality standard), focus (e.g. community nursing, Integrated Care Team) and scheme type (e.g. CQUIN) and simple descriptive statistics will be applied to enable an overview and comparison between sites.
	Application To clarify the processes for introducing and applying quality indicators into community nursing services and exploring how data is collected, analysed and quality assured	**Semi-structured interviews** with provider leads responsible for quality indicator implementation at each of the five case study sites (5 x 3 interviews n= 15). Interviews will be guided by a schedule underpinned by the findings from the mapping exercise and focus on the local contextual factors around implementation of quality indicators, for example size of community nursing service, range of data capture systems, potential barriers and facilitators for implementation. Interviews will be audio taped and transcribed **Observation of meetings** between provider leads responsible for implementation and frontline provider staff at each of the five sites (5 x 3 observations n= 15). Data from observation can usefully complement data from interviews to determine discrepancies between attitudes and behaviour.[39] Non participant observation will focus on the interaction between managers and front line staff at meetings where quality indicators are on the agenda, taking particular note of barriers and facilitators raised. Researchers will write supplementary memos following each meeting. **Shadowing of community nursing staff** to observe quality indicator data collection at five case sites (5 x 4 observations n=20). Observation of nursing needs assessment and care planned given and recorded, and its relationship to data required for quality indicator recording will be undertaken in the field by a nurse researcher guided by input from frontline nurses and recorded in a log. A nurse researcher will enable sufficient understanding of the context for care delivery and recording of clinical data relating to quality indicators. Attention will be paid to instances where data not required for the purpose of individualised care delivery is recorded by frontline staff. **Quality indicator datasets** held electronically or on paper at the five case sites will be analysed for completeness.
What is their usefulness to	**Usefulness** To explore the	**Semi-structured interviews** with service users (5 x 4 interviews at each case site, n=20). Semi structured interviews will be

Research Question	Objective	Data collection method
service users, commissioners and community provider staff?	usefulness of indicators in terms of meeting priorities, assessing the quality of services, influencing commissioning decisions and bringing about changes in service delivery from the perspective of service users, frontline teams and commissioners.	conducted to probe service users' perceptions of a high quality service, knowledge of quality indicators and their perceptions of the extent to which they feel local indicators are relevant to their care. Interviews will take place once the nurse observations have been completed, and be informed by these. All interviews will be audio recorded and transcribed. **Focus groups and semi-structured interviews** with clinical team managers and frontline clinicians (5 x 2 focus groups at each case site n=10, 5 x 5 interviews at each case site n=25). Focus groups are valuable in testing out interpretations from individual interviews, and enable debate and discussion amongst group members which can further illuminate the issue under study. Generally focus groups are between 6 and12 people as this allows sufficient size to encourage debate, but not too large to intimidate less confident members of the group. **Semi-structured interviews** with senior community provider and commissioners (5 x 3 interviews at each case site; n=15). Semi structured interviews using a schedule guided by the research questions will be used to explore use of quality indicators, use of, quality and reliability of QI data and impact on commissioning decisions and service design and delivery. All focus group and one to one interviews will be audio-taped and transcribed verbatim.
	Dissemination To produce actionable messages and best practice recommendations to disseminate proactively.	10 interactive **workshops** across the country with commissioners, providers and other organisations. These will enable the interpretation of our findings from the case sites to be tested more widely thus increasing the reach of the study.

Data analysis

Quantitative data analysis(1) Quality indicator schemes
Data will be recorded on an Excel spreadsheet and content analysis will be conducted to explore the type of QI (i.e. structure, process, outcome measure), goal (e.g. end of life care), source (e.g. NICE quality standard), focus (e.g. community nursing) and scheme type (e.g. payment for performance, penalty scheme) and descriptive statistics will be applied to enable an overview and comparison between sites. Using national indicator sources [5,3,7,8,9,11,12] indicators will be traced back to their original source (where this is not known) and subsequent modifications noted. The same procedures will be used to analyse the quality indicator datasets collected in the mapping exercise at the 5 case sites.

