

## **How to Match Research Designs to Organisational Issues in Health and Social Care**

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### **Abstract:**

This paper provides an overview of the key considerations we need to take into account when deciding on a suitable research design for addressing particular service issues in health and social care, with emphasis on the task of identifying research questions at each stage of the applied research process. I present a model for determining research rigour in health services research and a model for defining research questions for each stage of the applied research cycle, from problem specification through to outcome assessment. The paper concludes with a check-list of the key issues we need to consider when designing a health services research project.

### **Keywords:**

Research Question, Research Design, Health Services Research

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### **Introduction**

In an era of evidence-based healthcare, health and social care professionals (HSCPs) are increasingly required to rely on robust evidence to inform their decision-making, not only regarding their clinical practice, but also in the organisation and delivery of their services. While the use of clinical evidence has long been part of standard practice in the work of HSCPs, many are not as familiar with the use of organisational research evidence as compared with the use of clinical evidence (Vella et al, 2000), or with conducting research themselves to address service priorities (McHugh and Byrne, 2011). This article<sup>1</sup> aims to help professionals identify the most appropriate research designs in tackling different types of organisational issues in health and social care.

For healthcare decisions to be based on sound evidence, we need to first understand the criteria upon which the robustness of evidence is determined. It has long been recognised by health and social care researchers (Littlejohns and Chalkidou, 2006; Glasziou et al, 2004; Faulkner and Thomas, 2002) that the 'hierarchy of evidence' model used in distinguishing the quality of clinical evidence under the banner of 'evidence-based medicine', cannot be applied unproblematically and unreflexively to deal with organisational issues in health and social care.

Indeed, over the past decade researchers have increasingly raised our awareness regarding the danger of unexamined assumptions when we import one model of research into another, warning researchers of the peril in ignoring the complex social-embeddedness of healthcare in our aim to achieve evidence-based policy and practice (Lambert et al, 2006; Gambriell, 2006). Rather than assuming that evidence can be hierarchically ranked according to their robustness when addressing

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<sup>1</sup> This article is part of a series of papers aimed at helping health and social care professionals understand how to appraise, use and conduct health services research, an initiative launched by the Health and Social Care Professionals (HSCP) Research Sub-Group. The author wishes to thank Dr. Michael Byrne for the opportunity to participate in this paper series and for his helpful comments on the article.

the huge diversity of research questions when setting health service priorities, researchers have argued instead for a *typology* of evidence when determining the quality of different types of research evidence in answering particular kinds of research questions (Grypdonck, 2006; Petticrew and Roberts, 2003).

### Matching Research Designs to Research Problems

Underpinning all these concerns about the appropriate use of evidence in health services decision-making is the recognition that research designs – and the type of evidence they generate – must be fit for a defined purpose. In evidence-based *healthcare* rather than evidence-based medicine, research objectives go beyond simply determining the efficacy of an intervention (for which evidence from well-designed and executed randomised control trials remain the gold standard), but incorporate such myriad aims as needs analysis, service development, organisational change and stakeholder engagement, each of which require robust evidence that cannot be generated by RCTs alone.

This is especially true when it comes to questions concerning the management and organisation of health and social care services, which encompasses a wide variety of research problems. The ways these research problems are defined and specified however represent the very first starting point towards designing investigations that can generate robust data in answer to the study aims. Rigour is defined not so much by the type of evidence that a study generates, but is determined by the *degree of fitness* between each component of a research design, from research objectives and research questions, through to research outputs (i.e. data) and outcomes (i.e. implications). Figure 1 below provides a graphical overview of the levels of consideration we need to apply in determining the robustness of a particular research design in health services research:

**Figure 1 – Ensuring Rigour in Matching Research Designs to Research Problems**

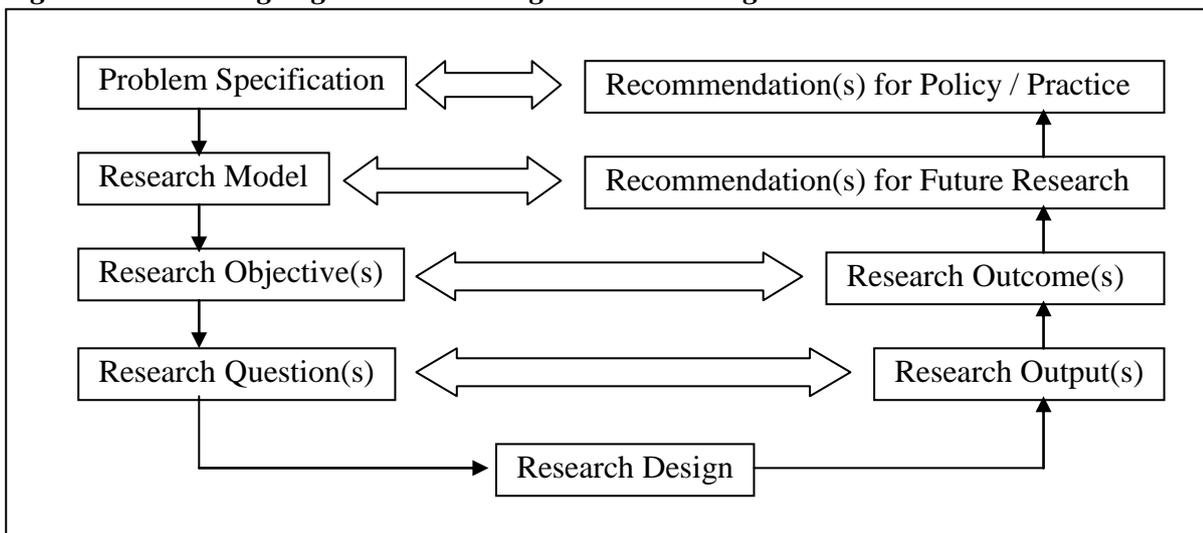


Figure 1 illustrates how, for a given research design to be considered fit for purpose, there must be logical linkages between its components at each level of formulation of the research project, so that the means chosen are appropriate to the specified ends. Seen in this light, the type of research design being chosen is not the key determinant of robustness at all, but only in its ability to generate appropriate answers for a given research question.

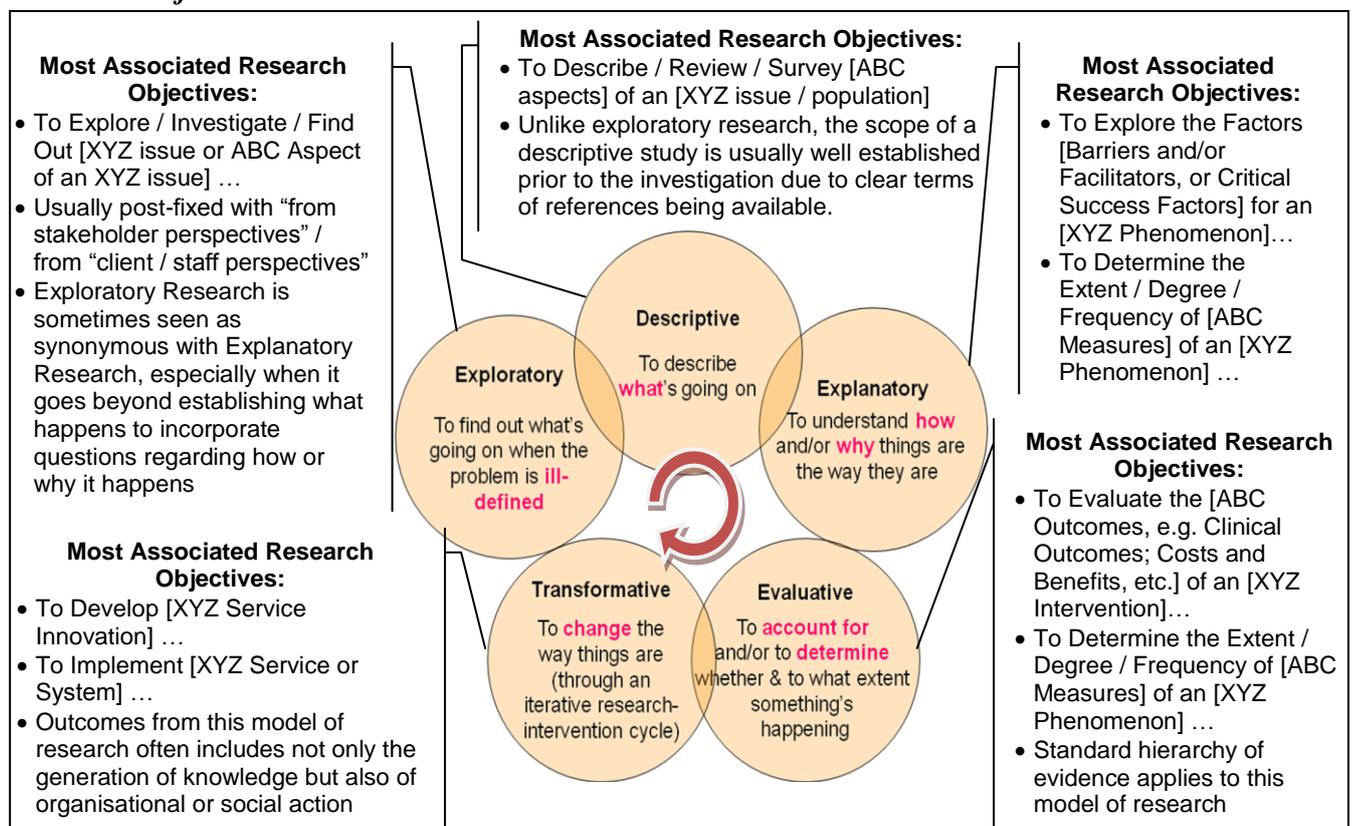
At the most basic level, the way a research problem is defined must align with the intended nature of policy or practice that the research is expected to contribute towards. This is not to say that a researcher makes an *a priori* judgement on policy recommendations; rather, the researcher needs to

