Can the application of a benefits realisation process release greater value from an existing obstetric information system?

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Declaration

I declare that the work described in this dissertation is, except where otherwise stated, entirely my own work, and has not been submitted as an exercise for a degree at this or any other university.

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- I would like to dedicate the work involved in this dissertation to my late parents Edward and Therese Gosling.

Go raibh míle maith agaibh go léir.

Summary

A lecture on benefits realisation was given during year one of the MSc course of which this dissertation is in partial fulfilment. It made absolute sense regarding why ICT systems that seemed to have been successfully delivered in terms of their technical deployment may not be reaping the benefits desired. An opportunity existed to revisit the use of an obstetric information system and to establish in answer to the research question whether 'the application of a benefits realisation process could release greater value from an existing obstetric information system?'

A literature review based on existing research studies into benefits realisation management for IT was conducted. It defined benefits realisation and set in context the need for organizations to invest in the direct management of benefits to release value from IT enabled change projects. As the Cranfield methodology had been widely cited and appeared to have a comprehensive yet straight-forward series of tools available for use it was chosen as the method that was applied during the primary research of this dissertation.

The study then described in detail the planning stages of the application of the Cranfield benefits realisation methodology against the obstetric system.
It commenced with the recruitment of focus groups of key staff members who identified and agreed upon specific benefits they would like to release from the system. The benefits, measures and owners were all documented and inserted into a benefits dependency network (BDN) maps. The changes required for each benefit were then identified and documented along with associated measures and owners, these were added to the map. Throughout this process the Cranfield tools and templates were used to capture and link the relevant details so that a comprehensive plan was fully agreed with the stakeholders. This resulted in the creation of several documents identifying in various formats not only the benefits themselves but also the steps that need to be taken to release them.

The study then went on to report the changes that had been enabled and the appropriate measurements supporting them. At the time of writing some of the initial enabling changes had been activated and evidence was being gathered to demonstrate if they are in place. Current state measurements were recorded wherever possible to provide a baseline for comparison for when future state workflows were introduced. As the plan would not be fully activated before completion of this dissertation, projected figures were derived from some of these current state figures to give an indication of the results that might be anticipated. Both the approaches that did and did not work well during the running of the Cranfield methodology were identified.

The findings of this study were that the application of a benefits realisation process could release greater value from an existing obstetric information system. Although the process has not yet fully concluded greater value has already been released from the system. As the application of the process has such a rigorous element confidence is very high that most benefits will be achieved and should some be not fully delivered a process exists to revisit, change and re-implement in order to release them.

Given the current economic climate funding for ICT systems within the Health Service Executive (HSE) is extremely limited and taking a fresh look at existing systems and their ability to enable changes that could allow the release of greater value is an area that merits further exploration.

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Abbreviations

ABR	Active Benefits Realisation
BDM	Benefits Dependency Map
BP	Business Picture
CMM	Clinical Midwifery Manager
FP	Financial Picture
HaCIRIC	Health and Care Infrastructure Research and Innovation Centre
HRAC	Health Research Advisory Committee
HSE	Health Services Executive
ICT	Information Communications Technology
IS	Information System
IT	Information Technology
KPI	Key Performance Indicator
LHO	Local Health Office
MIS	Maternity Information System
MN-CMS	Maternal and Newborn Clinical Management System
NAO	National Audit Office of the UK
NMS	Neonatal Metabolic Screening
OGC	Office of Government Commerce of the UK
PAS	Patient Administration System
PCCC	Primary, Community and Continuing Care
PHN	Public Health Nursing
PHR	Personal Health Record
PI	Performance Indicator
PP	Project Picture
REC	Research Ethics Committee
TCD	Trinity College Dublin

1 Introduction and background

The hospital at which this study is taking place is a three hundred and fifty bed acute hospital located in the North East of the Republic of Ireland which delivers a substantial range of acute hospital services. The hospital's obstetric unit is the largest in the North Eastern Area delivering 4,277 babies in 2007, 4,334 in 2008 and 4,154 in 2009. The main information technology systems in use throughout the hospital are either administrative (Patient Administration (PAS), Financial, Emergency Department) or diagnostic (Laboratory information system, Radiology information system). While the five hospitals of the North Eastern Area operate a multi-campus PAS there is little electronic sharing of information and interfacing between systems.

1.1 Background

A maternity information system (MIS) was installed in the hospital in 2007 to address one of the key recommendations of the Lourdes Hospital Enquiry Report, which identified the need for a 'comprehensive, effective, user friendly information technology system to be installed and become operational immediately' (Harding Clarke, 2006). The introduction of the system was a huge cultural change which took place in very challenging times.

- The numbers of births at the hospital was increasing rapidly due to the rise in the Irish population brought about by a buoyant economy. This was exacerbated in the obstetric unit's case due to the location of a refugee centre 12 miles away and the high level of pregnant mothers residing there.
- The numbers of midwives working within the unit were below recommended levels and as Ireland was at almost full employment it was very difficult to fill these places with experienced midwives.
- The use of a computer to record clinical details in real time was a completely new concept within the hospital.

The clinical, administrative and communications benefits were identified in advance of procurement. However as with many ICT projects they remained at a high level

and their delivery was not managed; a formal methodology for benefits realisation was not part of the project and was not a known or used concept for ICT projects in the HSE North Eastern Area. As the benefits had not been fully expanded upon there was no tangible sense that the system was contributing to the department either in terms of departmental information needs or its role in supporting service delivery. From an ICT perspective the technical deployment of the system was deemed to have been successful.

While the system is in daily use in the live clinical environment there remains some resistance to its use, for example less than 25% deliveries are being entered onto the system in real time (see Table 1-1).

4 weeks from August 2009				
Week Starting	10th Aug	17th Aug	24th Aug	31st Aug
No. births per week	80	72	67	73
No. entered on labour ward	20	11	24	11
% Entered on MIS each day	25%	15%	36%	15%
Daily cumulative over week	25%	20%	25%	22%
Total over trial period				23%

Table 1-1 Delivery details entered in real time

The paper record, which is a printed copy of the computer record, is still the primary source of reference even on some occasions when it has to be retrieved from the medical records department and it would be much quicker to access the computerised copy. The system has not been incorporated as a working tool within the unit and is perceived as having been inflicted upon many of the users. 'Data inputters' who are agency staff with a midwifery background, are employed to enter in labour and occasionally post natal details when the activity in these wards is deemed too great to allow the attending midwife enter the data directly themselves. Many users have little or no perception of either personal or organisational benefits arising from the use of the system. It is purely regarded as an additional task that is completed once all other tasks have been dealt with. It is quite apparent that minimal value has been released out of the ICT investment.

1.2 Motivation for the research

A lecture on benefits realisation was given during year one of the MSc course of which this dissertation is in partial fulfilment. It was a completely new concept to the researcher and made absolute sense regarding why ICT systems that seemed to have been successfully delivered in terms of their technical deployment may not be reaping the benefits desired. The researcher's role as the ICT Project Manager who was involved in the implementation of the MIS, in addition to a new awareness of the existence of benefits realisation management and its role in delivering greater value from ICT investments provided the primary motivation for this study.

An opportunity existed to revisit the use of the MIS within the obstetric unit to explore if the application of a benefits realisation process retrospectively could assist with reaping new benefits. Using a benefits realisation process to assist in resolving known information flow issues within the department was also considered as a possibility. As previously alluded to, significant resistance to system use exists in some areas of the obstetric unit; the use of a benefit realisation process could possibly assist in terms of user acceptance.

The flow of information from the hospital to the Public Health Nursing (PHN) service is very cumbersome and time consuming. In the past the quality and accuracy of the information given to the PHN, particularly the contact details, has been deemed unacceptable by that service. There is a tangible sense of people working harder to resolve these issues; the use of a benefits realisation process could help staff to work smarter to reach a resolution. A study such as this would also inform on the value of a retrospective application of a benefits realisation approach and whether it is worthwhile.

Building an awareness of benefits realisation within the hospital was also a key motivating factor. Benefits realisation provides a very positive method of focusing upon both known current issues and future desires, providing a systematic series of steps and tools that can help in identifying the changes required to address them. All

benefits realisation processes require a collaborative multidisciplinary approach; a significant part of the process involves education on benefits realisation itself. Not only could the study resolve known issues and seek to identify existing and new benefits it could also introduce a culture of benefits realisation within the hospital and leave the staff involved with the skills to use the approach in the never ending benefits cycle – allowing for future benefit release.

In addition to the above motivational factors, the HSE are currently running a procurement process for a Maternal and Newborn Clinical Management System (MN-CMS) for all nineteen public hospitals delivering obstetric services. The research from this dissertation will inform the national project team in terms of benefit realisation and considerations for system deployment from an obstetric environment.

1.3 Research question

As illustrated above, while the MIS was technically deployed the system does not seem to have brought many benefits to the department and it is perceived as an unwelcome burden by some staff who are spending significant amounts of time reluctantly entering data onto the system. This research study will aim to establish if 'the application of a benefits realisation process could release greater value from an existing obstetric information system?' The dissertation also provides an opportunity to research benefits realisation approaches and how they might be applied.

In the current economic climate funding for ICT systems within the HSE is extremely limited and taking a fresh look at existing systems and their ability to enable changes that allow the release of greater value is an area that merits exploration.

1.4 Overview of the research

The question was addressed by:

1. Performing a literature review which revealed that the Cranfield methodology was an established approach to benefits realisation which

provided a comprehensive and systematic approach that could be utilised within the domain.

2. The series of steps and tools that form the Cranfield methodology are employed to guide focus groups of key users to tease out and agree upon the benefits they desire, the changes that will be required and to arrive at a benefits realisation plan.
3. Enabling changes were initiated and evidence to support their provision was gathered. Any baseline measurements agreed during the process to be used to assess the impact that the changes had in releasing the desired benefits were taken. These measurements should provide tangible, visible evidence that change has happened and will provide a method of establishing if benefit has been derived when the full plan is activated.
4. Analysis of the learning gained by running the whole process should allow recommendations to be drawn in relation to both research questions.

1.4.1 Literature review

The research commences with a review of relevant literature identifying why benefits realisation is required and what the key common components of the various benefits realisation processes are. Four different benefits realisation approaches are outlined within the chapter, many of which have similar characteristics and each of which has its own merits. These are the Cranfield Methodology (Ward and Daniel, 2005, Peppard and Ward, 2007), Active Benefits Realisation (Remenyi *et al.*, 1997), Benefits realisation (Bradley, 2006) and the Benefits realisation capability model – competencies/practices approach framework (Ashurst *et al.*, 2008). Factors for consideration in relation to the lack of uptake of benefits realisation and reasons why it has not made the leap from academia to common business practice (Ashurst *et al.*, 2008, Lin and Pervan, 2003, NAO, 2006) are also proposed.

1.4.2 The Cranfield Methodology

The Cranfield methodology has five core principles of benefits realisation from IT investments at its core (Peppard and Ward, 2007). These combine to establish that it is only the business users who can release value from IT systems.

The methodology commences with identifying and mapping the business drivers to the high level objectives required. From here individual business benefits are derived from each of the objectives. These benefits are specific and measureable, they are each assigned to owners who directly have a gain to make from their delivery and who therefore have a vested interest in ensuring that they are delivered.

Each of the benefits is then explored to identify the changes that will be required to ensure they are released. As with the benefits the changes are specific, and measurable evidence of their delivery is agreed. Change owners, who are people with sufficient influence and who are in a position to ensure that the changes required are delivered, are identified and assigned at this point also.

Any once off enabling changes that will be required are flagged as such; many of these will be required in advance to facilitate or allow other changes to happen. At this point IT enablers that will be required to aid change will also be flagged. Benefit dependency maps are constructed and used as a visual aid to show how all of the benefits and changes link together. All of the steps above are linked in these maps and their interdependencies highlighted.

Stakeholders are identified and the levels of change required of them versus the benefits they will receive are analysed; action plans for those resistant to change are created. Figure 1-1 provides an overview of the stages involved in the Cranfield Methodology.

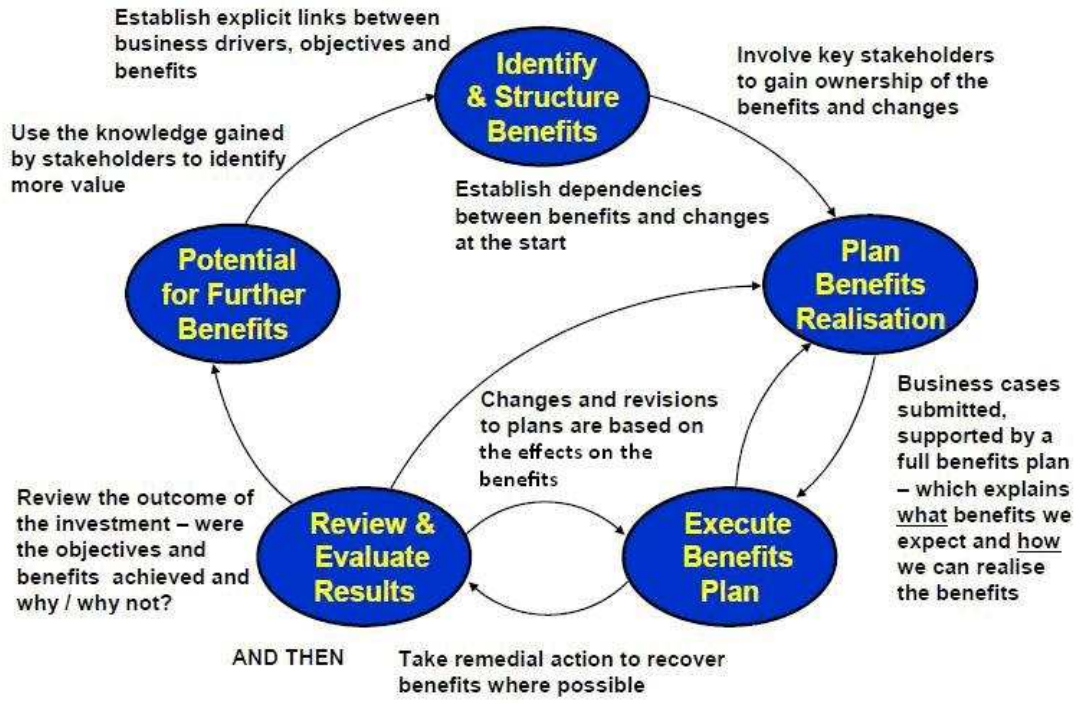

Figure 1-1 Overview of the Cranfield Methodology (Peppard, 2009)

For the research described in this dissertation, a hospital based focus group comprised of staff of all grades involved in the delivery of obstetric services within the hospital, which are in effect stakeholders, were involved in carrying out the process in relation to hospital benefits. A parallel group comprising all grades of public health nurses, who are another set of stakeholders, were involved in carrying out the process in relation to community based benefits. Both groups then joined together to agree and finalise a benefits realisation plan that should meet their combined needs. The enabling changes were activated and their impact measured using the methods of measurement agreed as part of the process. Where possible a baseline measurement for the agreed changes was also taken to allow for comparison once the full plan was activated

1.4.3 The Findings

As each of the benefits and changes required have metrics assigned, these were used to establish if any activated changes within the process had been successful. As activation of the full benefits realisation plan did not fall within the timeframe of this

dissertation, relevant existing figures were used to project possible outcomes wherever possible. Both the approaches that did and did not work well during the running of the Cranfield methodology were discussed. The findings sought to establish if in answer to the principal research question, true additional value has been released from the application of the process.