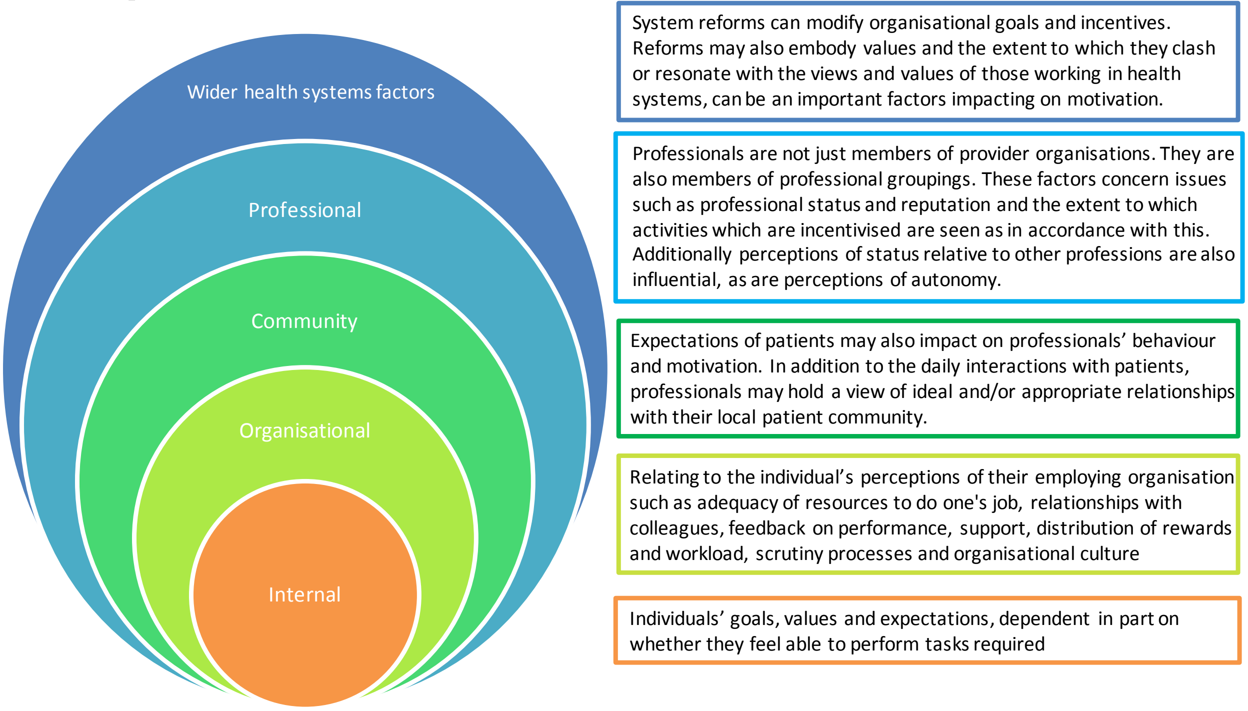
(2) Indicator datasets and reports
Content analysis of community nursing quality indicator datasets will be undertaken to check for method of recording (clinician, administrative staff / both), use of electronic data capture systems /paper based systems, missing values, and variability. Original datasets will be compared to reports referencing quality indicators for accuracy.

Qualitative data analysis
The study will generate multiple sources of qualitative data including interviews with service users, local quality implementation leads and senior local, regional and national quality leads, focus groups, shadowing of front line nursing staff and observations of meetings. Data will be audio recorded, (except during observations of front line staff, where contemporaneous notes will be made), transcribed verbatim, anonymised and entered onto NVivo 10 software which can assist with organisation and management of qualitative data.[36]

Our approach to data analysis will draw on constant comparison techniques by which analysis will proceed with and inform data collection[37], with members of the research team meeting regularly to share their insights. Data will be open coded initially to generate concepts which will be further analysed to determine their attributes and dimensions resulting in a ‘thick’ description of selection, application and usefulness of quality indicators in the case study sites. Coding will be validated by comparison and discussion with members of the research team.