understand what *kind* of policy or practice is at stake, so as to ensure the way the research problem is framed actually matches up with policy or practice goals. For example, it would neither be helpful nor appropriate to generate evidence on staff retention in a service experiencing high staff turnover, if the problem is actually framed as one of staff recruitment. Whilst recruitment and retention may well be inter-linked problems, or different aspects of the same problem (i.e. inadequate staffing levels); they are not the same issue, and investigating recruitment issues when one is hoping to resolve retention problems would mean that the generated evidence will never be valid given the overall aim of the research, no matter what research design is used and how competently the study was executed.

Even when we have correctly identified the content of the issue to be addressed by research, we must also be careful in determining the nature of the problem, so as not to confuse, for instance, a retention issue that warrants exploration (e.g. why do people choose to leave the service?), versus one that requires description (e.g. how many people are actually leaving, which categories of staff are experiencing high turnover and at what rate compared to others?), or indeed one that demands evaluation (e.g. to what extent is high staff turnover impacting on service provision, does a newly-developed staff retention initiative actually help to reduce staff turnover?, etc.).

The particular research model – descriptive, exploratory, evaluative, etc. – that we adopt for a particular study should be determined by the nature of the problem we are hoping to address, given the time and resource constraints of a specific project. Figure 2 below illustrates the five key research models that are relevant to health services researchers:

**Figure 2 – Different Research Models, What They Aim to Achieve, and Their Most Associated Research Objectives**



Knowing the research model(s) we are going to employ for a particular study also helps us to relate our findings to the extant literature and identify gaps for further investigation by future researchers. In a topic area where previous researchers have already established robust evidence relating to the

extent, nature, and causes of a problem, it will be more useful for new investigators to conduct transformative research focusing on service development, or to evaluate new interventions designed to tackle various aspects of the issue. On the other hand, when a new phenomenon arises such that there is only anecdotal evidence but no systematic knowledge regarding the topic, it would be a more fruitful use of resources to first establish the extent and nature of the phenomenon through exploratory or descriptive research, before trying to test out interventions to address an issue that may be little understood, or may in any event turn out to be a transient or local issue.

In fact, the maturity of a research topic can be gauged in part by examining the type of research investigations that have been conducted so far. On a nascent topic on which little is known, lots of exploratory research will need to be done to determine the nature and the extent of the problem, often using qualitative methods because of the importance of understanding the issue from those who have first-hand experiences of it. At this stage, it is often inappropriate to use quantitative measures (unless the attributes of the phenomenon are inherently quantitative), because we do not yet have a sense of what might be considered appropriate definitions of terms – in fact, often the key research output is to arrive at operational definitions of concepts – and so the numbers we obtain from conducting surveys at this stage may often mislead rather than enlighten.

Yet once the broad parameters of a phenomenon are known, we can proceed with more systematic descriptive and explanatory research and to begin exploring the causes that underpin such a phenomenon. Here, both qualitative and quantitative research play crucial roles, and the choice of methodology often depends on the level of analysis desired (i.e. the higher the level of analysis, the more quantitative the research design becomes in order to allow for objective comparisons; while lower levels of analysis requires interpretive understanding to include contextual information relating to the particular team or organisation).

When there is a corpus of evidence on the nature, extent, and factors relating to a research topic, the ground is ripe for evaluative research that examines the efficacy of interventions designed to address various aspects of the issue. In answering the ‘What works?’ question, standard hierarchy of evidence applies, and experimental research that could objectively and unambiguously isolate the cause-effect link are extremely valuable in providing evidence-based recommendations for population-level interventions. National guidelines can be safely established based on such evaluative evidence, whether we are concerned with clinical or non-clinical outcomes (e.g. social gains), as long as objective, validated measures are used.

However, evaluation is not the end of the research cycle, especially when it comes to human, as opposed to robotic, organisations. The question that naturally follows ‘What works?’ is ‘How do we implement?’ The recent rise of ‘Implementation Science’ is testament to the importance of this ‘How to’ question in health and social care, which is best addressed through action-oriented research methodologies, allowing organisational members to engage in an iterative cycle of action and reflection (or intervention-and-further-research), not only to ensure that the intervention is adapted to local needs, but to also engender local ownership of the problem as well as the solution.

Therefore, unlike clinical research, which predominantly focuses on measuring outcomes at the population level, health services research not only concerns itself with a macro level of analysis (e.g. the performance of the health system as a whole), but also at the meso (organisation or service) and the micro (team or individual) levels, depending on the specific aims of a study. No one single study, however well-resourced, can answer all the questions arising from a particular organisational issue. Therefore one must be very clear about the particular aspect of a problem that is being tackled in a research project and at what level of analysis. A clearly delimited research study with unambiguous terms of references about the issue domain as well as level(s) of analysis, will

generate much more robust evidence than a study with poorly identified aims and ill-defined parameters, even if the latter has a much larger scope and has more resources thrown into it.