1.4.4 Summary and conclusion

Having planned and commenced the enabling changes of a benefits realisation process based on the Cranfield Methodology the research is outlined and key learning is highlighted. This will particularly relate to points of interest that may be useful to the HSE should a retrospective benefits realisation approach to reap greater value out of existing systems be considered.

1.5 Overview of the dissertation

The following chapters of this dissertation are:
Chapter 2 as outlined in paragraph 1.4.1, is a review of relevant literature of previous studies and publications addressing benefits management planning for information technology (IT) projects. Specific focus has been placed upon some of the tools and approaches that have been identified and used to successfully release benefit.
Chapter 3 provides a description of the process involved in the application of the Cranfield benefits realisation as outlined in paragraph 1.4.2.
Chapter 4 evaluates the effectiveness of the process to date. It discusses the changes that were enabled and how further changes will be activated and measured. It also discusses which parts of the process work well and not so well, as planned in paragraph 1.4.3
Chapter 5 concludes the dissertation with key learning points of interest as per paragraph 1.4.4

2 Literature review

This chapter presents a literature review of previous studies and publications addressing benefits management planning for information technology (IT) projects. Reference is made to current known issues in releasing benefit from IT projects and specific focus is placed on some of the tools and approaches that have been identified and used to successfully release benefit. As the purpose of benefits management planning is to result in the realisation of benefits, the terms benefits management and benefits realisation are taken to have the same meaning and are used interchangeably throughout this study.

2.1 Defining benefits management for IT

Benefits management for information technology is a process whereby the benefits an organisation wishes to realise, from the implementation of a new computer system are known and quantified in advance, enabling the organisation to identify the changes it must make in terms of business processes and new or revised ways of working, to allow for the delivery of the desired benefits (Remenyi *et al.*, 1997, Ward and Daniel, 2005, Bradley, 2006, Ashurst *et al.*, 2008, Ward and Elvin, 1999).

The Oxford English Dictionary defines benefit as ‘an advantage or profit’ (Oxford Press, 2010) and ‘realise’ as ‘to become fully aware of as a fact, understand clearly and/or cause (something desired or anticipated) to happen; fulfil’ (Oxford Press, 2010) . Bradley (2006) reflects the definition in stating that a benefit is ‘an outcome which is perceived as a positive by a stakeholder’. In turn he defines a disbenefit as the opposite of benefit or ‘an outcome of change that is perceived as negative by a stakeholder’ (Bradley, 2006). Ward and Daniel (2005) further expand on disbenefit in defining it as ‘a form of disadvantage or downside to the organisation as a whole or to groups or individual’.

The National Audit Office of the UK in its report on Delivering Successful IT-enabled Business Change defines benefits realisation as ‘realising the benefits projected in

the business case – usually new, more effective or more efficient services – and achieving return on investment' (NAO, 2006). It goes on to define IT-enabled business change specifically as 'modifications to business processes to achieve business goals, supported and enabled by IT'. These two definitions combine to identify some of the important features of benefits management i.e. identifying the benefits up front, maintaining a strong relationship to the business case, processes and goals throughout the project, and pitching IT as an enabling factor rather than the key instrument that will deliver benefit. They place an emphasis on early identification of the benefits and active management of the processes and means of achieving the benefits. However, the most widely cited definition of IT benefits management states that it is 'the process of organising and managing such that the potential benefits arising from the use of IT are actually realised' (Ward and Elvin, 1999).

2.2 Why is benefits management planning required?

The failure of IT systems to successfully deliver benefit or added value has been widely documented and criticized. Doherty et al (2008) citing (Hochstrasser and Griffiths, 1991, Clegg *et al.*, 1997, British Computer Society, 2004, Eason, 1988) reports on suggested and estimated percentages of ICT systems failure or inability to be associated with some level of success as depicted in Table 2-1.

Timeframe	Late 1970's	Late 1980's	Late 1990's	Mid 2000's
Success Rates	20%	30%	10%	16%

Table 2-1 IT systems failure rates based on data reviewed by (Doherty et al., 2008)

While the figures may not be directly comparable, it does paint a rather gloomy picture of the perception of IT systems success. Ward and Daniel (2005) believe the rate of ICT failure to deliver to be 'stuck at 30%'. Why is this case? Figure 2-1 which shows the implications of poor benefits management also provides some food for thought on what can lead to failure.

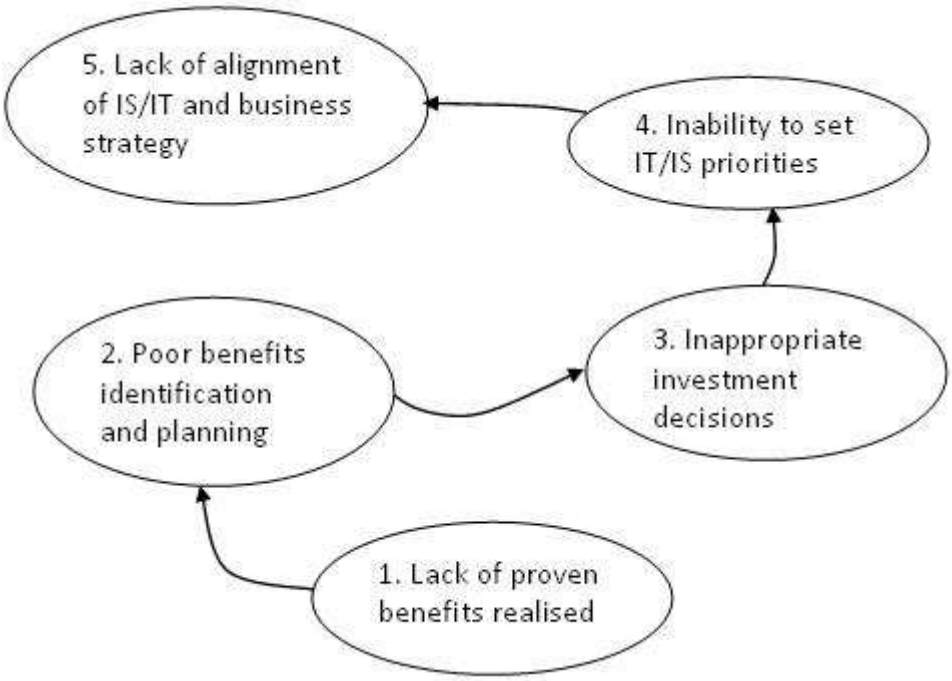

Figure 2-1: The implications of poor benefits management (Ward and Daniel 2006)

Traditionally the focus of IT projects has concentrated on the specification and subsequent procurement of an IT solution, configuring the system and completing the technical deployment (Remenyi *et al.*, 1997, Clegg, 2000, Ashurst and Doherty, 2003, Marchand and Peppard, 2009). Success is still commonly judged on whether the project was delivered on budget and on time (Clegg et al., 1997, Ashurst and Doherty, 2003). The benefits that new systems are expected to deliver are usually identified at a very high corporate level early in the project, often with the primary purpose of making a business case or getting approval to proceed with the procurement of the system (Yates *et al.*, 2009, Remenyi *et al.*, 1997). However, frequently they are not broken down into any meaningful deliverables that can then be evaluated post go-live. Bradley (2006) on discussing difficulty in measuring benefits mapped out reasons for this. Working from the left had side of Figure 2-2 some reasons why measuring benefits may be difficult are explored and in doing so he highlights some of the fundamental issues that benefits management seeks to address.

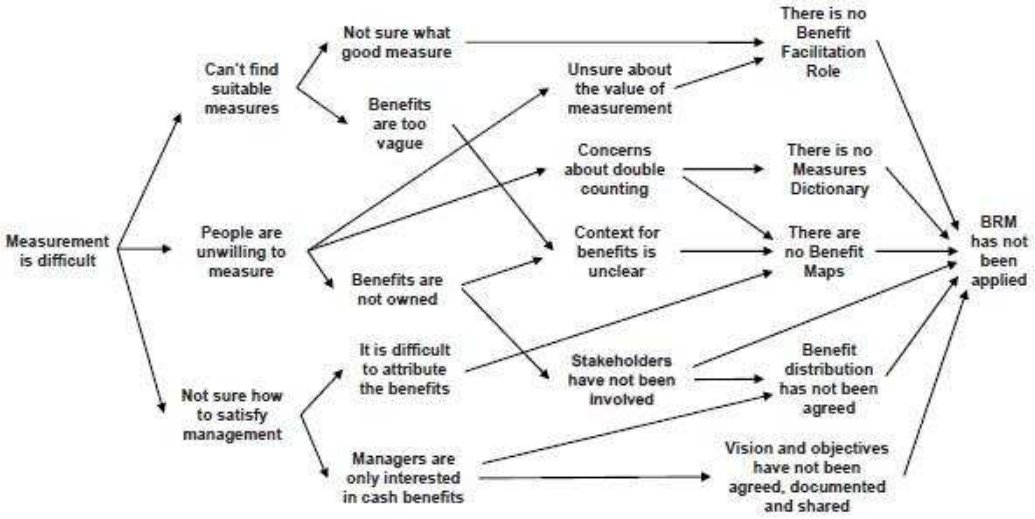

Figure 2-2: Why measuring benefit is difficult (Bradley, 2006)

Once constructed for the business case, benefits are regularly not revisited in the mistaken belief that their delivery will be automatic upon system go-live and that they will 'magically' come about (Ashurst *et al.*, 2008, Ward and Daniel, 2005). Seddon *et al* (2001) demonstrate that 'identifying and measuring' benefits is one of the most difficult elements of evaluating IT systems, a view that is supported by the NAO (2006). As Remenyi and Sherwood-Smith (1997) state, 'benefits management mostly requires a change of attitude rather than the acquisition of hardware and software'. Bradley (2006) makes the analogy of putting 'the cart before the horse' or not having a horse at all but allowing the cart (the project) to do as it pleases without a horse (required business change) to direct it. It is all too easy to concentrate on the implementation of an IT system. With these points in mind perhaps a process that involved greater effort and clarity of purpose at the outset of a project in stating precisely what is to be achieved would assist in addressing this issue.

2.3 The key ingredients of benefits management

Given the problems outlined in the previous section, the key common ingredients of benefits realisation for IT highlight the need for organisations to re-focus the planning and implementation of IT projects towards the business drivers and objectives, identifying how these can be broken down into specific benefits; pin-pointing the business changes required and gaining knowledge of the relevant skills

of change which need to be considered, if they are to actually deliver any substantial benefit (Remenyi *et al.*, 1997, Ward and Daniel, 2005, Bradley, 2006, Ashurst *et al.*, 2008, NAO, 2006).

All methods researched advise that particular account must be taken of the stakeholders; they are critical to successful delivery and their contribution from the very start must not be undervalued. Understanding how the changes will affect them, what their net gains/losses will be and what their attitudes towards the changes are, along with keeping them involved and informed from the start are vital factors for success (Edwards and Peppard, 1997, Joshi, 1991, Bradley, 2006, Clegg et al., 1997, Ward and Daniel, 2005).

There needs to be a clear picture of how the business is currently conducted and whether there are opportunities to optimise or rationalise the current workflow. The business processes that will need to be re-engineered and those that will give maximum benefit also need to be identified (Edwards and Peppard, 1997). Indeed the answer to whether a new IT system is required at all and what its functional requirements are, can only be ascertained after much of this subject matter has been thoroughly explored.

A common theme throughout many of the approaches researched was built in provision to stop a bad project before development began. The effort expended in the initial stages of each of these processes holds at its core the principle of weeding out projects that will not reap the benefits desired, providing a business case as backing (Remenyi et al., 1997, Ward and Daniel, 2005, Bradley, 2006).

In terms of success, (Thomas and Fernández, 2008) suggest that projects which have their success criteria identified and defined up front have a greater chance of being successful. Therefore, if the desired benefits are defined and a measure of their success agreed then the chances of the project being successful would appear to be much improved.

In a ten year review of their frequently cited and used model of information system success, DeLone and McClean identified the need to include a new category named Net Benefits which replaces the Individual Impact and Organisational Impact outcomes of the earlier model (DeLone and McLean, 2003). This recognises the broader range of successes or benefits that may be experienced with a successful deployment, it also allows for the concept of disbenefit to be included in the overall success factors.

With these factors in mind the following sections will expand upon researched methodologies, tools and approaches.

2.4 Methods and approaches

Remenyi and Sherwood-Smith (1998) equate their Active Benefits Realisation process to the Tortoise from the Aesop's fable regarding the Hare and the Tortoise. Painting benefits realisation as taking a 'systematic and thorough' approach, winning the race by pausing and checking, providing for stakeholder dialogue and by identifying and mitigating against any surprise outcomes.

While there is widespread academic support for benefits realisation planning, there is a much reported gap in published details on methodologies that could be applied or approaches that could be used to activate benefits delivery (Flak *et al.*, 2008, Doherty *et al.*, 2008). There is also little published evidence that IT benefits realisation planning has made the leap from academia to business practice and that it is being used with any regularity (Ashurst *et al.*, 2008, Lin and Pervan, 2003, NAO, 2006). The lack of publicised tools and the absence of real life accounts of how benefits realisation has been successfully applied may be some of the reasons for this. However recent work by Ashurst *et al* (2008) and the Health and Care Infrastructure Research and Innovation Centre (HaCIRIC, 2008) in attempting to draw together benefits realisation frameworks based on existing tools and models appears to be a different approach in trying to bridge this gap and may be a sign that greater adoption of benefits realisation management may be close at hand.

The following sections will outline some of the processes that have been developed and applied.

