**Title: *Turning ideas into research proposals***

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**Abstract**

The most relevant and meaningful nursing research is normally that which is grounded in everyday practice experience and observations. However, turning an idea into a research proposal can be a complex and protracted process. Cardiac nurses need to consider theoretical, contextual and practical issues if they are to develop a clinical observation or idea so that it can be researched. This process is not a series of ‘steps’ which can be taken, but rather one which requires clinical nurses to simultaneously integrate their professional knowledge, skills and experience with methodological understandings and an ability to express their ideas in writing. This paper discusses the range of interrelated issues which cardiac nurses will need to consider developing their ideas and turning them into feasible and ethical research proposals.

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| **Key Points*** A lot of good and relevant nursing research is grounded in ideas or observations from everyday practice.
* The process of translating an idea into a viable research proposal demands extensive and thorough preparatory work.
* Turning a good idea or nursing observation into a viable research proposal is not a linear process.
* The quality of the research question is central to good nursing research proposals.
* Study design is directly related to the research question, the aims and purpose of the study, and a clear focus on what the study is trying to achieve.
* The practical aspects of research planning and study design can be daunting, but are ultimately worthwhile in enhancing professional scholarship and the evidence base for cardiac nursing practice.
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**Introduction**

Nursing research is the mechanism by which the profession builds theory and new knowledge, advances understanding, tests ideas and develops nursing practice. The contributions that cardiac nurses can make to research are considerable and varied. They include audit or service evaluation studies, practice development projects, or working as part of a clinical research team collecting samples and data, or adding a nursing perspective to biomedical studies (Watmough, Flynn et al 2010). There are academic cardiac nurses who focus their work on extending the boundaries of this specialist aspect of nursing knowledge. Cardiac nurses may also be involved in research which is being conducted in their clinical areas, or they may pursue their own enquiries as part of academic courses or professional development. Whatever the stimulus for involvement in research, it is often the case that the studies which have most resonance and meaning for the profession are those which are grounded in everyday nursing practice and ideas. However, a ‘good idea’ which emerges from practice knowledge or experience needs to be carefully processed if it is to be translated into a viable research proposal. This process involves an extensive amount of preparatory work, together with the integration of nursing values, knowledge and experience, understanding of research methods, and the ability to express ideas and encapsulate planning in a written proposal.

**The ‘good idea’**

For many cardiac nurses there will be aspects of care where there is little evidence to guide best practice, or which their experience suggests merits investigation. In addition there are often everyday nursing ‘problems’ which nurses wish to address as part of the ongoing drive to provide the highest quality patient care. However, attempting to explore nursing issues through a systematic process of enquiry does not necessarily mean that a research study is either necessary or feasible (Flynn et al 2010). It may be that the idea or practice issue can be addressed through an evidence review, a service evaluation or clinical audit, and an important first step in turning a ‘good idea’ into a research proposal is critically interrogating the idea and determining precisely what you want to know (Polit and Beck 2012).

The UK NHS Health Research Authority (2015) outlines the governance framework for all UK health research and, although all are relevant to healthcare, there is a clear difference between research, clinical audit and service evaluation. Research is characterised as a systematic enquiry which is seeking new knowledge, applicable to a wider context (DH 2006). Whilst clinical audit also employs a structured method of enquiry, it is essentially a quality improvement process, where local practice is measured against defined standards (NHS England 2016). The purpose of service evaluation is to systematically assess established practice, and may focus on the processes or outcomes of care delivery (Robson 2011). Although clinical audit and service evaluations are not designed to generate new knowledge or theory, they can make a very useful contribution by highlighting gaps in nursing knowledge and stimulating questions for future research (Wright et al 2010). In this context another important preliminary step in turning an idea into a research proposal is to clearly articulate the question and ensure that it needs to be addressed by means of a research study.

So for example, the National Institute for Health and Care Excellence (NICE) guidance for therapeutic hypothermia following cardiac arrest, recommends the use of either surface cooling techniques or endovascular cooling devices (Nice 2011). If the cardiac ICU routinely uses both these approaches for therapeutic hypothermia, then cardiac nurses may have questions or ideas about the procedures. Depending on what the nurse wants to know this topic could be investigated as a clinical research study, a clinical audit or a service evaluation (See Table 1).

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| **Table 1: Clinical Research, Clinical Audit and Service Evaluation** |
| **Practice to be investigated** | The surface cooling devices and IV cooling devices which are currently used in the ICU following cardiac arrest. |
|  | **Clinical Research** | **Clinical Audit** | **Service Evaluation** |
| **Question** | Which device is most *effective* in achieving hypothermia in patients post arrest? | How does local practice in the use of cooling devices post arrest compare to NICE standards & guidelines? | What is the current unit practice in employing cooling devices post arrest? |
| **Investigative Approach** | Prospective randomized controlled trial. | Retrospective chart review.  | Process evaluation. |
| **Potential Outcomes** | Identification of any differences in time taken to achieve hypothermia, differences in mortality, clinical outcomes and costs between the two cooling methods. | Service modifications or strategies for improvement of local practices in line with best evidence and NICE guidelines.  | Description of current practice, development or modification of the service. Development of local practice guidelines |

**Exploring the topic and defining the research question**

Defining and articulating a research question is a creative process which involves nursing experience alongside knowledge of the field of inquiry. It draws on the nurse researcher’s own values and beliefs and the way they construct knowledge and make sense of the world of nursing. The process also requires insight and intuition, analytical thinking and reflection, critical reading and discussion (Flynn at al 2010).