As can be surmised from the above discussions, even though sample size is often cited as one of the key factors in determining the robustness of a study, this is not necessarily the case at all in research that tries to address questions relating to service development or problem specification. When addressing issues of organisational change, it may sometimes be far more appropriate to adopt small sample qualitative research to gauge the varying interests and perceptions of different stakeholder groups, as a large survey which may yield only superficial evidence due to the lack of appropriate measures on people's tacit assumptions and beliefs.

Depending on time and resources available, sometimes it makes sense to tackle a number of issues together within a single programme of research (e.g. questions relating to both staff recruitment and retention, if the overall aim is to address severe staff shortages), or to address different aspects of the same issue in one project (e.g. not only exploring the causes for staff turnover but also to develop approaches addressing them). Whether we are focusing on one single issue or several, or one aspect of an issue or several, the key concern remains the same: we need to be very clear what precise issue(s) we wish to address through the use of research, and why.

Specifying research objectives that outline clearly the content and nature of the issue domain to be investigated is thus the first and most crucial step in the design of a research study. It is through research objectives that we delimit the scope of a research project, so that the outcomes of a study actually match up with its aims (and by 'outcomes' I mean the *implications* of study findings in general, rather than just the outcome measures of an evaluation). As can be seen in Figure 2, research objectives are best defined by using verbs that are clearly linked to a specific research model (e.g. 'to explore', 'to evaluate', 'to describe', 'to develop', etc.). Each specific aspect of the issue covered in an investigation needs to be identified as a distinct research objective; and each research objective should ideally be associated with at least one specific research question.

### **Determining Research Questions for Organisational Studies in Health and Social Care**

We have seen how different research models (descriptive, exploratory, evaluative, etc.) are intimately linked to specific kinds of research objectives, and how these are in turn linked to specific kinds of research questions (what, why, how and to what extent, etc.). Accepting the fact that different kinds of questions exist in health and social care research is key to appreciating the reason why we cannot rely solely on a predefined hierarchy in determining the robustness of research evidence. While randomised control trials are indeed the 'gold standard' for answering questions of the 'Does it work?' variety, i.e. determining the efficacy of an intervention at the macro, population level; it is often unsuited to answering the 'How?' questions, especially in explaining phenomena that have already happened in the field (as opposed to those that can be experimentally-designed and controlled), and when that question is directed at the micro or meso levels of a particular team or organisation, rather than the service as a whole<sup>2</sup>.

The type of research questions we ask also has a direct bearing on the type of research outputs – i.e. actual data – to be generated from a study. For instance, the 'why' question at the micro and meso levels requires *understanding* as a research output, encompassing contextual and subjective information in addition to objective data about the phenomenon (e.g. understanding why individuals

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<sup>2</sup> Antonakis et al (2010) have also provided a thorough discussion as to the precise conditions under which it would be appropriate to use experimental methods to arrive at causal explanations for a phenomenon. The problem, as they see it, is that researchers are often careless about applying quasi-experimental reasoning for causal explanation when such explanations are not actually warranted given how the conditions of the field violated key design assumptions.

leave their posts requires experiential information from departing staff as well as trend data on staff turnover). On the other hand, answering the ‘why’ question will not help us estimate the extent of a problem, which requires answers to ‘What’ questions (e.g. what categories of staff are experiencing high turnover, what are the attrition rates of the whole service in general and in specific disciplines, etc.). The below model in Figure 3 may be useful when determining the kind of questions we should ask at each stage of the applied research cycle:

**Figure 3: Identifying Research Questions at Each Stage of the Applied Research Cycle**

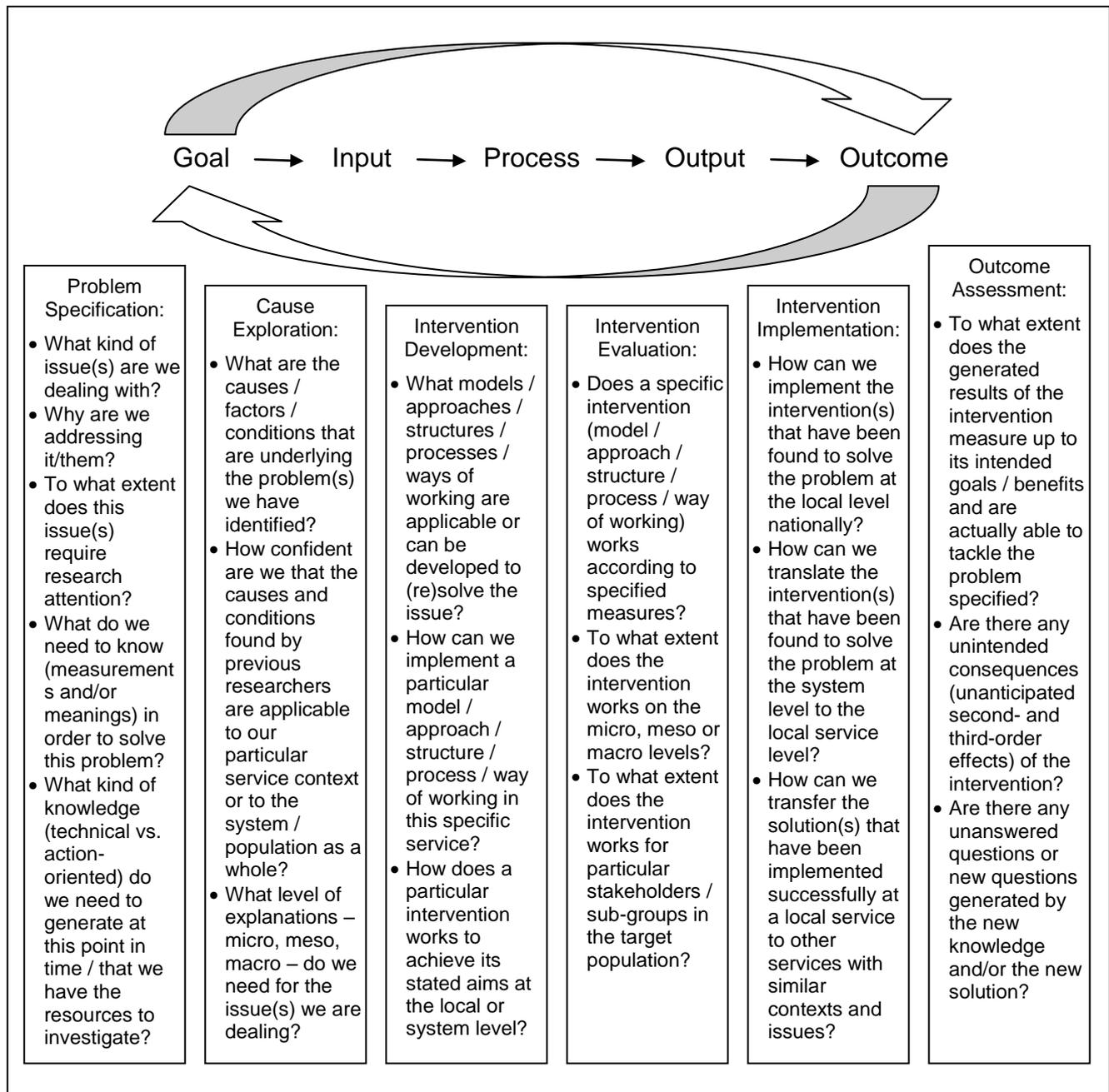


Figure 3 shows how the various stages of an applied research process, from problem specification, through intervention development, to outcome assessment, carry distinct types of research questions:

### 1. Problem specification

How we conceptually frame and perceive an issue for research is often itself worthy of investigation (Alvesson and Sandberg, 2011). Problem specification is about setting the terms of

reference for a particular research project. In applied research, how we define problems depends not only on what ‘facts on the ground’ there may be, but also on our mental models and value systems – in fact, it is our interpretation of these ‘facts on the ground’ that first gives rise to the identification of a problem. Therefore, specifying the content and the nature of a problem for investigation can often become political in a process that is meant, and often assumed to be, objective. As such, it is important to be clear about *why* we are researching into a particular issue, to make explicit those tacit assumptions that we inevitably hold in framing a particular organisational problem prior to research. It is thus at this initial stage of the research cycle that discussions with stakeholders and not just gatekeepers is extremely important, to help ensure our problem definition is not biased by a dominant perspective or the status quo.

When no established consensus exists amongst the range of stakeholders on the nature and/or content of the problem, it is precisely the occasion for using exploratory, participant-led research approaches, where the research question becomes that of finding out the different aspects of the phenomenon from stakeholders’ perspectives, particularly from those groups that might have been previously marginalised.

On the other hand, the parameters of a problem may be adequately-defined by previous researchers, but there may be disagreements amongst stakeholders as to the extent of the problem happening in the local / Irish context, or only anecdotal evidence exists that point to the existence of the issue. In such scenarios, descriptive research that utilises objective measurements provides the most appropriate basis for informing decisions.

## 2. Cause Exploration

Once a phenomenon has been understood as to its nature or at least have its parameters (both indicators and extent) clearly specified, the next set of questions is concerned with exploring its causes and conditions, or what are referred to as ‘antecedents’ of a phenomenon. Factors underpinning an issue could be grouped according to whether they are enabling or disabling (‘facilitators’ or ‘barriers’); or if they are primary or secondary causes; and/or by levels of analysis (e.g. individual-, team-, organisation-, and system-level factors). These could be explored qualitatively or quantitatively, depending on the level(s) of analysis desired.