2.4.1 The Cranfield Methodology

The Cranfield methodology begins with an acknowledgement of five core principles relating to benefits realisation and IT which have been identified and need to be addressed at the start of any technology project to pinpoint the benefits. These are described as (Peppard and Ward, 2007):

1. 'Acknowledging that IT on its own has no real value, it actually incurs costs such as maintenance and support.
2. An IT investment is a business enabler that can facilitate changes in business practice and it is when these changes improve the efficiency or effectiveness of the business that the benefits are realized.
3. That it is the business managers/users and not the IT project staff who can release value from the investment. The business users must hold the responsibility of owning the benefits.
4. That unintended consequences can result from IT projects that may be negative and that these must be understood, avoided and minimized. They should also be outweighed by positive outcomes.
5. Benefits must be actively managed if they are to be achieved, not all benefits are realized straight away, and it may be some time post go-live before all benefits are obtained. These benefits must be managed beyond the initial system installation'.

With these principles in place and understood by the business owners the methodology then moves on to identify the business drivers. Ward and Daniel (2005) suggest using a series of seven questions, answered by a combination of stakeholders as a basis to arrive at a benefits realisation plan.

1. Why must we improve?
2. What improvements are necessary or possible? (Key stakeholders must agree to these improvements, which become the investment objectives).

3. What benefits will be realized by each stakeholder if the investment objectives are achieved? How will each benefit be measured?
4. Who owns each benefit and will be accountable for its delivery? (The benefit owner will be responsible for the value assigned to the benefit in the business case).
5. What changes are needed to achieve each benefit? (The key to realising benefits is identifying explicit links between each benefit and required changes.)
6. Who will be responsible for ensuring that each change is successfully made?
7. How and when can the identified changes be made? (To answer this question, the organization must assess each stakeholder group's ability and capacity to make the identified changes)' (Ward and Daniel, 2005).

Working through the seven questions allows the stakeholders to produce a benefits dependency network which maps the project objectives to the benefits, to the business change required, the enabling changes and finally the IT enablers. Relationships between each of these elements are identified and mapped out. The ownership of the benefits, the business changes and the enabling activities are then assigned to named individuals who have either the power to deliver on the changes required and /or have a vested interest in delivering the change. How the change will be measured is defined at this stage and a measurement indicating evidence of delivery is also agreed. The timing of the change is also taken into consideration; can the change be made now or is it dependent on some other change or action? Once the implementation begins a two way process of reviewing and making changes to the benefits realization plan, based on the results achieved then takes place to maximize the benefits delivery. A review of the investment and report on each benefit showing why it was or was not delivered should then be undertaken. Additional value can be extracted from the initial investment by leaving a continuous structure in place to pursue further benefits from the project based on the knowledge that the stakeholders now have of the benefits realization process, the product that was installed and the new workflows that have been implemented. Figure 2-3 provides an overview of the stages involved.

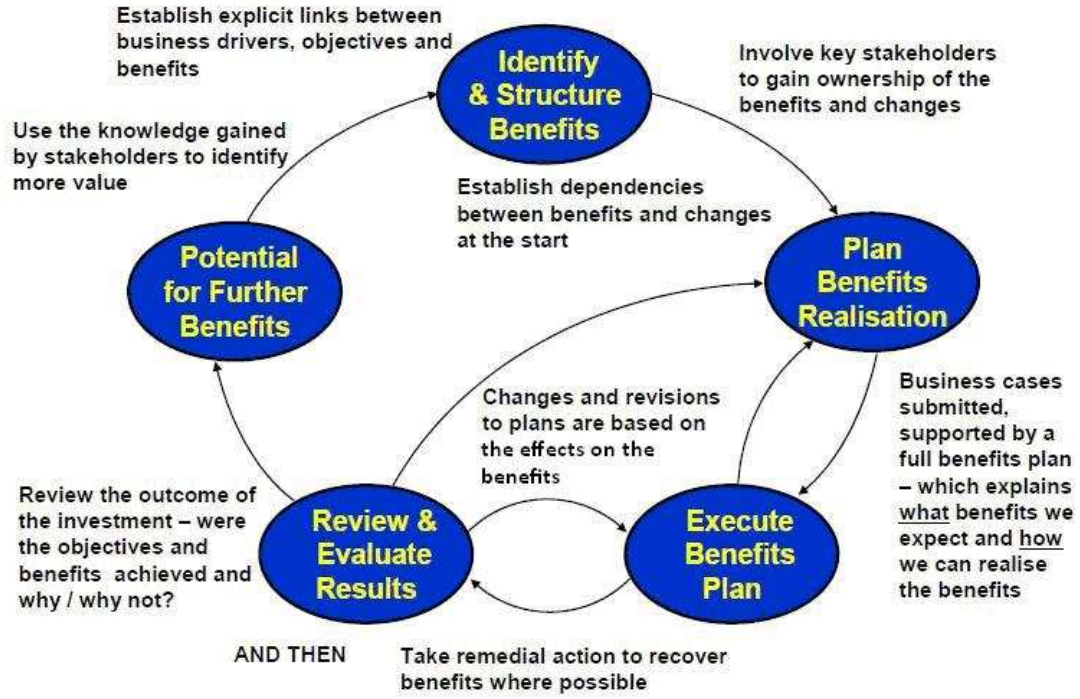

Figure 2-3: Benefits Management Life Cycle taken from (Peppard, 2009)

2.4.2 Active Benefits Management

Remenyi and Sherwood-Smith (1997) have identified a 'process for managing information systems' development through a continuous evaluation approach' which they have named 'Active Benefits Realisation (ABR)'. As with the other approaches discussed in this chapter, they call for 'active participation' by all stakeholders and keeping a strong focus on realising the benefits from the very start of the project through planning, implementation and go live, building in a method of reaping continuing benefits throughout the life of the system.

This process commences with an understanding of the seven 'principles of information systems management' (Remenyi *et al.*, 1997). These principles are similar to the Cranfield principles in that they refer to the changes in processes that IT can enable and the fact that the technology itself does not bring about any value or benefit. They also allude to the changing nature of the IT system as it grows and

changes through the development process, shaped by the focused energies of the stakeholders in discussing and aligning their benefits, compromising when necessary to ensure that the 'interests of the organisation as a whole' are maintained. They concur that a phased delivery of the system results in a less risky delivery of the benefits and that entrusting the project into the hands of 'knowledgeable stakeholders' provides the greatest opportunity for optimal use of the system into the future.

Given these principles, the first key element of ABR is the concept of 'formative or learning evaluation', which they define as 'a process which has as its primary objective the maximisation of benefits potentially available due to an information systems' investment, which in so doing adds value to the organisation as a whole' (Remenyi and Sherwood-Smith, 1998). Rather than promoting once off identification of individual activities involved in business processes it focuses on the interlinking nature of the activities and how change to one activity affects another. This leads to a more encompassing vision of the business processes.

Multiple stakeholders are actively involved in this exercise and it encourages a continuous cycle of 'co-evolution of thinking'; stakeholders become used to the process of learning evaluation which 'promotes an environment of learning and development'. The active benefits realisation process consists of seven steps. Figure 2-4 shows a graphical representation of them.

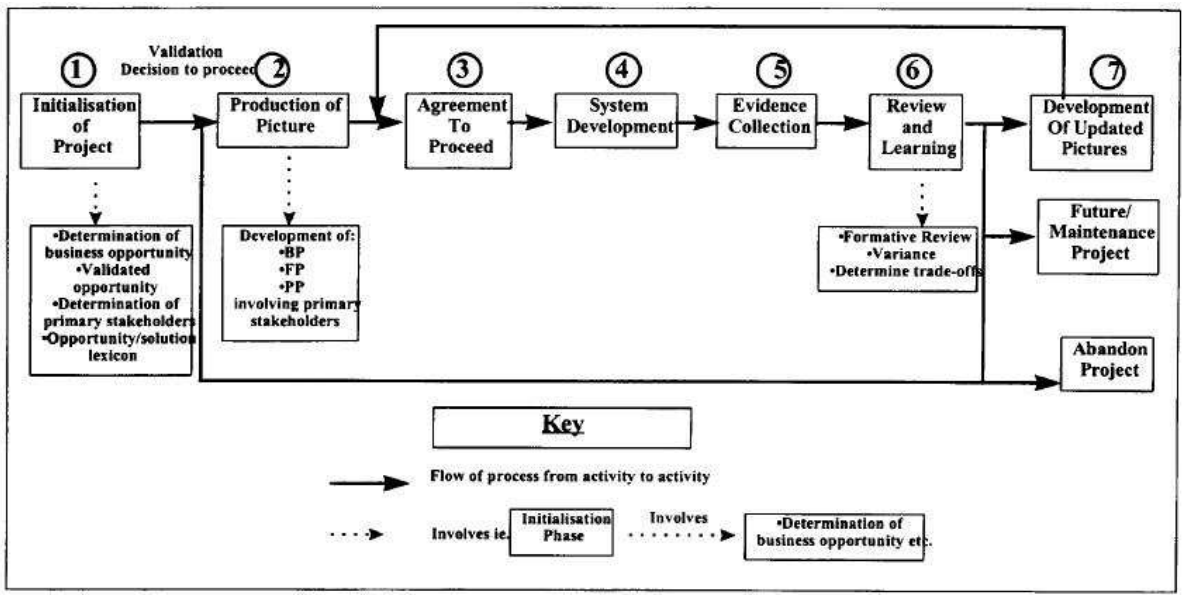

Figure 2-4: The Active Benefits Realisation Process taken from (Remenyi and Sherwood-Smith 1998)

As with the other benefits management approaches great effort is expended up front before the procurement process begins to identify the benefits that are desired, if they are achievable, what changes will be required and who will be affected by them. In the case of ABR the second key element is the painting of business, financial and project pictures (BP, FP, PP). These pictures paint a clear vision of the end state post implementation. In a series of statements the BP builds upon a project initiation document to furnish details on the context of the project, what benefits are expected, if they are realistic, how their delivery will be measured and controlled and the risks that may accompany the project. These statements are backed up with greater supporting detail; the BP is in fact a 'comprehensive business case for the project' (Remenyi *et al.*, 1997). In their research the authors found little evidence of such a document being produced for projects. The FP and PP documents are standard project management fare and are regularly produced. They argued that the BP forms the 'corner-stone' upon which the FP and PP are built. The process continues with a decision on whether to progress and works through systems development, collection of evidence on whether benefits have been delivered leading to the review and learning stage. Throughout the life of the project and beyond, a concept which is at the heart of this process, that of 'continuous participative evaluation' (Remenyi *et al.*, 1997) is persistently used. This concept

provides for regular open discussion and visibility of the system progress/effectiveness throughout its development, initial use and operational use. It allows for nonstop review of the end goals or business objectives, facilitates the flagging of changes required to allow the benefits to be delivered which are fed back into the project picture with accompanying updates to the financial and project pictures. This concept provides for constant evaluation and review of the project keeping it fresh, realistic and focused.

The active benefits realisation process provides step by step details on how to paint the pictures and in doing so identifies tools that may be of assistance. It prescribes a rigorous order in which pictures should be generated. A comprehensive and useful guide accompanies this benefits realisation approach providing support for its use and implementation.

2.4.3 Benefits realisation capability model – Competencies/practices approach

Following extensive research and based on a thorough literature review including IT evaluation, IT enabled change and socio technical aspects as well as benefits realisation literature, Ashurst *et al* (2008) define a framework of practices that could 'be viewed as a reference guide and point of departure for organizations to develop their own benefits realization capability, which is tailored to their own ways of working and specific organizational requirements'. The researchers, each of whom is widely published in this subject area, are longstanding advocates of using benefits planning management to extract maximum value from IT/IS investments. This publication appears to be an attempt to address the lack of uptake of benefits realisation planning by providing a 'pick and mix' framework that can allow individual organisations to select tools or aids from a variety of known approaches rather than advocating one particular approach which would be followed from start to finish. While it is heavily influenced by the Cranfield methodologies is does provide for greater flexibility in allowing for a combination of approaches and is worthy of reflection as a methodology in its own right.

The study identifies four main competencies that organisations must have capability in if they are to successfully implement a benefits realisation plan. These competencies are Benefits Planning, Benefits Delivery, Benefits Review, and Benefits Exploitation. Each competency has a number of practices identified, each of which references a specific output, that would aid delivery of that practice but not all of which are required for every benefits realisation process. The idea is that the organisation can choose the output methods most suitable to their way of working and use the tools/approaches referenced.

2.4.3.1 Benefits Planning

The benefits planning competency is defined as 'the ability to effectively identify and enumerate the planned outcomes of an IS development project and explicitly stipulate the means by which they will be achieved' (Ashurst *et al*., 2008). It consists of ten practices that focus on planning considerations such as clearly identifying the business drivers, taking account of stakeholder expectations, the changes that the benefits will bring to their ways of working and their attitudes towards the project. Exploring and fully understanding the implications that the benefits will have on the business processes, identifying those processes that will have to change and the knock on effects and implications not only for stakeholders but for the organisation as a whole. It also includes a governance framework to assist with interweaving the benefits, their owners and the stakeholders, with a view to cementing commitment and responsibility. A risk log and action plan that seeks proactive engagement with known issues is amongst the tools identified.

2.4.3.2 Benefits Delivery

The benefits delivery competency is defined as having 'the ability to design and execute the programme of organizational change necessary to realize all of the benefits specified in the benefits realization plan' (Ashurst *et al*., 2008). This competency contains eight practices and builds upon the work undertaken in the benefits planning phase ensuring the benefits are not left to their own devices. The suggested key practices of this competency involve active on going engagement with

the business changes required, providing proactive leadership, keeping the benefits and stakeholders in sync while ensuring communications with stakeholders is effective and including dynamic risk management. The establishment of an 'adaptive project life-cycle' (Ashurst *et al*., 2008) that allows for phasing and control of the project yet enables changes to the project based on new learning to be incorporated is also identified as a practice. Outputs such as a documented project approach, participation and communications plan, change/decision logs, risk assessment and action plans are all tools/approaches that can be employed. The authors recommend that these processes are used in cyclical fashion from the point of activating the project plan continuing beyond system go-live.

2.4.3.3 Benefits Review

Benefits review is defined as 'the organization's ability to effectively assess the success of a project in terms of the potential benefits, the delivered benefits, and the identification of the ways and means by which further benefits might be realized' (Ashurst *et al.*, 2008). It is comprised of five practices. These include deciding on a framework of evaluation measures and methods; a systematic assessment of each of the benefits to establish if they were, indeed, delivered and to what extent; the establishment of an action plan to further explore benefits that were not realised either partially or in full and to explore methods of releasing additional benefits from 'opportunities' that have come about because of project. A review of the lessons learned is a key practice – allowing the organisation to bring learning from one project in to another and, therefore, improving 'it's capacity to realise benefits' from IT/IS investments. A broader review of where the development now sits in the larger corporate IT/IS picture is also recommended. Tools identified for use within this competency are an evaluation framework and criteria; benefits assessment report, lessons learned report and action plan; and an updated architecture roadmap (Ashurst *et al*., 2008).