To aid our analysis and interpretation we will draw on Franco’s multi level framework [29] developed in previous work which examined the relationship between financial incentives and behaviour in a range of primary care & community settings in healthcare. [34] This framework combines economic and psychological literatures and concepts and incorporates consideration of wider immediate and distal contextual factors influencing attitudes and behaviour. Successful implementation of quality indicator schemes will be influenced by such factors. It is applicable to the selection and implementation of all types of quality indicator schemes, not only those which include financial incentives.

The framework comprises 5 levels:



System reforms can modify organisational goals and incentives. Reforms may also embody values and the extent to which they clash or resonate with the views and values of those working in health systems, can be an important factors impacting on motivation.

Professionals are not just members of provider organisations. They are also members of professional groupings. These factors concern issues such as professional status and reputation and the extent to which activities which are incentivised are seen as in accordance with this. Additionally perceptions of status relative to other professions are also influential, as are perceptions of autonomy.

Expectations of patients may also impact on professionals’ behaviour and motivation. In addition to the daily interactions with patients, professionals may hold a view of ideal and/or appropriate relationships with their local patient community.

Relating to the individual’s perceptions of their employing organisation such as adequacy of resources to do one's job, relationships with colleagues, feedback on performance, support, distribution of rewards and workload, scrutiny processes and organisational culture

Individuals’ goals, values and expectations, dependent in part on whether they feel able to perform tasks required

Data from observation and interviews at each stage of the project, selection, application and probing of usefulness of quality indicator schemes, will be interrogated for the internal, organisational and wider environmental determinants arising that impact on commissioner and health care provider attitudes and behaviour. Using the framework we will be able to identify contextual facilitators and barriers to use of quality indicator schemes in terms of meeting priorities, assessing the quality of services, influencing commissioning and bringing about changes in service delivery.

To increase the rigour of the analysis multiple sources of data will provide opportunities for comparison and contrast across accounts, for example service users’ views, expectations and experiences will provide an alternative perspective on the values driving selection and application of quality indicators by commissioners and health care providers.

Dissemination and projected outputs

There are five key audiences for this research, these are:

A. commissioning organisations (such as CCGs, Commissioning Support Units and NHS England)
B. community nursing service provider staff
C. patients and the public
D. external statutory organisations (such as Department of Health, NHS Information Centre, NICE, Quality Observatories)
E. academia.

To ensure that the outputs from the research informs policy and practice and thereby maximises the benefit to patients and the NHS, the following dissemination strategy has been developed using evidence for translating knowledge into practice. This has included the Scientist Knowledge Translation Plan[31], which guides researchers through the stages of developing a dissemination strategy including clarifying ‘key messages’, identifying ways to transmit those messages and designing an evaluation plan. Our dissemination strategy has also drawn on recent findings from a local baseline study with commissioners looking at the use of evidence[24] and wider research evidence on knowledge translation. We will also work with our local Academic Health Science Network and the National Coordinating Centre for Public Engagement, which is a Bristol based organisation promoting the dissemination of research to non-academic audiences[38] who will advise and support dissemination to the public. Additionally information will be collected and networks established throughout this study to further inform and strengthen the strategy.

From research evidence we know that research is most effectively disseminated using multiple vehicles, ideally with face to face interaction. So, in addition to giving written feedback to study participants, dissemination activities will include:

- 10 interactive workshops across the country on implementation of good practice guidelines (audiences A, B, D) [We have decided on 10 workshops as this seems feasible within the financial resources and time frame (about 2 a month over 6 months).]
- Development of links with key organisations such as NICE, NHS Information Centre, NHS Commissioning Board and Quality Observatories to contribute to and capitalise on their networks
- Use of electronic media such as websites and social media such as Twitter , Webinar (audiences A, B, C, D, E) and video (Youtube/TED) (All)
- Publications including Full, Executive Summary and Plain English summary reports of the research (All), peer review journals (audiences A, B, E) and local NHS newsletters and A5 laminate (audiences A, B, C)

Thus, this proactive dissemination strategy offers the breadth to reach out to multiple audiences and the depth to conduct more in-depth interactive work with key audiences such as NHS commissioners and provider staff to influence behaviour change. Moreover, because our NHS co-applicants have stressed the importance of getting messages out early, we will begin to disseminate findings within six months of starting the project with the analysis of the national quality indicator database.