Qualitative research designs may be appropriate when we are trying to find explanations for the phenomenon at the local level where contextual information is needed, and where we adopt the view that individuals are agents of organisational action, and that their experiential knowledge of the situation and their own interpretations of what is going on are important to account for how and why a problem occurred. On the other hand, at higher levels of analysis when explanations are sought that could explain variations at the population level, it would be more appropriate to explore causal factors quantitatively using cross-sectional or time-series data, which help to uncover naturally occurring patterns of correlation and causation.

Experimental and quasi-experimental designs also play a crucial role at deriving causal explanations by testing hypotheses that researchers have developed regarding the causes of a phenomenon, which are theorised either inductively (from participants’ accounts) or deductively (from extant literature). Here, referring to the work of previous researchers in terms of both evidence as well as theory base is important in guiding the direction of our own investigation, although we need to be quite discerning regarding the level of robustness of existing data, as well as degree of applicability of extant data to our focal population or service context.

Causal explanations that have been found in other settings using qualitative research cannot be applied to one’s local service without judging the degree of transferability of insights given the existence of contextual similarity or lack thereof. Causal factors that have been quantitatively

uncovered for one population cannot assume to automatically apply to another population without first determining their generalisability. Not only do we need to take into account a sample's representativeness of the underlying population, but in the case of international comparisons we also need to be cautious about the extent to which there is comparability across population profiles and history of health systems development.

### 3. Intervention Development

Where there is already a consensus on the issue to be tackled and indeed a body of literature established on the subject that gives robust evidence on its causes and conditions, the next set of research questions to be tackled are of the "how" and "what works" variety. Whilst intervention studies form the bulk of published health services research, unfortunately they are often poorly-designed in the sense that quasi-experimental research designs are assumed, by themselves, to be able to guarantee research rigour without considering the appropriateness of the design to the study aims. In many cases, even the design itself is suspect (e.g. the hundreds of post-intervention studies that are conducted without baseline and without controls).

This state of affairs may be due to health service providers skipping Stage 2 in terms of causal exploration, and jumping straight into intervention development based on little more than a good hunch. Instead of examining how an intervention works to address the causes of an issue, some researchers may decide to 'evaluate' an intervention using little more than a perfunctory survey with a few outcome measures, as a 'quick-and-dirty' method of determining whether the proposed intervention works. Not only will such studies be of little value from the standpoint of research design (since post-test intervention studies without baseline or control tell us little about whether an intervention really works even at the local level), but there is also a lack of deliberation regarding how the proposed intervention is meant to address the causes of a problem, and whether the indicators used to measure the intervention's efficacy are indeed appropriate.

While there is nothing wrong with piloting interventions based on a good hunch derived from one's close observations of practice; however, these studies should only be regarded as proofs-of-concept exercises even when quasi-experimental designs are used. A case-control study may be sufficient for determining whether an approach makes a difference in outcomes at the local level, but without randomisation to weed out setting-specific or subject-specific factors, it cannot claim to generate evidence that will have generalisability for the system as a whole.

Moreover, without considering how an intervention actually generates the observed beneficial outcomes, there is little sense in applying the same intervention elsewhere when one cannot assume that the 'intervention' is indeed what was behind the changes in the observed outcomes. Positive outcomes may simply be down to the team being given an opportunity for reflective, collaborative practice in the course of designing and implementing the intervention, which create spaces for more open communication among team members. Improved outcomes may therefore not necessarily be observed in other services where professionals are not given similar room for reflective practice, but are simply told to implement 'best practice guidelines' that are based at best on incomplete evidence.

Thus, in answering the 'How' question of intervention development, approaches that combine both intervention evaluation and reflective practice may be the most appropriate.

### 4. Intervention Evaluation

Measurement is one of the principal activities of science, and is of vital concern across a broad range of social research contexts (DeVellis, 2003). In health services research, this is especially true for studies that are aimed to evaluate interventions. If issue specification, antecedents and

processes are all adequately addressed by the extant evidence base, we can then begin evaluative investigations into which approach best tackles the problem by comparing the efficiency and efficacy of different interventions at different levels of analysis. Here, experimental and quasi-experimental designs are the most appropriate in providing robust objective evidence we need for systemic evaluation, and so randomised control trials remain the ‘gold standard’ in giving us the answer regarding ‘what works’.

However, the validity and reliability of evidence does not depend only on the research design chosen, but also on the appropriateness of indicators used to measure the service’s outputs and outcomes. Whilst quasi- and true experimental designs such as RCTs, pre- and post-test intervention studies etc. (see Fulop et al, 2001 for a brief overview) provide the rigour needed for summative evaluations of health services interventions, the indicators used to determine the efficacy of an intervention must also be subject to scrutiny. Output indicators should not be confused with outcome indicators, even though politicians and the media often conflate them for self-serving rhetorical purposes, as a way to show that ‘something is being done’ rather than demonstrate that what is being done is indeed beneficial to the patients and the general public.