2.4.3.4 Benefits Exploitation

The final competency is that of benefits exploitation which is defined as 'the adoption of the portfolio of practices required to realize the potential benefits from information, applications and IT services, over their operational life' (Ashurst *et al.*, 2008). This competency pushes the boundaries of benefits realisation beyond system go live and review. Rather than just ending the project post evaluation it calls for the identification of a benefits owner who has responsibility for the identification of further benefits that could be derived from changes in work practices enabled by the system or enhancements to the software that could enable such change. The identified need for on-going training and education investment into benefits realisation methods again reinforces the organisation's ability and keeps the organisation up to date with relevant methods and tools.

2.4.4 Benefits Realisation Management – Bradley/SIGMA approach

Published in 2006 the Bradley methodology is based on 20 years experience of benefits realisation training and consultancy within both the public and private sectors. It takes account of both of the OGC's PRINCE2 and 'Managing Successful Programmes' (Office of Government, 2007, Office of Government, 2009a), an approach it views as having been useful in 'putting benefits realisation on the management agenda' yet flawed in that it has 'little practical track record on which to rely' (Bradley, 2006). Bradley suggests that while the profile of benefits realisation has been raised it is still largely driven for reasons such as gaining approval to proceed or because they are required by the organisation. His vision is to step beyond this use of benefits identification and to 'create a focus on benefits which is rooted in the desire to achieve them'.

In describing benefits realisation management and the reasons for its use, Bradley views it as 'the process which can deliver this success, is not about ticking boxes or validating past decisions; it is an active, dynamic process for maximising future returns' (Bradley, 2006).

Resulting from a survey and broadly in line with the NAO (2006) findings Bradley (2006) identifies the top three blockers to successfully implementing change to be:

1. 'Lack of commitment by senior managers
2. Vision/objectives that are unclear
3. Stakeholders who have not bought in to the change' (Bradley, 2006).

He points out that two of these reasons relate specifically to the stakeholders and as with the other methodologies researched, great emphasis is placed on the involvement of and communications with the stakeholders. The stakeholder input is highly valued and methods such as workshops are deemed ideal forums for involving them and for teasing out not only an extended list of benefits but also identifying the changes and enablers that will be required. Involving the stakeholders gives greater sense of shared responsibility – a shared vision; it allows for understanding and vested ownership of the benefits. Bradley suggests that the focus of the workshops could be either around the objectives or the stakeholders and that each has merits. He demonstrates that the best course of action is to have the initial 'information-gathering' workshop focused around stakeholders, but to provide feedback structured on the objectives. This allows objectives from across the larger stakeholder group to be identified initially and then shifts the focus back towards specific objectives.

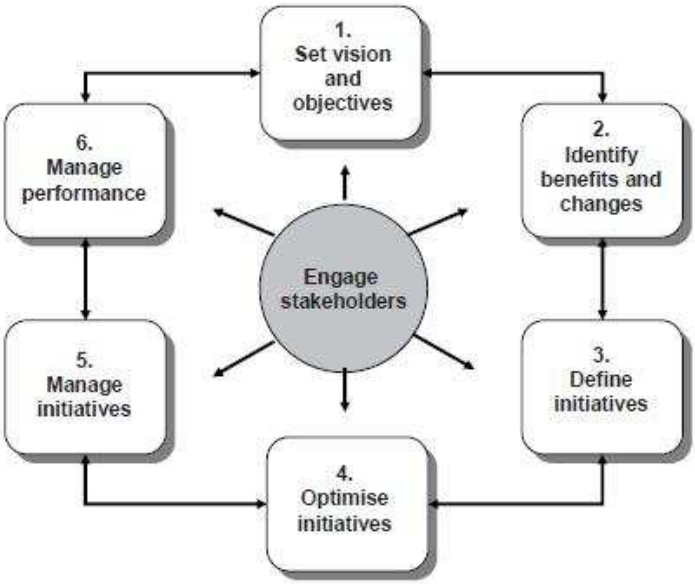

Figure 2-5: Represents the approach recommended by Bradley (2006).

This process (see Figure 2-5), starts with an idea or vision for change which is accompanied by objectives – phase one. At this point in the process no project staff have been assigned and there may or may not be pre-conceived solutions or enablers in mind. With the help of the stakeholders the objectives are explored and an objectives map is created showing the inter-dependencies between the named objectives. Bradley then recommends that some prime objectives are identified, these will tend to be objectives that are at the end of the objectives map i.e. other objectives will have to be met before they can be reached and therefore they provide a boundary for the objectives.

Phase two - the prime objectives are then broken down into specific benefits by the stakeholders in a workshop environment and a benefits map is produced for each objective. Once complete the benefits are categorised as either 'end benefits' or 'intermediate benefits'. The end benefits are those benefits that actually deliver on the desired end state or objective. The intermediate benefits are those benefits which 'pave the way' for the end benefits. The benefits are then mapped from right to left clearly demonstrating how the various benefits relate to each other forming a partial benefits dependency map (BDM). Values are applied to the various benefits depending on the importance of their role in meeting the objective, their score is also influenced if they contribute to more than one objective. This scoring is applied to the benefits and is used to highlight pathways through the map highlighting the benefits of greatest value or impact. Bradley also recommends the use of tools such as the various benefits distribution matrices described within his methodology. These form a useful cross check of benefits such as identifying where they lie within the strategic/speculative/operations/support realms of the business or to validate the benefits and where they fit in terms of benefit/disbenefit to stakeholder groups. Business changes and any other enablers that are required are then identified and added to the BDM where they are mapped from left to right. The phase concludes with the identification of measures and target values for each benefit.

Phase three - defining initiatives, is concerned with 'processing and analysing' the benefits identified in phase two; identifying, grouping and costing the changes and

enablers required. The weighted benefits map is recommend for use here in prioritising the benefits that will be pursued. Aligning the enabling changes with other programmes for change and establishing management and governance structures is also part of this phase.

Phase four - optimise initiatives, takes the output from phase three and looks for 'opportunities to optimise' the benefits. This may be in areas such as the order or prioritisation of the benefits. Tools recommended for this phase include the investment assessment matrix. Building upon the benefits distribution matrix created in phase two the matrix assist with 'checking for the alignment and balance' of benefits distribution and 'to test for serious gaps' (Bradley, 2006). Bradley is a strong proponent for the use of multiple visual representations of the benefits to aid disclosure of gaps or to identify system features that may add no benefit yet may have a cost/effort impact. These visual aids are particularly useful for communicating with many different audiences.

Phase five - involves actively managing and monitoring the initiatives. This is the implementation phase; it is concerned with the roll out of the changes and enablers identified, ensuring that they are measured against their pre-set milestones and managing any risks that are either known or evolving, such as stakeholder resistance. It is really about keeping the benefit realisation on the 'straight and narrow'.

The final phase is that of managing performance. This phase looks to the benefits identified and whether they were achieved, it seeks to identify how deficits may be addressed.

The methodology has a very practical 'start where you can' approach, acknowledging that embarking on a full benefits realisation programme can be very daunting – it suggests starting 'where it is most needed' perhaps applying only some of the measures to part of a process and suggesting that this small step could lead to a giant leap.

It is similar in many ways to the Cranfield approach. However, there are some key differences. Placing the objectives into an objectives map to show their inter-dependencies before deciding on the prime objectives and applying an actual value to identify the benefits that will have the greatest impact are some of the key differences between the two methodologies. In terms of user roles, many of those identified are similar to the other approaches outlined in this literature review. However, the role of 'benefit facilitator' is unique to this approach and is worthy of mention. Its purpose is to 'provide support and challenge to programmes throughout the area of benefits realisation' (Bradley, 2006). The role is at an organisational level rather than at project or program level and should be business rather than IT led. Not only has the benefit facilitator skills in benefits realisation, but as the role exists both before and after individual projects they can assist with the initial teasing out of the objectives; ensure adherence to best practice for benefits realisation and monitor the benefits in an on-going capacity when the project team have moved on. They will also be aware of all programmes for change within the organisation. The benefits facilitator is a very knowledgeable highly valuable resource and would seem to be a solid statement of commitment to the practice of benefits realisation within an organisation.

2.4.5 Summary of approaches

As can be seen from the approaches outlined within this section there is much commonality across the various methods researched. The need to be specific about the benefits to be delivered; to measure and have ownership applied to both the benefits and changes required; early and active engagement with the stakeholders; strong linkage between the benefits and business objectives and drivers are all key activities identified by each of the processes.

Each of the approaches researched has a series of tools and templates which could be used to assist in running the process. So while there is a reported absence of the available of methodologies for applying benefits realisation (Flak *et al.*, 2008, Doherty *et al.*, 2008) one would have to wonder why the comprehensive tools and

methodologies that are available are not being exploited and the results of their application published.

The following section identifies some of the possible barriers to this.

2.5 Factors for consideration in relation to lack of uptake of benefits realisation processes

Benefits management first became 'prominent in the late 1980's and early 1990's' (Farbey *et al.*, 1999) and approaches and methodologies have since been developed, published and refined. Payne (2007) describes benefits realisation as the Cinderella of the project management profession where it has only recently emerged as an important factor for success.

The PRINCE2 (PRojects In Controlled Environments) model which was first published in 1989 by the UK Government and has most recently been revised and republished in 2009, is currently under the guardianship of the Office of Government Commerce of the UK, who 'continue to develop and improve its definition and presentation' (OGC, 2002). The OGC state that the purpose of a project is to 'bring together resources, skills, technology and ideas to deliver business benefits' and while benefits and their realisation are defined within the documentation, and many of the tools used are complementary to benefits realisation, there is no specific reference as to how the benefits might be secured and delivered, the focus remains firmly fixed upon delivering on budget, on time and to specification. To address this gap the Managing Successful Programmes approach was developed (Office of Government, 2007).

PRINCE2 or an adaption of it to suit particular organisations is widely cited and used as the project management tool of choice for delivery of IT systems. There would seem to be a certain assumption that if all of the boxes of the model are ticked that the benefits will naturally come about. Perhaps as the availability of Managing Successful Programmes becomes more widely known it will initialise similar levels of uptake or at least flag an identified need for benefits realisation for IT.

Lin and Huang (2008) have researched the impact that an organisation's IT/IS maturity has in relation to the use of benefits realisation and investment evaluation methods. Figure 2-6 maps maturity stages against benefits realisation/investment evaluation methods (the acronyms IEM and BRM within the figure equate to investment evaluation methods and benefit realisation methods respectively).

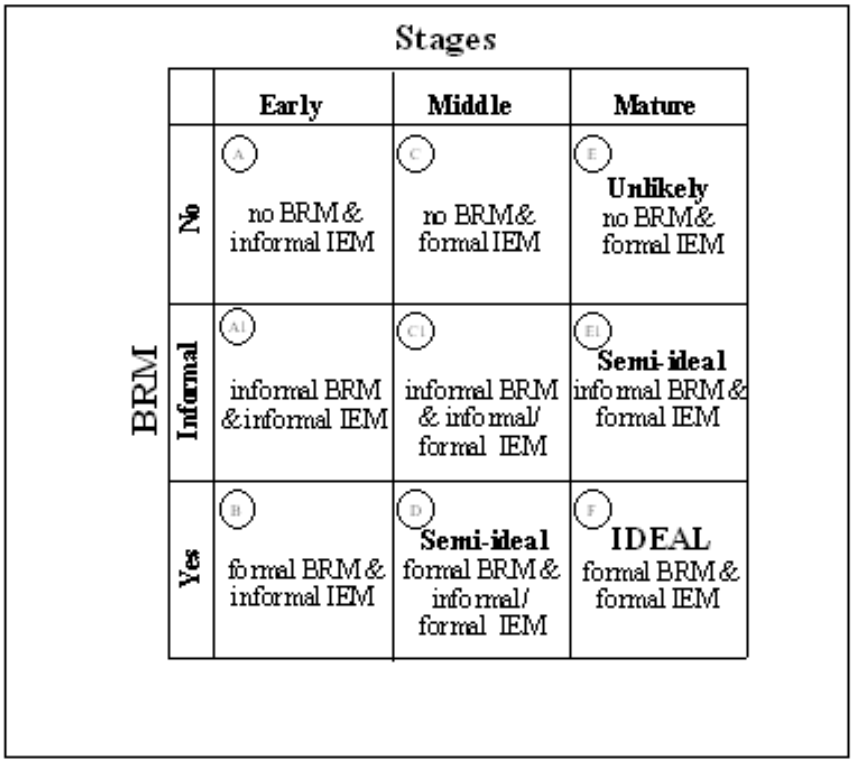

Figure 2-6: Final maturity matrix (Lin and Huang, 2008)

Having established where an organisation is in terms of its IT/IS maturity the matrix may assist in determining the capability that organisation has to take on investment evaluation and benefits realisation.

The OGC have also developed a self administered Capability Assessment Tool (Office of Government, 2009b) to assist organisations to establish their current capability to deliver IT enabled business change and to identify where improvements are required (see Figure 2-7).