Outputs

1. A national picture of quality indicator schemes for community nursing
2. An understanding of how quality indicators are used in practice
3. Identification of benefits (and drawbacks) of a range of quality indicator schemes in terms of meeting patient, commissioner and provider priorities, assessing the quality of services, influencing commissioning and bringing about changes in service delivery to improve quality of patient care
4. Good practice guidance and transferable recommendations to improve indicator selection, application and usefulness disseminated proactively. This will be in multiple formats including an A5 laminate which has been successfully piloted and PowerPoint slides presented as an executive summary for commissioners and providers.
5. A web link and leaflet for the public entitled 'What do quality indicators tell you about your community nursing service?' distributed amongst study and non-study sites to improve user knowledge and understanding of community nursing service quality information.
6. Evidence summaries for each case site on findings from their area related to the other case sites as a whole.
7. Publications in high impact academic journals and research summaries for professional journals.

Impact

Our approach to research and dissemination will:

- Potentially reduce NHS costs through identifying good practice and better targeted quality indicators
- Provide findings to enhance the current evidence base for quality indicators, community nursing services and commissioning practices enabling commissioners and providers to make evidence based decisions to ensure maximum benefit to patients and the NHS and reduce the risk of unwanted consequences of quality indicator use.
- Share good practice for the selection and implementation of quality indicators with the NHS including policy makers, community service providers, commissioners, and users
- Inform future guidance produced by the NHS England and Department of Health providing evidence of good practice in the development and selection of local CQUIN schemes
- Enable organisations to better measure their own performance and work towards facilitating benchmarking
- Contribute to national debates on the role of quality indicators in driving forward improvements in patient care.
- Help inform the public about the quality agenda
- Potentially improve public and NHS staff confidence in the quality of community services available for vulnerable patients.

Plan of investigation and timetable

The project will last 33 months. The project takes a five phase approach reflecting the objectives of the research and the local planning rounds within the commissioning cycle. These phases are not linear with many of the phases, including data collection and analysis, and dissemination activities being undertaken concurrently.

1. **Mapping** of Quality Indicator Schemes (April 2014 to December 2014), this phase will take 9 months. Recruitment and data collection will take six months followed by 3 months for report writing and dissemination of findings. Milestone 1: Recruitment of five case study sites by September 2014; Milestone 2: Final Report of Mapping Exercise by December 2014.
2. **Selection** of Quality Indicators (September 2014 to May 2015), this phase will take 9 months in total, with many of the research activities: interviews, observations and mapping, being undertaken concurrently. Milestone 3: Interim report of project progress – Year 1 by April 2015.
3. **Application** of Quality Indicators (January 2015 to February 2016), this phase will take 14 months in total, with many of the research activities: interviews, observations and focus groups being undertaken concurrently.
4. **Usefulness** of Quality Indicators (May 2015 to April 2016), this phase will take 11 months in total, with many of the research activities: interviews, observations, focus groups and review of documentation being undertaken concurrently. Milestone 4: Interim report of project progress – Year 2 by April 2016; Milestone 5: Completion of study data collection by April 2016.
5. **Outputs and Dissemination** (April 2016 to December 2016), this phase will take 9 months in total and focus on production of outputs and initial dissemination of findings (please note dissemination of findings will continue beyond the duration of this project). Milestone 6: Good practice developed by June 2016; Milestone 7: Dissemination activities (workshops, webinar etc) completed by November 2016; Milestone 8: Final project report by end December 2016.

Local governance approvals for each of the case study sites will be sought once sites have been selected and before commencement of the case study site work (by September 2014)

Project management

The research project will have a dedicated project manager who will be responsible for the day to day management of the project to ensure the project is completed within the planned timeframe. The PM will meet weekly with the Principal Investigator (PI) . Additionally the core research team carrying out the majority of the field work will meet every two to three weeks. The core group will comprise SH , LW, PA and the two Research Associates.