Outputs are service-related indicators, which are broken down into those that measure efficiency (e.g. number of care episodes processed, waiting time, length-of-stay, etc.); versus those that measure effectiveness, (e.g. number of appropriate referrals, etc., see Dlugacz, 2006 for a discussion of different types of measures used in evaluating service quality in healthcare). Outcomes, on the other hand, are patient- and population-specific (e.g. user-related/defined indicators, e.g. mortality, quality-of-life indicators such as QALYs, patient satisfaction, etc.).

Whilst a service may be efficiently-run in terms of its service outputs, it does not necessarily mean the system is *effective* in terms of patient satisfaction and population health outcomes (e.g. a high volume of throughput of acute care patients in factory-style clinical service lines may not be indicative of the well-being of individual patients nor of the population as a whole). In defining our research questions regarding ‘what works’, we must never confuse or conflate service-related outputs with outcome measures relevant to citizens’ health and social well-being. There may be a tendency to become blinkered by the efficient functioning of the health service (i.e. targets-driven healthcare) and lose sight of the well-being of the end-users themselves (i.e. person- and people-centred healthcare). Where health and social gains and/or user-defined outcomes may be anticipated to differ for various groups of users/stakeholders, these should be specified as part of the research questions so that appropriate research designs could be used to allow sub-group comparisons.

##### 5. Intervention Implementation

Once a particular service intervention is shown to offer demonstrable benefits to a particular client group; or a particular teamwork model is shown to result in tangible positive outcomes at the team and individual levels, the natural desire is to ensure the implementation of such interventions across the system as a whole. Here, we again encounter the ‘How’ question, but instead of dealing with the ‘How to develop’ question under Intervention Development, we are concerned with questions regarding ‘How to implement’ – both for top-down implementation of system-wide guidelines at the local level; as well as to translate local ‘success stories’ for bottom-up implementation nationally or even internationally.

Unfortunately, both intervention *development* as well as intervention *implementation* are often neglected in the health services research literature, which is dominated by intervention

evaluation studies answering the ‘What works’ question<sup>3</sup>. This situation is ironic, as service development and implementation are key issues in health services management, and these are best addressed by organisational research with a *process* focus. Process research pays attention to the mechanism of how something – whether an organisation as a whole or a particular model of operation – works to achieve its aims. It involves research questions regarding not only the objective steps involved in any work processes (tasks and activities performed, resources expended, personnel required, etc.), but also those questions that relate to the structure and culture of an organisation. We need to determine to what extent we require not just technical how-to knowledge, but also to translate said knowledge into meaningful action, and such implementation questions are best addressed by process research methodologies such as action research.

## 6. Outcome Assessment

No intervention takes place in a vacuum. Although we may be confident about the efficacy of an organisational intervention under experimental conditions (e.g. in RCTs), there will always be second- and third-order effects resulting from how such an intervention interacts with its surrounding social structure when implemented locally. Indeed, when an intervention has been implemented across the board such that it results in systemic change for the health and social care service as a whole, there will always be unintended consequences – both positive and negative – of organisational action that cannot be planned for *a priori*. Thus, once an intervention is introduced into a system, it behoves us to assess and re-assess its true consequences in the medium and long term, rather than assume that its outcomes will remain aligned with the original goals identified when it was first developed.

This is the reason why outcome assessments must be linked back to how we define and specify the problem back in Stage 1 of the applied research cycle. Unlike human biology, the underlying mechanisms of which may be relatively stable over centuries, organisational and social phenomena are comparatively fast changing, and we cannot assume that the knowledge gained about organisations – including health and social care services – even a few decades ago will still hold true for the present and future. Periodic assessments are therefore necessary not only of the outcomes of interventions, but also of our own ongoing needs and preferences, perceptions and beliefs. How we view the problem, our state of knowledge, indeed our social statuses and attributes, as well as structures and cultures, would have changed over time, and research must keep pace with the new questions that arise so that our theory and evidence base are continually updated to reflect such changes.

## Conclusion

Regardless of which stage of the applied research cycle we are concerned with for a particular research project, in defining research questions we should always make reference to the overall goal of the applied research itself. Therefore, problem specification is always the primary determinant in any deliberation about the appropriateness of a particular research design. Research design then, is the means by which we find appropriate answers to particular research questions. In the context of applied research such as health services research, it is always aimed at generating evidence that can help us decide on policies and/or practices that contribute towards specific health and/or social gains. In applied research, not only do we need to be cognisant of the type of knowledge being generated by a particular research design, but we also need to make explicit links to the kind of organisational actions it is aimed to achieve, as Figure 4 illustrates:

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<sup>3</sup> There are also stepwise evaluation research methodologies, popular within operations management research, which are concerned with investigating the efficacy of an organisational intervention at each step of its implementation. I group these methodologies under the banner of ‘process research’.