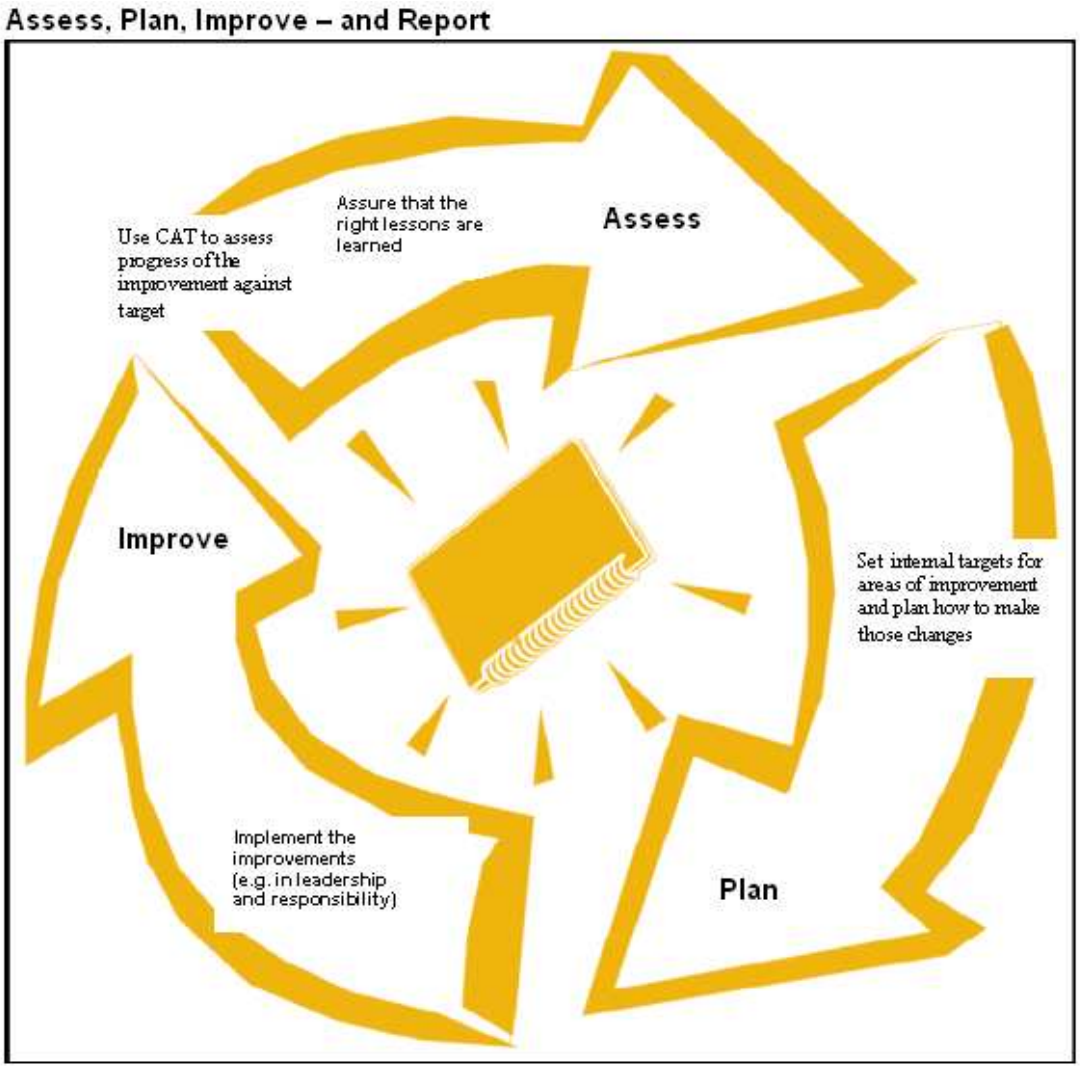

Figure 2-7: Supporting IT enabled business change (Office of Government, 2009b)

This is obviously yet another factor to be considered when embarking on a benefits realisation process.

To date no formal benefits realisation process has been identified for use within the HSE. The establishment of a projects office within the ICT structures of the HSE has resulted in the adaption of the PRINCE2 methodologies for use within the HSE and plans for staff training on same. There is strong linkage within this methodology on referring to the business case throughout the life of the project and status report forms which are submitted monthly for ICT projects, do have an indicator for benefits realisation. One would hope that the strong evidence of the need for

benefits realisation would prompt provision for benefits realisation and an associated methodology uptake by the HSE.

2.6 Summary and conclusion of the literature review

This chapter has discussed from existing research studies benefits realisation management for IT. It has defined benefits realisation and has set in context the need for organizations to invest in the direct management of benefits to release value from IT enabled change projects. Four different benefits realisation approaches have been outlined within the chapter many of which have similar characteristics and each of which has its own merits. It has also identified some initiatives that are underway to encourage the uptake of benefits realisation management.

As the Cranfield method has been widely cited and appears to have a comprehensive yet straight-forward series of tools available for use, in conjunction with the fact that the researcher can gain access to an interview/coaching session with one of the key contributors to the methodology form the reasons why this it the method that will be applied during the primary research of this dissertation.

3 The Process

The aim of this study is to revisit the use of a Maternity Information System with the purpose of releasing greater value from it. As identified in the five principles of benefits realisation which form the core of the Cranfield methodology it is only the business users and managers who can release benefit from IT systems (Peppard and Ward, 2007).

As determined from the literature review the Cranfield methodology provides a comprehensive and systematic approach incorporating a series of steps and tools that can be used to manage benefit delivery. While ideally benefits management should commence in advance of system procurement, part of the remit of this study is to explore the application of the chosen benefit management processes retrospectively. Bradley indicates that while a full application of all elements of his process are important, 'starting any one of the them should enable you to move forward on a voyage of discovery and success' (Bradley, 2006). This is a view supported by Peppard and the Cranfield approach (Peppard, 2010).

This chapter will describe in detail the application of the Cranfield methodology retrospectively against the background of an existing obstetric information system. The chapter commences with details on the preliminary activities such as ethical approval and participant recruitment processes that were required to proceed, before entering into a detailed description of the application of the Cranfield benefits realisation methodology.

3.1 Preliminary considerations

Before commencing the primary research for this study it was necessary to seek ethics approval from both the HSE and TCD. This in turn impacted on how participants were recruited.

3.1.1 Ethics approval

Ethical approval to proceed with this study was required both by the Health Service Executive (HSE) and Trinity College Dublin (TCD). A comprehensive application was submitted to the Health Research Advisory Committee (HRAC) of the HSE whose purpose is 'to review research proposals for scientific validity and merit and support the Research Ethics Committee (REC) in the review of research' (HSE, 2009). This is a mandatory requirement for all research studies taking place in the HSE Dublin North East. The HRAC meets six times per year as does the REC of the HSE.

An application was made and consisted of a statement of the research aims and objectives, an outline of how the proposed research was to be conducted including details on the background, approach and the research design. It described how participant recruitment would take place and included a copy of the information sheets that would be supplied to participants in advance (see Appendix 1). Detailed proposals on consent and confidentiality were also required; this included a copy of the consent form that would be provided to participants and indicated how participant identities would be protected (see Appendix 2). It also included written approval from the relevant service managers that permission had been given within the hospital to conduct the research.

An application was also submitted to the School of Computer Science and Statistics Research Ethics Committee, TCD simultaneously. While much of the detail required by TCD was similar to the HSE this application also required a statement of ethical consideration.

After some amendment based on recommendations from both committees, the application proceeded to the Research Ethics Committee (REC) of the HSE where it fell within the Non-Legislative Governed Studies process for studies where 'no prior ethical review has been undertaken and have been reviewed for scientific review and merit by the Healthcare Research Advisory Committee (non legislative sub committee)' (HSE, 2009).

Once favourable ethical opinion was received from both RECs the primary research began.

3.1.2 Focus group recruitment

Focus groups were the predominant method of data collection proposed for the study. Purposive samples of staff of all grades involved in the delivery of obstetric services within both the hospital and the public health nursing (PHN) service, who continues the care of the mother and baby upon discharge, were invited to participate in the study by taking part in focus groups. It is not deemed appropriate within the HSE Dublin North East to request work colleagues or staff members directly to participate in research studies. Therefore, only HSE staff whose names are already in the public domain could be approached and asked if they would facilitate recruitment of particular grades of staff to the study. For the purposes of this study the Manager of Women's and Children's Services, the Director of Public Health Nursing and the Hospital Operations Manager were the relevant initial points of contact. Individual meetings outlining the study and seeking assistance with recruitment were held with these managers, each of whom lent their support for the research and were enthusiastic re same. Letters outlining the study and seeking their permission were also issued (see Appendix 3). The managers were then provided with information packs about the study (Appendix 1, 2) that were in turn distributed to the suggested grades of focus group members.

3.2 The stages involved

The five distinct stages provided for within the Cranfield methodology are detailed in Figure 3-1. The primary research of this dissertation will address the first four stages of the process – to identify and structure the benefits, to produce a benefits realisation plan, to commence execution of the benefits plan and to review and evaluate the results where available. It is hoped that the departments involved will be equipped to move forward to the fifth stage of seeking additional potential benefits once they have been involved in the process and have experienced the benefits that the approach can facilitate.

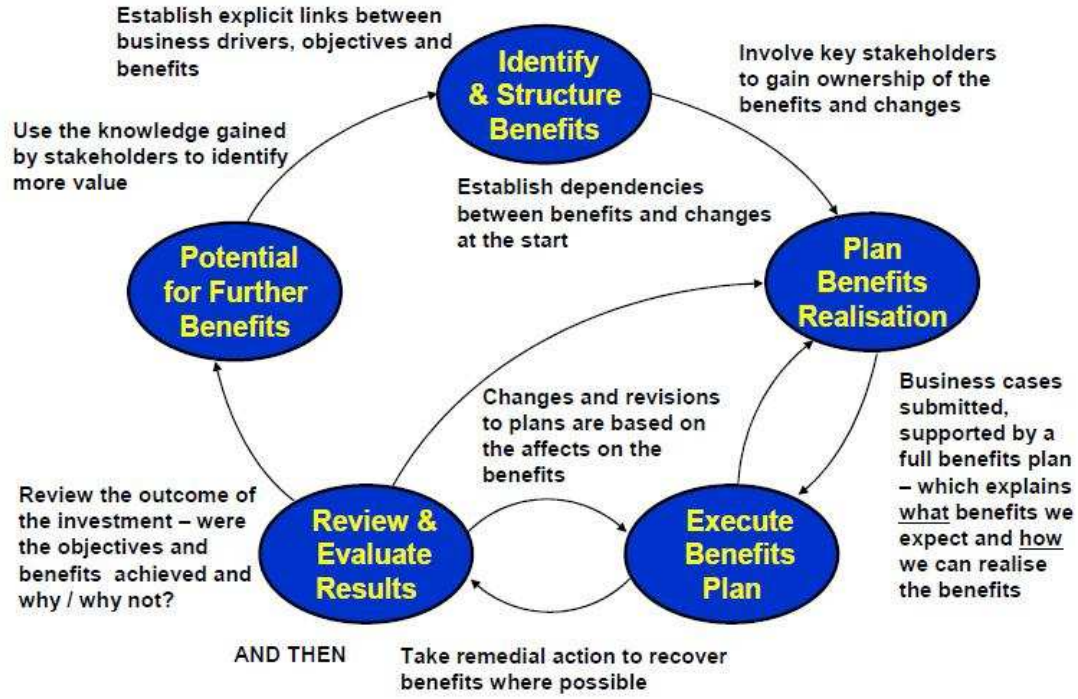

Figure 3-1 Overview of the Cranfield Methodology (Peppard, 2009)

3.2.1 The tools

The tools devised by the Cranfield methodology will be used throughout the process. The application of this process will lead to the production of the following documents:

1. An investment objectives and drivers map which directly links the business objectives to both internal and external drivers.
2. Benefits dependency networks (BDN) showing the business objectives to be addressed and outlining the desired benefits, the business and enabling changes along with the IT enablers that will be required to deliver these benefits and which, in turn, will meet the business objectives.
3. Supplementary benefits dependency networks identifying how delivery of the desired benefits will be measured, how evidence of the changes required will be demonstrated and identification of the benefit and change owners.
4. Benefit templates which will provide detailed information on each of the desired benefits including how they will be measured and who owns them.

5. Change templates which will provide detailed information on each of the required changes including how evidence of their delivery will be established and who has responsibility for their delivery.
6. A stakeholder assessment map identifying where the various stakeholders are positioned in terms of the level of changes required by them and the net benefits that they should receive.
7. A stakeholder analysis sheet which identifies where stakeholders are and where they need to be to reap the desired benefits.
8. Stakeholder action plans, created for any stakeholders who are resistant to change and have key roles in either facilitating or allowing change to happen.

The whole process of arriving at these deliverables, i.e. planning the benefits realisation process has formed the basis of the study

3.2.2 Focus group membership

The original intention of this study was to include the focus group sessions into existing meeting structures. However, such was the support for the research that the service managers suggested convening specific meetings with the focus group members to progress the process and, hopefully, expedite realisation of the benefits. This greatly facilitated the process as the groups could then concentrate solely on the task and they did not have to shift concentration from one meeting agenda to another. All of the proposed focus group members are extremely busy health professionals; the provision of access to them and their willingness to participate was a true measure of the commitment that exists within the service to looking at new ways to improve delivery of care.

It was acknowledged within the hospital that there were known issues with the handover of information from the hospital to the PHN service and that an objective already existed to improve the flow of information to help support the mother and baby upon discharge. While the objectives and, therefore, potential benefits to be derived from this study were not restricted to this one objective, two focus groups

were formed that would take it into consideration in addition to a broader range of objectives and, therefore, benefits.

A focus group of service providers from both clinical and business perspectives within the obstetric department was established to identify the current business objectives of the service and to agree upon the individual business benefits that were desired. Careful consideration was given to the membership of this group so that it was as fully representative of the service as possible. Membership was comprised of the Clinical Lead Obstetrician; Manager Women's and Children's Services; Clinical Midwifery Managers of all grades from antenatal, labour ward and post natal; clerical staff supporting the obstetric service; MIS business project manager and the MIS systems administrators.

A second community based focus group was also formed. Again careful consideration was given to the membership of this group which consisted of Directors of PHN; Assistant Directors of PHN; PHNs; Liaison Nurses (representatives of the PHN service who are based in the hospital and coordinate the handover of care for all patients leaving the hospital who will need assistance from Primary, Community and Continuing Care (PCCC)); clerical officers from PCCC; MIS business project manager and the MIS systems administrators. Two counties within the catchment area of the hospital were represented within the group.

3.2.3 Initial Workshops

For each of the focus groups a presentation was made to participants to inform, educate, and identify the need for the introduction of benefits realisation to the unit (see Appendix 4). The need for on-going training and education investment by organisations into benefit realisation methods was identified as a key practice for the competency of benefits exploitation (Ashurst *et al.*, 2008). Not only was this explanation of benefits realisation a necessary part of initiating the process, one of the aims of this research is to bring a benefits realisation life cycle culture into the hospital that could be used to continue reaping benefit in the future, so it served a

dual purpose. It also assisted in building enthusiasm and gaining 'buy in' for the study and the work ahead. Agreement was sought and received from the groups to use this process to resolve known issues and identify areas where improvement or benefits are desired.

Wherever possible for focus group workshops and meetings the room was laid out as a semi circle of chairs facing a projection screen, other equipment used was a flipchart.

The Cranfield methodology begins with an acknowledgement of five core principles relating to benefits realisation and IT which have been identified and need to be addressed at the start of any technology project to pinpoint the benefits. These are described in this section and were presented to the focus group as part of the introduction to benefits realisation Microsoft PowerPoint presentation (see Appendix 4) using examples from their own situation to develop and support each of the points.

1. 'Acknowledging that IT on its own has no real value; it actually incurs costs such as maintenance and support.
2. An IT investment is a business enabler that can facilitate changes in business practice and it is when these changes improve the efficiency or effectiveness of the business that the benefits are realized.
3. That it is the business managers/users and not the IT project staff who can release value from the investment. The business users must hold the responsibility of owning the benefits.
4. That unintended consequences can result from IT projects that may be negative and that these must be understood, avoided and minimized. They should also be outweighed by positive outcomes.
5. Benefits must be actively managed if they are to be achieved, not all benefits are realized straight away, and it may be some time post go-live before all benefits are obtained. These benefits must be managed beyond the initial system installation' (Peppard and Ward, 2007).