To facilitate communication and enable parties to monitor progress all co-applicants will form a research management group (RMG). The RMG will be chaired by the PI and convene every three months, alternating between telephone and face to face meetings. These meetings will report on progress of the research and provide a forum where decisions around the next steps will be made. Between meetings, emails and telephone communication will be used to keep the group up to date and raise any issues and risks that arise.

In addition there will be a multi-disciplinary Steering Committee with an Independent Chair to provide overall supervision of the study that will include wider stakeholders. The aim of the steering committee is to ensure the continued relevance of the research through providing a range of perspectives about developments in the health service, and to inform and support the dissemination strategy. In order to meet these aims the group will include Steve Sparks from NICE, Catherine Foot from the King's Fund, and Christina Walters, Director of the national Community Indicators, Outcome Measures and Payment System Development Programme, all of whom have expertise in quality indicators for community health services. We will also recruit service users and community group representatives from each of the case study sites to the group once these have been selected. The study steering committee will meet once a year, shortly after the beginning of the project when the case study sites have been recruited, during the data collection phase to help overcome any barriers, and shortly before the dissemination stage of the project.

In support of the lead applicant in the role of PI a highly experienced co applicant (RM) will provide regular monthly mentoring by telephone. The lead applicant's employing institution UWE, Bristol will provide regular supervision from the Health and Life Science Faculty Centre for Health and Clinical Research, and the Department of Research, Business and Innovation. The host NHS Bristol's R&D Programme Manager, Research Coordinator and the CCG's Solicitor will provide support concerning contracts, intellectual property and finance.

Approval by ethics committees

Ethics approval will be applied for before the research starts, and the project will be conducted in accordance with the requirements of the research governance framework. The study raises two key ethical issues 1) the users of community services tend to be vulnerable, frail and elderly with complex needs; this will include some patients with cognitive impairment including dementia, and 2) this study requires entry into the patient and their carers' home. We will seek appropriate informed consent from patients, and where appropriate their carers or legal guardians, to ensure that they fully consent to take part in each aspect of the study. This will include entry of the researcher into their home as part of the frontline staff observation and participation in interviews. Seeking consent from carers and legal guardians will enable us to have broad inclusion criteria in our study, which may include, where necessary, asking carers to help with completion of interviews. Only consenting patients and their carers will be included in the study. Where necessary interpreters will be used to enable participation from users whose first language is not English.

Patient and public involvement

This study was born out of a concern raised by a service user in our earlier work around developing local quality indicators for community services in Bristol. His worry was that the administration and collection of data for quality indicators would distract community nurses from delivering individualised, patient centred care. This service user is a co-applicant on the current proposal and will co-lead on the user aspect of this study (PH). As a former performance manager and member of the local community health forum, he has a valuable role to play in designing the study and interpreting findings. In addition, a member from Bristol Older People's Forum has commented on the lay summary and contributed to thinking about capturing patient views, based on her experiences of interviewing older patients of community nurses. We will use fora such as Age Concern and Marie Curie Cancer Care as reference groups to capture user views and develop dissemination strategies to service users, as the study progresses. Service users and carers are actively involved in this study as key members of the research team and advisory group.

Research Management Group (RMG): The user co-applicant was key to identifying the research topic, has contributed to the development of the proposal and commented on the lay abstract. He will co-lead the service user work stream by helping to develop information sheets and data collection instruments and assisting in the interpretation of analyses of service user data.

User Reference Group: Service users, carers and representatives from community groups will be recruited to our user reference group from voluntary groups, day centres and end of life charities. They will contribute to advise on the research and development of information sheets, data collection instruments and assist in the interpretation of analyses of service user data. We will further validate and confirm our findings by presenting them to groups such as Age UK, Alzheimer's Society and Marie Curie.

Steering Committee: Lay representatives from each of the 5 case sites will be recruited to the study steering committee as these are selected.

The University of the West of England, Bristol has a wealth of knowledge and experience of working with users in research. Throughout the study we will work closely with our colleagues from People in Research West of England, which is led by David Evans, Professor of Health Services Research, Public Involvement at UWE. People in Research West of England is a collaborative between academia and practice, which works to support researchers to involve the public in health and social care research and support patients and the public to get involved.