Figure 5 – Deriving Action from Knowledge



Research methodology should therefore always be seen for what it is – a means to a specified end. Rather than being led astray by fierce debates and polemics about the supposed superiority of one methodology over another (often in the context of so-called ‘paradigm wars’ in the methodological literature, see Morgan, 2007 for a summary review), we need to be pragmatic and choose research methods that are fit for our defined purpose. Instead of assuming that a ‘gold standard’ methodology such as RCT will by itself deliver ‘cast-iron’ evidence in health services research, we need to be critical about how well a particular methodology matches up with our research objectives for a specific project. Box 1 below summarises the considerations we need to take into account when choosing a research design appropriate for our particular purpose.

**Box 1. Checklist for Matching Research Designs to Organisational Issues in Healthcare**

To summarise, the questions we need to consider when choosing a research design, from both validity and feasibility/practicality perspectives, can be captured in the following:

1. Research Objective – Why are we doing this? Which specific issue we are trying to address through research? Do we need to explore the issue as to its parameters and/or its causes, or is it a question of developing, evaluating or implementing a solution aimed at solving the issue?
2. Research Question – What questions do we need to ask to achieve our specific research objective? (See Figure 2 on what questions are appropriate at which stage of the applied research cycle.)
3. Research Sampling – Which sources could give us the information we need to answer the Research Question?
  - a. Who can give us the information we need? (Target Participants); and/or
  - b. What can give us the information we need? (Databases and other Archival Materials)
4. Feasibility – How practical is it for us to get information from these sources?
  - a. Who are the gatekeepers or data controllers from whom we need to get permission to access the research sample?
  - b. What are the relevant ethical approval process and time-frames?
  - c. What are our resources (human, financial, technological) and time-frame for research completion?
5. Critical Reflection – Are our proposed means (Research Design) appropriate to the ends?
  - a. What are our intended research outputs (in terms of meanings or measurements)? Do they actually answer our research questions?
  - b. How well do our research outcomes (the implications arising from our findings) match with our stated research objectives?

**References:**

Antonakis, John; Bendahan, Samuel; Jacquart, Philippe; Lalive, Rafael. 2010. 'On making causal claims: a review and recommendations.' *The Leadership Quarterly* 21: 1086–1120.

Alvesson, M. and Sandberg, J. 2011. Generating research questions through problematization. *Academy of Management Review*. 36: 247-271.

DeVellis, Robert. 2003. *Scale Development: Theory and Applications*. (2<sup>nd</sup> ed.) London: Sage Publications.

Dlugacz, Yosef D. 2006. *Measuring Health Care: Using Quality Data for Operational, Financial and Clinical Improvement*. San Francisco: Jossey-Bass.

Faulkner, Alison; and Thomas, Phil. 2002. 'User-led research and evidence-based medicine.' *British Journal of Psychiatry*. 180: 1-3.

Fulop, Naomi; Allen, Pauline; Clarke, Aileen; Black, Nick. (eds) 2001. *Studying the Organisation and Delivery of Health Services*. London: Routledge.

Gambrill, Eileen. 2006. 'Evidence-based practice and policy: choices ahead.' *Research on Social Work Practice*. 16: 338-357.

Glasziou, Paul; Vandenbroucke, Jan; and Chalmers, Iain. 2004. 'Assessing the quality of research.' *British Medical Journal*. 328: 39–41.

Grypdonck, Maria H. F. 2006. 'Qualitative health research in the era of evidence-based practice.' *Qualitative Health Research*. 16: 1371-1385.

Lambert, Helen, Gordon, Elisa J.; and Bogdan-Lovis, Elizabeth A. 2006. "Gift horse or Trojan horse? Social science perspectives on evidence-based health care." *Social Science and Medicine*. 62(11): 2613–2620.

Littlejohns, Peter; and Chalkidou, Kalipso. 2006. 'Evidence for health policy.' *Journal of Research in Nursing*. 11(2): 110-117.

McHugh, Patrick; and Byrne, Michael. 2011. *Survey of the Research Activity, Skills and Training Needs of Health and Social Care Professionals in Ireland*. Roscommon: Health Service Executive.

Morgan, David L. 2007. 'Paradigms lost and pragmatism regained: methodological implications of combining qualitative and quantitative methods.' *Journal of Mixed Methods Research*. 1(1): 48-76.

Petticrew, M. and Roberts, H. 2003. 'Evidence, hierarchies, and typologies: horses for courses.' *Journal of Epidemiology and Community Health*. 57: 527-529.

Vella, Keryn; Goldfrad, Caroline; Rowan, Kathy; and Black, Nick. 2000. 'Use of consensus development to establish national research priorities in critical care'. *British Medical Journal*. 320: 976-980.

### **Recommended Further Reading:**

Bailey, Diana M. 1997. *Research for the Health Professional: a Practical Guide*. (2<sup>nd</sup> ed.). Philadelphia: F.A. Davis.

Blaikie, Norman. 2009. *Designing Social Research*. (2<sup>nd</sup> ed.) Oxford: Polity Press and Blackwell Publishers.

Gilbert, Nigel. 2008. *Researching Social Life*. (3<sup>rd</sup> ed.) London: Sage Publications.