In all focus groups there was broad acceptance that these principles did indeed seem to be true and, in general, there was a positive reaction to the approach. However, it must be said that there was some scepticism, from one participant, in relation to the fact that this was another management approach, another process 'I have sat through these types of presentations before, I don't understand it, that's IT, all I want is to get notice that a Mother is being discharged so that my service can reach her within 48 hours of getting home, it's not that difficult'. This very frank statement was welcome as it was possible to explain how the benefits realisation process could assist in achieving that goal; that it looks at mapping out exactly what is required to make it happen. It looks at expanding upon the benefit, identifying the changes and assigning responsibility for all of those elements. It works with the people on the ground. The person took this on board. At each of the initial meetings it was agreed that we would try to state facts as they currently existed, that we were not entering into any kind of a blaming exercise but we were drawing a line in the sand and were going to try to improve our service.

3.3 Establishing the benefits

As already indicated, the benefits realisation should really commence in advance of a system procurement to establish exactly what benefits and, therefore, what value the organisation wishes to realise from a proposed IT system. Under such circumstances the methodology would commence and be guided by addressing topics based on the seven questions which, in conjunction with an acceptance of the five core principles, form the starting point for the Cranfield benefits realisation process.

1. 'Why must we improve?
2. What improvements are necessary or possible? (Key stakeholders must agree to these improvements, which become the investment objectives.)
3. What benefits will be realized by each stakeholder if the investment objectives are achieved? How will each benefit be measured?

4. Who owns each benefit and will be accountable for its delivery? (The benefit owner will be responsible for the value assigned to the benefit in the business case.)
5. What changes are needed to achieve each benefit? (The key to realizing benefits is identifying explicit links between each benefit and required changes.)
6. Who will be responsible for ensuring that each change is successfully made?
7. How and when can the identified changes be made? (To answer this question, the organization must assess each stakeholder group's ability and capacity to make the identified changes)' (Ward and Daniel, 2005).

While these questions were all addressed, the order of approaching them was somewhat different as the IT system was already in use. There was a danger that if the process began with the identification of the high level objectives and why there was a need for improvement that the participants might lose interest or end up feeling that this was, indeed, just a management exercise. To offset any potential disengagement of participants a strategy of looking to the benefits desired first was employed.

It was agreed that the group would try to 'park' the current day to day issues in terms of both flow and data and to look at the benefits that are needed. The finer details such as data content and new ways of working would be addressed in more detail as the process evolved. A flipchart was used to write down all of the benefits that the group could think of and an attempt was made to identify measures. For the PHN group this was a very energetic session, with lots of benefits springing easily to mind. The measures can be difficult to establish and their existence was a new concept to participants. This supports the theory that system users and business managers are not used to being asked to be specific enough about what they wish to 'get out of' a new system. It was stated that as per Peppard (2009) 'if a benefit cannot be measured and it has no owner then it doesn't exist'. There was some resistance to this notion, however when it was explained and expanded upon with real examples it was accepted.

3.3.1 Community based benefits

For the PHN group all the benefits were written down and when reviewed at the end of the session it was obvious that they could be broken broadly into four benefit streams all of which flowed from the provision of timely postnatal visits. These were:

1. Benefits to the mother:
    a. Educational benefits e.g. bottle feeding – learning how to make them, how to feed
    b. Coping mechanisms - this is a very difficult time for parents; there are different social circumstances e.g. mothers with no local family support
    c. Support – Feeding
        1. Breastfeeding – better chance of keeping it going if support is available early on
        2. Bottle feeding – re-assuring mother; tips and techniques
    d. Counselling and support for mothers who have experienced delivery trauma

2. Clinical benefits for mother:
    a. Wound care for mothers who need it
    b. Early intervention/identification of postnatal depression
    c. Assistance with incontinence issues

3. Clinical benefits for baby:
    a. Early intervention in terms of:
        1. Failure to thrive
        2. Child protection issues (babies at risk)
        3. Identification of signs of neglect or deprivation
        4. Identification of medical conditions requiring attention
        5. Umbilical care

4. Benefits to PHN service:
    a. Supports professionalism of service
    b. Improves morale
    c. Improves efficiency of service
    d. Allows PHN to prioritise workload

From the discussions it was agreed that the key objective identified was to support the delivery of PHN services to newborn babies and their families.

There was excellent participation from all members of the group. Throughout the meeting the discussion turned to the current issues and dived into the data available and away from the benefits. Some small discussions were accommodated and then

the group were re-focused to the benefits. During such times if good ideas or suggestions were made they were noted on the flip chart. One such suggestion was that the Mothers should take their full discharge documents home with them, this turned out to be a very workable proposal.

As most of the attendees did not use the documents generated from the MIS directly examples of them were circulated and it was explained that reports could be established for the PHN service and that MIS could also be made available within community so that they could pull information as well as having it pushed from the hospital. There was great interest in this functionality.

There was discussion on issues with the accuracy of the information. These discussions raised flags and provided insight into some of the changes that would be required to reap the benefits desired e.g. there are issues with getting correct contact details for the mother that cause a huge loss of time and leads to much frustration for the PHN. It was agreed that, at this point, working out the flow of the information was more important than deciding now upon the mechanism of receiving it and that a 'belt and braces' approach would be required since most PHN's only have access to a phone and fax.

It was also agreed at this stage that the initial benefits would be mapped out by the researcher and returned to the full group for consideration and comment.

3.3.2 Putting the first PHN draft together

This is quite a complex piece of work. It is difficult to accurately express the benefits identified within the group. How should they be laid out? Would it be useful to identify them within their streams? Would all of the benefits be shown on BDN map? As only some measures were suggested during the first meeting, additional methods of measuring along with proposed targets and benefit owners were identified by the researcher; these would need to be validated by the group.

The benefits were written out on post-it pads as suggested by Ward and Daniel (2005) and divided into streams. The post-it pads did provide flexibility in moving them around but it did not seem to be as useful as first thought. From the very start of this process there were linkages and interdependencies identified. This can be difficult to physically manage on paper as the whole process is so fluid. One approach which was developed by the author was to create a word document which listed of each of the seven questions asked within a table or grid (see Appendix 5 for a template version). The initial information was populated into this seven question template. This document evolved throughout the process into a much more elaborate and inclusive document while its concept remained quite simplistic, see Appendices 13 and 14 for the final PHN/Liaison and hospital group grids. It proved very useful when entering information into the benefit dependency maps.

During the meetings questions one and two of the series of seven were not directly addressed, as a strategy of focusing on the benefits to keep the participants interested had been employed. However, cognisance was made of questions one and two and the researcher kept in mind what the high level goals and business drivers might actually be during the discussions. An initial attempt at identifying these, based on the meeting was also populated into the template (see Figure 3-2).

High Level Objective A: Timely delivery of PHN Newborn services High Level Objective B: Improve the flow if information from Hospital to PCCC High Level Objective C: Improve efficiency of the PHN Newborn service	
Why do we need to improve performance?	**1.** Not reaching all Mothers within 48 hours of discharge from Hospital **2.** Flow of information from Hospital to Community needs to be optimised **3.** PHN time is not being used to best effect **4.** Not all families are not receiving optimal support from the service due to delays in access – need to provide an equitable service in terms of access **5.** PHN does not always have all of the information required
What improvements do we want/could we get?	**1.** Meet the KPI of the PHN visiting the Mother at home within 48 hours of discharge from hospital **2.** To allow the PHN to prioritise visits/workload **3.** To provide the PHN with all of the relevant information required **4.** To provide support to Parents and particularly the Mother when it is needed i.e.' the right input at the right time'. **5.** To attend to Clinical Needs of all Mothers and Babies in a timely fashion **6.** To continue New Parent Education **7.** To support and enhance the professional standing of the PHN Service
Where will improvements (benefits) occur? **How can they be measured?** **Can they be quantified?** **Who will own them?** **Notes:** **B1 = Description of the Benefit** **M1 = Method of measuring benefit 1** **The benefits listed here are not in any order of preference**	**Benefits:** **B1: Support: Improved chances of maintaining breastfeeding if support is available during first days at home** **M1:** % Mother's who keep breastfeeding for? time – figures from PHR in Louth – need to decide which we are targeting **BO1: Dir/PHN** **B2: Support: Imparting knowledge, experience and coping skills particularly to 1st time families wherever it is required e.g. bottle feeding tips and techniques, how to settle baby, getting into a routine etc.** **M2:** ??Qualitative Measure (Short Parent survey at 3 month developmental check) **BO2: ADir/PHN** **B3: Support: Providing counseling and support for Mothers who have experienced Delivery trauma or who are having difficulty coping** **M3;** ??Qualitative Measure (??Short Parent survey at 3 month developmental check) **BO3: ADir/PHN** **B4; Clinical: Providing wound care for Mothers who require it** **M4:** Would it be possible that there would be less infection / faster healing – Is there any link between timely visit and faster recover for Mother? any reduction in re-admits for wound infection?? **BO7: CMM3 Postnatal –** **B5: Clinical: Early identification of Post Natal Depression allowing for early appropriate intervention.** **M5:** Are there figures available on rates? – Again is there any link between timely support and improved outcome (less acute or shorter duration?) **BO5: Dir/PHN**

Figure 3-2 Example of the seven question template for PHN objectives

At this point an initial benefits dependency map would normally be created. Before this could be done the high level business objectives and their drivers were considered and an investment drivers / objectives map, one of the Cranfield tools, was created, for the PHN group (see Figure 3-3). Quite a number of the Cranfield tools appear to be very simplistic, however they represent much deeper thinking in a clear and understandable way. This map allows one to consider whether the drivers are internal and/or external. It signals where the pressure to deliver on the benefits is coming from and while the benefits in this case are being teased out with the middle/senior managers the grid may prove useful if difficult decisions are required. This process is all about building the case for the investment or in this case for any changes required and if the case is strong enough there should be sufficient backing to pursue them.

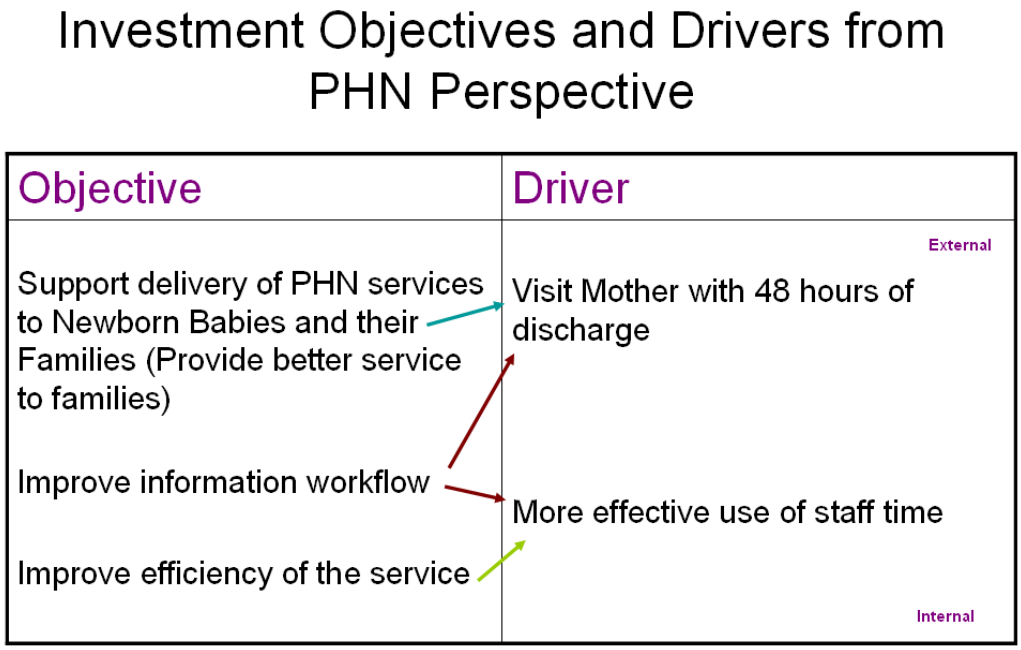

Figure 3-3 an investment objectives / drivers map for the PHN group

The BDN map was then created using information from the seven question template to populate it (see Figure 3-4). These documents were then sent to PHN focus group, with an explanation of what the various terms were and feedback on the accuracy and content of the document was sought. The next steps of validating the benefits/measures, assigning owners and identifying changes required and owners of same were also flagged.