The process of translating a ‘good idea’ into a research proposal also requires an extensive exploration of the area of interest. In practical terms an essential part of the articulation of a research question is a detailed and structured search and review of existing evidence. This will both enhance understanding and ensure that the proposed question has not already been well researched. Evidence review techniques will involve structured searches of library databases such as CINAHL and Medline, and the Cochrane database of systematic reviews of evidence ([www.cochranelibrary.com](http://www.cochranelibrary.com)). In some topic areas, where there is a large body of recent and relevant research, it will be possible to explore nursing ideas through the process of systematic or narrative reviews of evidence, which are themselves legitimate methods for developing nursing knowledge and practice. It may also be the case that an idea which seems to need investigation has already been well researched, and the challenge then becomes one of evidence appraisal, synthesis, implementation and practice development (Craig & Smyth 2011).

The process of refining and clarifying the research question is essential in designing and delivering robust nursing research and a ‘good’ research question and will guide the nurse researcher to an appropriate study design and techniques for data collection.

**Considering the wider context**

The context of research is also an important part of turning an idea into a proposal, and it is necessary to ascertain whether the idea is relevant only to local practices, or has the potential to inform the wider nursing community. Polit & Beck (2012) suggest that when nurses are developing research ideas they should always be mindful of the possible significance of the research to nursing knowledge and practice. In the context of the wider NHS the results of the proposed study should have potential to enhance some aspect of healthcare service and delivery.

The UK NHS research agenda is driven by the Department of Health through the National Institute of Health Research (NIHR). The NIHR is underpinned by a vision that first class research is central to the provision of the best quality care, and the NIHR serves to coordinate and support heath research activity in the NHS. Systems include the national research ethics service, information systems, research funding, education and training and a research advice service (NIHR 2016). For cardiac nurses developing an idea into a research proposal the NIHR website is an invaluable source of information about current and planned NHS research activity. It can also provide nurses with an understanding of where their study may ‘fit’ into the wider context of NHS health research, and guide their preliminary searching of the existing evidence in their field of interest (NIHR 2016).

The infrastructure for NHS research includes national and regional research networks as well as especially dedicated research units which develop and test new health interventions, techniques and technologies. At a more local level all NHS Trusts have a designated Director of Research and Development (R&D) and many also have R&D departments who are responsible for coordinating and monitoring local research activity. In this context there may well be opportunities for nurses to gain valuable research experience by contributing to existing local studies, before seeking to develop their own ideas and proposals.

**Integrating knowledge, skills and experience**

An understanding of theory and research method is essential for any cardiac nurses wishing to develop an idea into a research proposal. For nurses new to research it is often useful to collaborate with an experienced nurse researcher to help design the study, particularly if the research proposal needs to be submitted to the National Research Ethics Service (NRES) or a research funding body.

Before an idea can be translated into a research proposal it is also necessary to think about a wide range of conceptual and practical issues. These include, but are not limited to, such questions as how the research will contribute to cardiac nursing knowledge and practice; how it may ‘fit’ into the wider health research agenda; the appropriate study design to answer the research question; what expertise is needed on the research team; at what level should patients or members of the public be involved in the research; how should ethical approval and research sponsorship be secured; how are participants going to be recruited to the study; how are data going to be collected and stored; how is the research going to be funded and how are the results to be disseminated.

Another important aspect of the translation of an idea into a proposal is determining if it is feasible and ethical to research the topic of interest. It is important to remember that not all professional nursing questions or problems are researchable. Health research questions which present significant moral or ethical dilemmas are unlikely to be researchable, as are those where there is insufficient time, resource, or cooperation available (Flynn at al 2010).

All research has to be located within a body of theoretical knowledge, which provides the framework for interpreting data and generating new knowledge or understandings. Refining an idea and articulating a valid research question will take considerable time and effort and is not a linear process. A ‘good’ research proposal is one where the research question is clear and unambiguous, specific, researchable, feasible, theoretical and relevant (Robson 2011, Polit & Beck 2012, Bowling 2014).

**Designing the study**

Study design is the process of turning ideas and questions into feasible project plans (Bowling 2014). There are a wide range of methods and techniques which can be usefully applied in researching nursing problems (Polit and Beck 2012) and new researchers can sometimes be overwhelmed with concerns about the ‘best’ method to employ. However, it is important to remember that the nature of the research question is of paramount importance. If the research question is clear and focussed, it will be apparent which research design would be most appropriate to meet the study aims (Flynn et al 2010). A clearly articulated research question will also help determine such things as sample size, appropriate methods for collecting and analysing data, and an appropriate theoretical framework in which to interpret the study findings.