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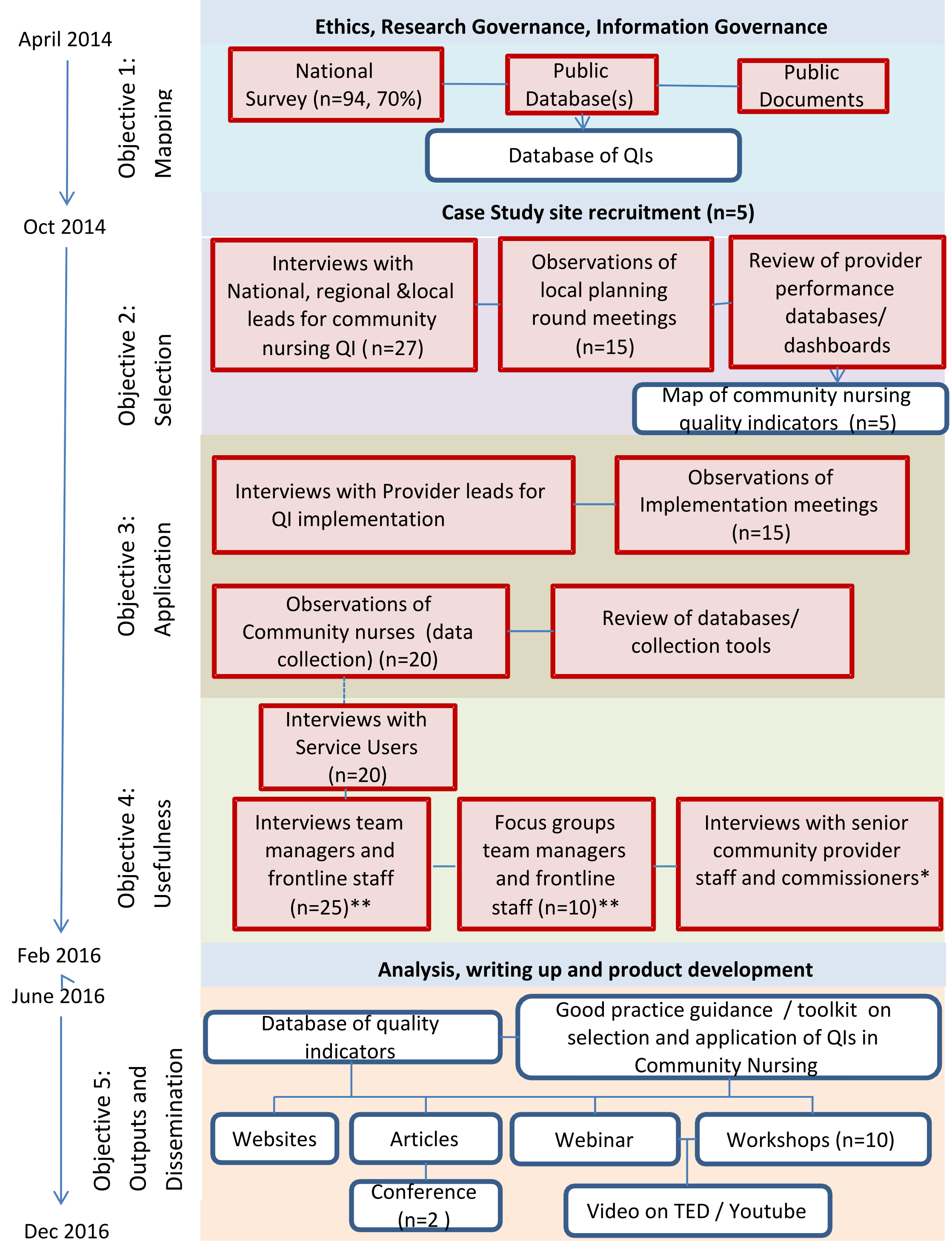
Figure 1: Flow Chart



Key: Data collection activities 🟥 Outputs ▭
*Interviews will also explore selection
** Focus groups will also explore selection & application