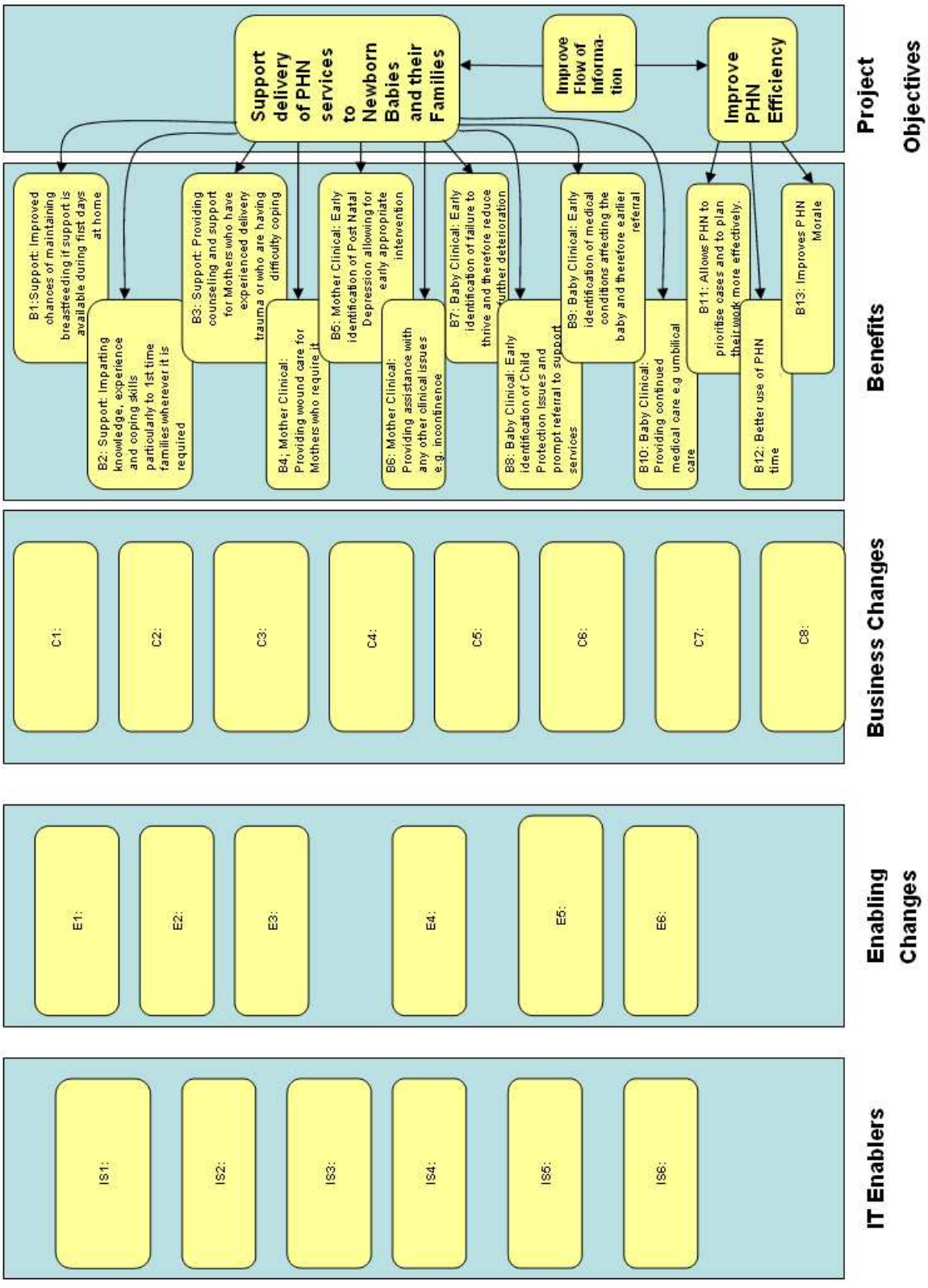

Figure 3-4 Initial BDN for PHN group

3.3.3 Hospital based benefits

A meeting of the hospital based focus group was convened. Again, many of the processes followed for the PHN group were adhered to for this group also. A benefits sheet was also given out to the hospital participants to allow them record any thoughts they might have during the discussion that they did not get a chance to voice or for them to record the two benefits that they would most like to see (see Appendix 6). The inclusion of this sheet was based on the experience of the first focus group. It is very easy for participants in such an active working session to lose particular trains of thought when a debate is underway. The sheet was to give people a chance to jot down key points that they were in danger of forgetting and to facilitate those who might be less vocal than others in getting their points across. This first session with the hospital was much more difficult. While the PHNs had a very specific focus on a small area of their service that they wished to improve, it was much more complex for the hospital group. They were asked to look at all of the areas where they provided the full range of obstetric and neonatal services and to ponder upon the benefits that they desired. Ideas and suggestions did not flow easily. It was very obvious that the attendees had never really been asked what they would like to get out of the system and that they had not previously viewed it as a tool that could be of additional use to them. Suggestions for various needs were identified. This was more in the format of 'wouldn't it be great if we could…'. These needs were then teased out and translated into benefits – 'what would be the benefit if I could …..'.

There was some discussion on the system and the resistance to use it that exists in some departments. Much of these discussions would feed the action plans that would be required as benefits were identified and realisation plans activated.
It became really apparent that a need exists to explain to users the reasons why certain pieces of information are recorded. It was also agreed that some of the data was no longer relevant and that a review of the dataset captured should take place. The discussion highlighted the fact that an opportunity existed to re-educate users on the system and what it can do. It was explained that this could be done in

conjunction with health informatics on-the-job education on entering the information once and being able to use it many times.

The main benefits identified were mostly doctor related and while the suggestions were really good they would not actively engage the broader population of users. There was a good discussion around having performance indicators (PIs) for staff. One participant said that they would really like to be able to compare their own outcomes e.g. caesarean section rate with the national average. There is a national directive to drive down rates of caesarean section to fewer than 15% of the cohort. Looking at PIs would highlight any discrepancies in terms of clinical practice. It would also provide an evidence base of current practice in the hospital that could be used to compare to national/international standards. Flagging of alerts such as 'not suitable for epidural', 'needle phobia' and so on was mentioned as a key benefit that could be delivered. Improving the handover of care from the hospital to community (PHN) was stated as a desired benefit and was a matter of some urgency as it was very poor at the moment.

In light of the discussions held with the hospital, it was decided to focus on benefit streams within the postnatal department and to use the delivery of them to resolve issues with system usage and to influence engagement on future benefits desired. By providing a relatively quick win in terms of reaping value from one area of the department it should encourage and promote engagement with future benefits realisation programs and innovation in terms of how the information can be used. A subset of the focus group agreed to work on identifying and teasing out the benefits required.

3.3.4 Hospital sub-group benefits workshop

The initial focus for this group was to improve the handover of the care of the mother and baby to the PHN. It was agreed by all that there was a great need to improve the information flow supporting this handover, as it is very time consuming and labour intensive. There was a general feeling of weariness about the processes in place, it takes a lot of hard work yet it is still ineffective. It was decided that the

best place to start was to map out exactly what is happening in terms of information workflow. It was determined at the start of the meeting that the group should use this opportunity to 'put everything on the table' and to let the discussions be very reflective of what is really happening at the moment, as well as what should be happening. This was a very lively debate with everyone involved and it proved a very effective method of identifying realistic benefits that were desired.

It was highly beneficial to have diverse representation of staff from across the unit present at this meeting as it allowed each of them to hear first hand in a non confrontational, but very realistic way, the impact that each of their services was having on each other and the very real difficulties that the department was experiencing and the pressures they were under. Great debate took place on the current state workflow and it was very clear that the MIS was not being used at all to provide any information; it was not considered a working tool within the department. There would seem to be a combination of factors at play:

1. The data in terms of address/feeding status is unreliable.
2. The record is often not complete in time.
3. There is a lack of knowledge of what the system can provide.

The department are working very hard; there is a need to 'work smarter'. The focus group provided a forum for getting a broad view on the work that is carried out and was excellent for mapping workflow.

It was agreed that the researcher would map out both the workflow and the benefits identified and return them to the group for comment and validation.

3.3.5 Putting the first hospital sub-group draft together

The workflow described at the meeting was mapped out graphically (see Figure 3-5). The objectives and drivers were extrapolated from the information gathered in the focus group. The workflow discussion provided a great basis for establishing the desired benefits and these were detailed into the seven question template.

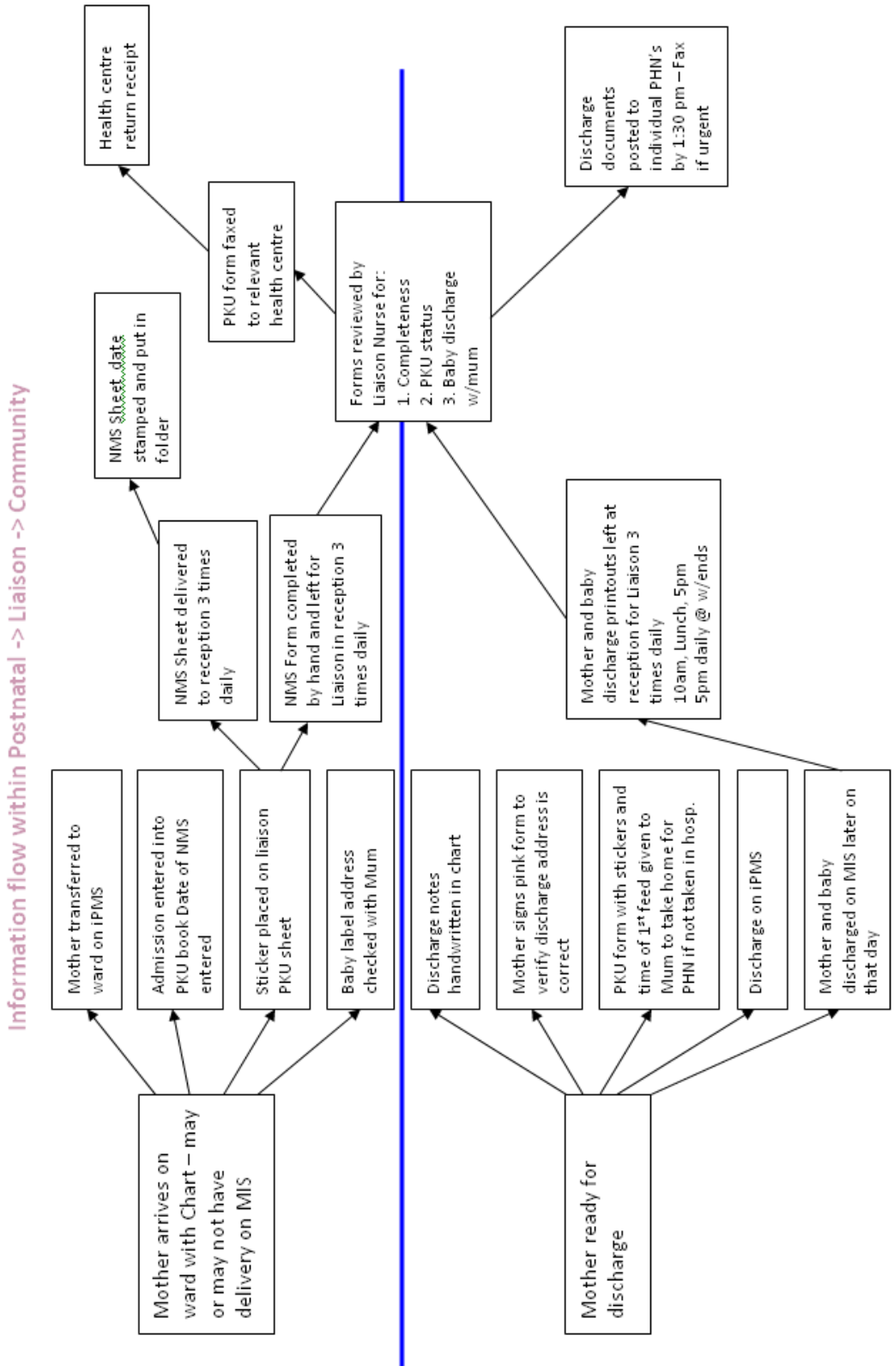

Figure 3-5 Current workflow for discharge/screening information

During this time, methods of measuring the various benefits and suggestions as to who might own each of them were documented. Taking each benefit in turn a process of identifying and fleshing out the changes that would be required to allow those benefits to be delivered also began; this was based on suggestions from both of the groups involved. The high level objectives were broken down in to three strands: improving use of information, improving the handover of care to PCCC, and improving the efficiency of the service. These were, in turn, linked to internal and external business drivers and were mapped out as per the Cranfield objectives / drivers grid (see Figure 3-6).

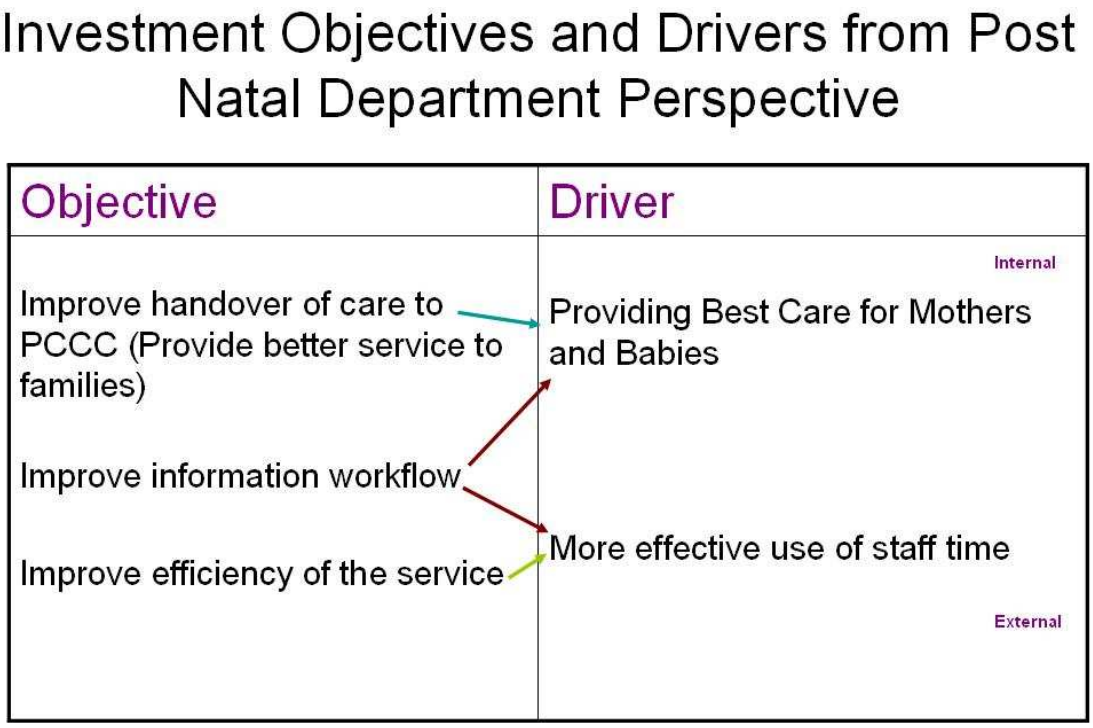

Figure 3-6 Hospital sub-group objectives / drivers map

The reasons why the service needs to change were also documented based on the workshop output. This process starts making a case for the changes that will be required and helps to focus on the reasons why change is needed, it provides the current picture. It also allows the high level objectives to be stated clearly in a series of points and it supports the reasons for changing the way one works by providing a vision of what one would like to achieve (see Figure 3-7).

High Level Objective A: Improving use of information High Level Objective B: Improving handover of care to PCCC High Level Objective C: Improving efficiency of the service	
Why do we need to improve performance?	**1.** Flow of information to PCCC is currently manual and very time consuming **2.** There are significant levels of duplication of effort within department **3.** There are known issues with quality of discharge information (contact details in particular) **4.** Information entered onto MIS of little value currently, yet it is very time consuming
What improvements do we want/could we get?	**1.** Fully complete Mother's and Baby's care and documentation on discharge **2.** More efficient handover of care to PCCC – less duplication of effort **3.** Fewer knock on enquiries from PHN and Liaison **4.** Better use of staff time **5.** Improve staff morale **6.** Commence using MIS to support provision of services

Figure 3-7 Postnatal reasons for change and desired changes from seven question template

This information was then used in conjunction with the workshop output to continue defining and expanding upon the benefits. Eight desired benefits were identified and consideration was given to possible measurements of these benefits; owners were also initially identified (see Figure 3-8). These details were transferred onto an initial benefits dependency map (see Figure 3-9). Each benefit was then taken in turn and the changes required to deliver upon it identified. There had been several suggestions of what might be workable solutions to the current situation and this greatly aided the identification of the changes e.g. giving the mother and baby discharge documents for the PHN to the mother to bring home and thus removing the need to send the documents up to the liaison department; using a report from the MIS and adding in information to identify the date and day when the baby's metabolic screening test is due; e-mailing the report to the Liaison office, providing training on how to mail merge the report into their existing metabolic screening documents. It would be safe to say that this was one of the first times that the system users began to think about different ways of working with the information.