Nursing research studies can be broadly classified as descriptive, exploratory, evaluative or explanatory (Robson 2011, Polit & Beck 2012). Descriptive studies enable nurse researchers to investigate and describe concepts, people or situations of interest. Exploratory studies are useful for investigating novel or little understood phenomena, or for assessing everyday situations or experiences in a new way. Descriptive and exploratory studies can also generate questions for further research. Studies which have an explanatory purpose are those which seek to account for patterns, relationships and causes of the phenomenon under investigation and are necessary for the generation of new knowledge, or to add understanding to an existing theory. An example of explanatory research can be found in those studies which have demonstrated the relationship between a specific human gene and a particular disease or disorder.

Similar to the stages in shaping the ‘good idea’ into a research question, study design is not a linear process and it involves conceptualisation of the whole research project. This includes consideration of all the potential obstacles and pitfalls which may affect the proposed study. At each stage of conceptualising a study design it is important to maintain a clear focus on the aims and purpose of the research and consider what consequences any compromise in study design may have for the results.

It is also important for nurses to remember that not all good or interesting ideas will necessarily translate into worthwhile research projects. At some point in the process of turning an idea into a research question and a study proposal, the planned project may cease to be feasible. In this case the idea should be abandoned as a research enquiry and other solutions should be sought in the existing body of evidence or in evaluated trials of different approaches to practice (Flynn et al 2010).

**Writing the proposal**

Structuring the written proposal is the point at which thinking and planning is consolidated. Writing will help the nurse researcher clarify whether the proposed study is relevant, if the research question is clear and focused, whether the issue is researchable and feasible and whether the results of the proposed study would add to cardiac nursing knowledge and practice. At this stage in developing a research idea there are important considerations in relation to how the ideas are expressed. Ethics committees, local Trusts, Universities and the various research funding bodies will normally have structured application forms for research proposals, as they will all be looking for specific information relevant to their function. So for example, the Trustees of a charitable body may want to see evidence that the proposed research project falls within the remit of the charity, and that the estimated cost of the study represents value for money. An ethics committee will normally want to see evidence that the proposed methodological processes do not contravene the ethical principles of respect for autonomy, justice, beneficence and non-malfeasance. It is very important when writing a research proposal to strictly adhere to relevant guidelines.

Dealing with these practical issues can be daunting, even to the most enthusiastic nurse researchers. However, they are important and necessary to ensure good research practice and high quality nursing research which safeguards the best interests of patients, the public and the nursing profession.

**Conclusion**

Whilst many cardiac nurses may be aware of, or involved in, research there will always be a need for studies which address specific issues relevant to cardiac nursing practices. In order to translate an idea, or an observation from practice, into a viable research proposal, cardiac nurses need to be able to integrate their professional values and experiences with research knowledge and skills. They also need to be aware of the practical aspects of designing and carrying out cardiac nursing research in the context of nursing scholarship and the wider health research agenda.

The development and refinement of an idea into a research proposal can be a protracted process, but thorough preparation is fundamental to good nursing research. It is important that research questions have the potential to inform cardiac nursing knowledge and practice. A clear research question will facilitate the process of designing an ethical and feasible study. It is also important to remember that not all ideas will translate into viable research projects, but clarity about whether the purpose of the study is to describe, explore, evaluate or explain will enable nurses to write a research proposal which is rigorous, ethical and appropriate for exploring ideas and developing cardiac nursing.

**References**

Bowling A (2014) *Research methods in health: Investigating health and health services.* Open University Press, London

Craig J & Smythe RL (2011) *The evidence based practice manual for nurses.* Churchill Livingstone, Edinburgh

Department of Health (2006) *Best research for best health: A new national health research strategy.* Department of Health, London

Flynn M, Watmough S, Wright A and Fry K (2010) Health research in context: Defining the research question and designing the study. *British Journal of Cardiac Nursing* **5** (7); 346-349.

NHS Health Research Authority (HRA) [www.hra.nhs.uk](http://www.hra.nhs.uk) [Accessed 9th August 2016].

NHS England Clinical Audit [www.england.nhs.uk/ourwork/qual-clin-lead/clinaudi](http://www.england.nhs.uk/ourwork/qual-clin-lead/clinaudi) [Accessed 9th August 2016].

NICE *Therapeutic hypothermia following cardiac arrest* [www.nice.org.uk/guidance/IPG386](http://www.nice.org.uk/guidance/IPG386%20%20) [Accessed 9th August 2016].

NIHR (National Institute of Health Research) (2016) [www.nihr.ac.uk](http://www.nihr.ac.uk). [Accessed 9th August 2016].

Polit DF & Beck CT (2012) *Essentials of nursing research: methods, appraisal and utilisation.* Lippincott, Philadelphia.

Robson C (2011) *Real world research* *(3rd Edition).* Blackwell, Oxford

Watmough S, Flynn M, Wright A and Fry K (2010) Research nurse or nurse researcher? *British Journal of Cardiac Nursing* **5** (8); 396-399.

Wright A, Flynn M, Watmough S and Fry K (2010) Ethical aspects of health research. *British Journal of Cardiac Nursing* **5** (9); 444-450.