Where will improvements (benefits) occur? **How can they be measured?** **Can they be quantified?** **Notes:** **B1: = Description of the Benefit** **M1: = Method of measuring benefit 1** **BO1: = Owner of the benefit** (the person who is responsible for making sure that the benefit is delivered) **The benefits listed here are not in any order of preference**	**Benefits:** **B1.** More effective flow of information to Liaison/PHN service – this is in terms of the accuracy and quality of the information and the efficiency of its delivery **M1.** Based on number of Liaison/PHN enquiries – 70% reduction **BO1: CMM2 Postnatal/Liaison + A/Dir PHN** **B2.** Improving Mother's/baby's care in community through timely notification of Birth/Discharge to Liaison/PHN **M2.** <10% late visits by PHN caused by late notification – figures from PHR **BO2: Dir PHN** **B3.** More efficient transfer of baby details for NMS in community **M3.** Time taken now to notify – vs. expected time will provide a measure (e.g. 70% reduction) need a measure from Liaison/community **BO3: Liaison Nurse + A/Dir PHN** **B4.** Automated provision of metabolic screening information within hospital – Daily Report showing screening required today **M4.** Staff opinion survey **BO4: CMM2 Postnatal** **B5.** Use of MIS to populate a metabolic screening register for babies born in OLOL? Community babies could be appended - Monaghan babies?? – could that be agreed?? **M5.** All babies born in North Eastern counties entered on register and results checked. **BO5: Manager Women's and Children's Services/Dir PHN** **B6.** More efficient discharge of Mother and Baby by fully completing Mother/Babies care upon discharge **M6.** Record time spent now on documentation post discharge – also a staff opinion measure post go live **BO6: CMM2 Postnatal** **B7.** Improved bed management by discharging in real time – thus gaining access to more accurate information that can be used to inform service planning needs?? – we need to tease this out **M7.** 90% Mothers/baby's discharged in real time **BO7: CMM3 Postnatal** **B8.** Improved morale within department **M8.** Staff opinion **BO7: CMM3 Postnatal**

Figure 3-8 Postnatal benefits and suggested measures and owners

The Cranfield methodology brings a rigorous approach to this process. One systematically works through each of the benefits in turn working out what changes would be required to deliver them, this includes business changes, enabling changes, and IT changes. Many of the changes required had been identified or suggestions leading to their identification were made during the focus group meetings. There was also some follow up with individual focus group members to seek further information particularly in relation to the workflow clarification, which pinpointed other required changes.

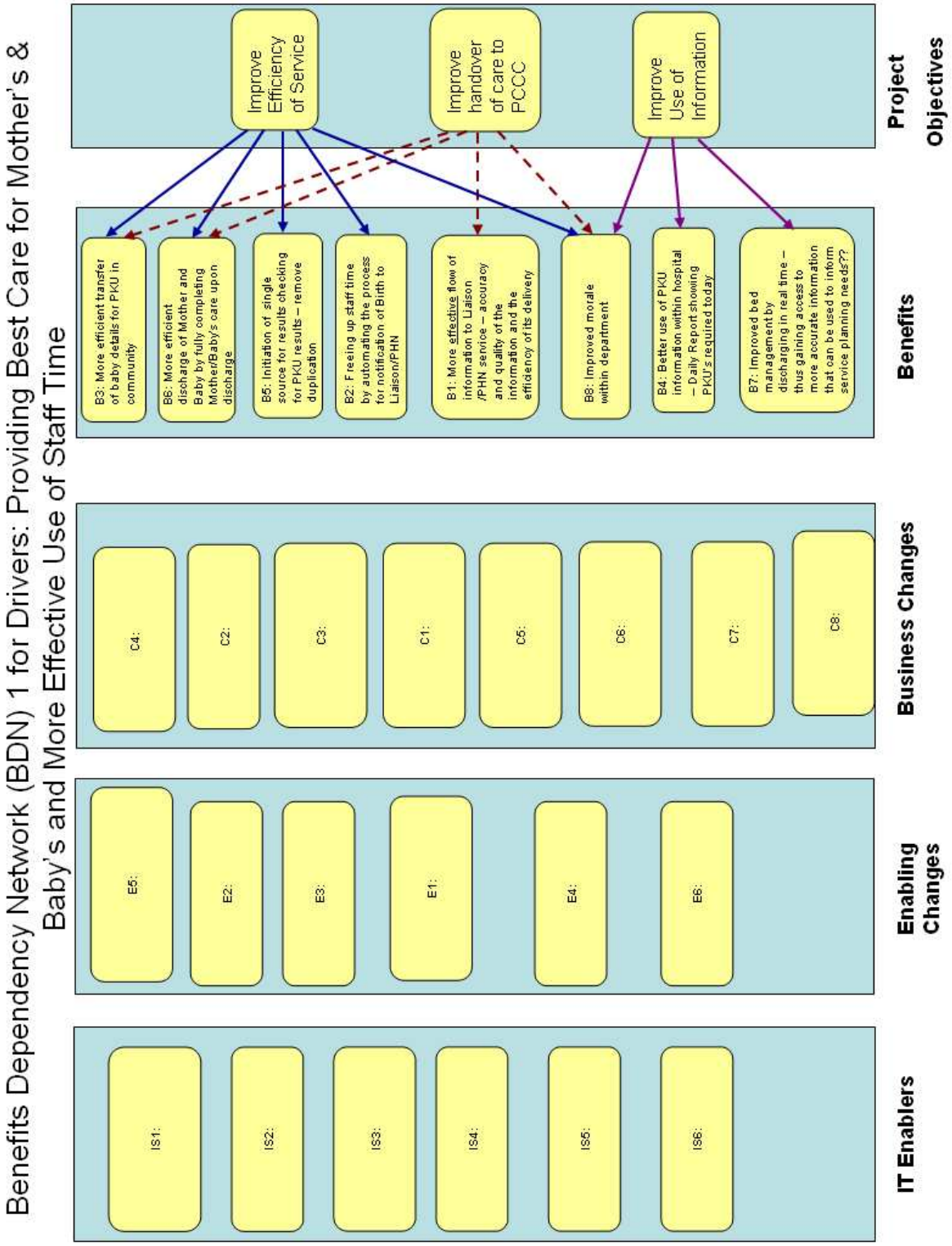

Figure 3-9 Hospital sub group initial benefits dependency map

A sub group of the hospital focus group consisting of the MIS Business Project Manager and systems administrators discussed the various changes and explored in detail the consequences of the changes, making suggestions as to how they could be enabled.

At first all of the changes were jumbled and listed in no particular order. Evidence that each change has happened is required and the criteria for each of these was established. As with the benefits, changes require owners. These owners need to have sufficient power or influence with their colleagues to be in a position where they can make sure that the changes happen. They do not necessarily need to carry out the change themselves and they may delegate the task of making sure the changes happen but, ultimately, they retain the responsibility to ensure that the change happens. Section 3.5 continues on to delve into the changes, measures and owners and how they are agreed. However, identifying the benefits and changes in detail leads one naturally to pinpoint all of the stakeholders involved and at this point is it appropriate to commence detailing their positions.

3.4 The Stakeholders

The next part of the process was to then take each of the changes in turn and work out who would be affected by them. Again this provided a systematic approach that could be easily followed and made one think about the individual people involved; would there be anything in it for them? What attitude they would have towards the changes required of them? Would they be willing or resistant to change? When would they be consulted? Documenting this reduces the risk of leaving some stakeholders out of the loop. It also provides a comprehensive list of who needs to be considered and involved with the changes.

This process definitely makes one much more sensitive to the effect change has on users. A stakeholder assessment was commenced (see Figure 3-10). As a high level of cross over existed in terms of changes required for both of the groups involved a single stakeholder assessment map was generated. This involved plotting each

stakeholder onto a grid which is one of the Cranfield tools. The stakeholders are each considered in terms of whether they have high or low benefits to gain and whether they have high or low levels of change to make. It divides them into four groups. The map is a guide that at a glance identifies if there are particular stakeholders who have high levels of change and have a limited number of benefits or even have disbenefits (those in the 'benefits but..' and the 'net disbenefits' quadrants of Figure 3-10.

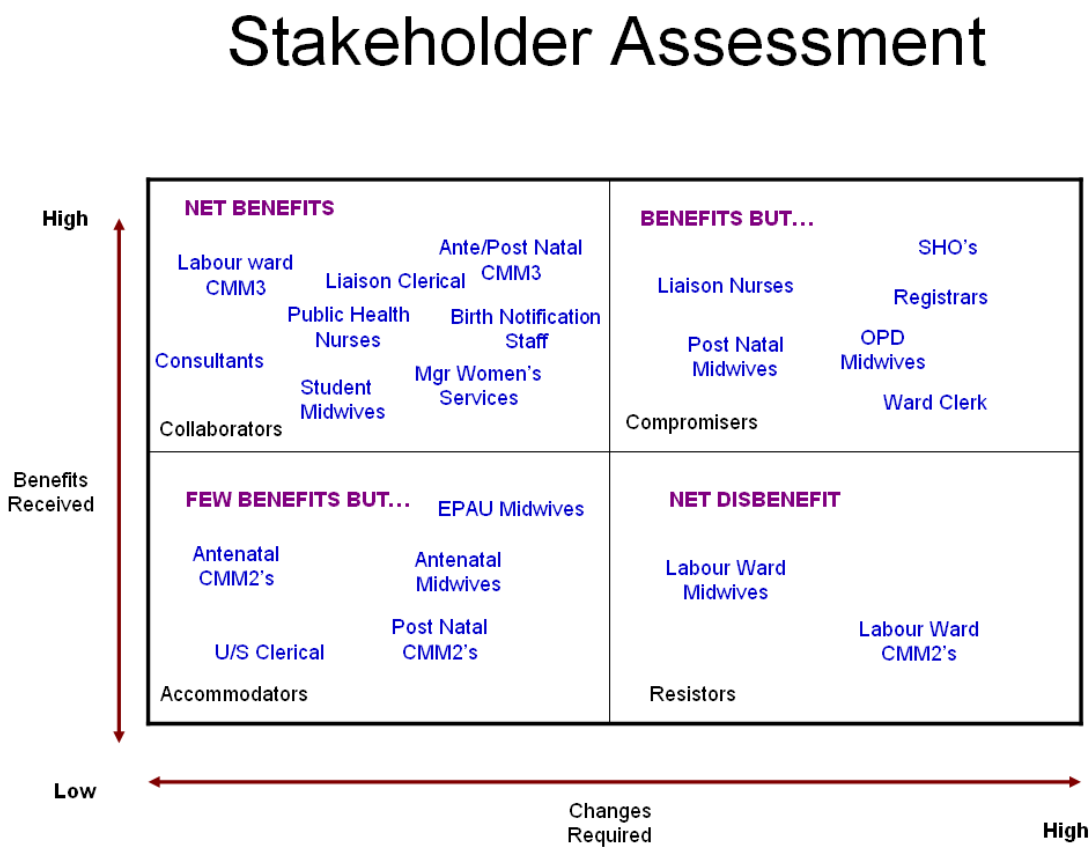

Figure 3-10 Stakeholder assessment map

It is interesting to note that purely based on levels of change and perceived benefits two user groups were identified within the 'Net Disbenefit' quadrant both of which were working in the labour ward. It is important to note that this assessment is based on user groups and that some individuals within these groups were entering the data into the system as requested. All stakeholders were then entered into a stakeholder analysis map which identifies the actual benefits/changes required by them and indicates their willingness to make the changes required.

Stakeholder	Benefits Perceived	Changes Needed	Perceived Resistance	Commitment (Current & Required)				
				Anti	None	Allow it to happen	Help it happen	Make it happen
Definitions	Individual and organisational benefits for each stakeholder and group	Changes to be made by or which affect each stakeholder or group	Resistance of each stakeholder or group and reason for this	Are against the project and will attempted to stop it or hinder progress	Are either unaware the project is going on or do not think it affects them	Will comply when requested to do tasks required by the project eg. Attend training	Will provide knowledge, time and resource to ensure the project meets objectives and time scales	Will instigate, oversee or carry out changes and ensure that all relevant changes are completed successfully
Midwifery Staff								
OPD Midwives	1. Clear, legible obstetric history available at all times	None at the moment	None at the moment			C ▲ R		
EPAU Midwives	1.(Individual) None identified at this time 2. (Organisational) Provide details on all antenatal attendance ate EPAU 3. More complete record available	Commence using system	None at the moment			C ▲ R		
Antenatal Midwives	1. (Individual) None 2. (Organisational) would improve statistics available on length of stay and reason for same - could contribute evidence based change	Need to discharge all Mothers when leaving ward	None at the moment			C ▲ R		
Labour Ward Midwives	1. (Individual) None - don't have the time to use system 2. (Organisational) would improve support for mother and baby both within hospital and when discharged	Need to enter delivery details in real time	High expectation of resistance.To date system is in daily use by few of the midwives.	C ▲				R

Figure 3-11 Sample of the stakeholder analysis map

This document was built upon and expanded throughout the whole process (see Figure 3-11 for a sample and Appendix 7 for final version). The Cranfield methodology suggests that stakeholders who have to move by several columns on the map in terms of current and required positions may require action plans which detail the approach that will be taken to gain stakeholder buy-in. An example of such a plan can be seen in Appendix 8.

3.5 Adding change, measures and owners to the BDM for both groups

This was an interesting piece of work that needed much juggling about. The process automatically lead to easily identifying the kind of changes necessary.
There are three categories of changes:

1. Business changes – these are tasks that need to be performed to release the benefit
2. Enabling changes - these are once off changes such as training, creation of merge templates, addressing labour ward issues in relation to data entry.
3. IT enabling changes – these are distinct pieces of functionality or ICT change that are required.

It is very worthy of note that the ICT changes are the smallest and simplest piece of the puzzle.

Each of these changes was moved into the relevant column within the BDN map. For each benefit the business changes were linked and in turn the enabling changes and IT enablers were mapped to the business changes. This allows one to consider the order in which changes need to happen. In the case of the postnatal benefits dependency map it became obvious that two key business changes were absolute requirements as they affected the majority of the benefits directly. They are both placed in a single box within the map shown in Figure 3-12 and are coded as C4/5.

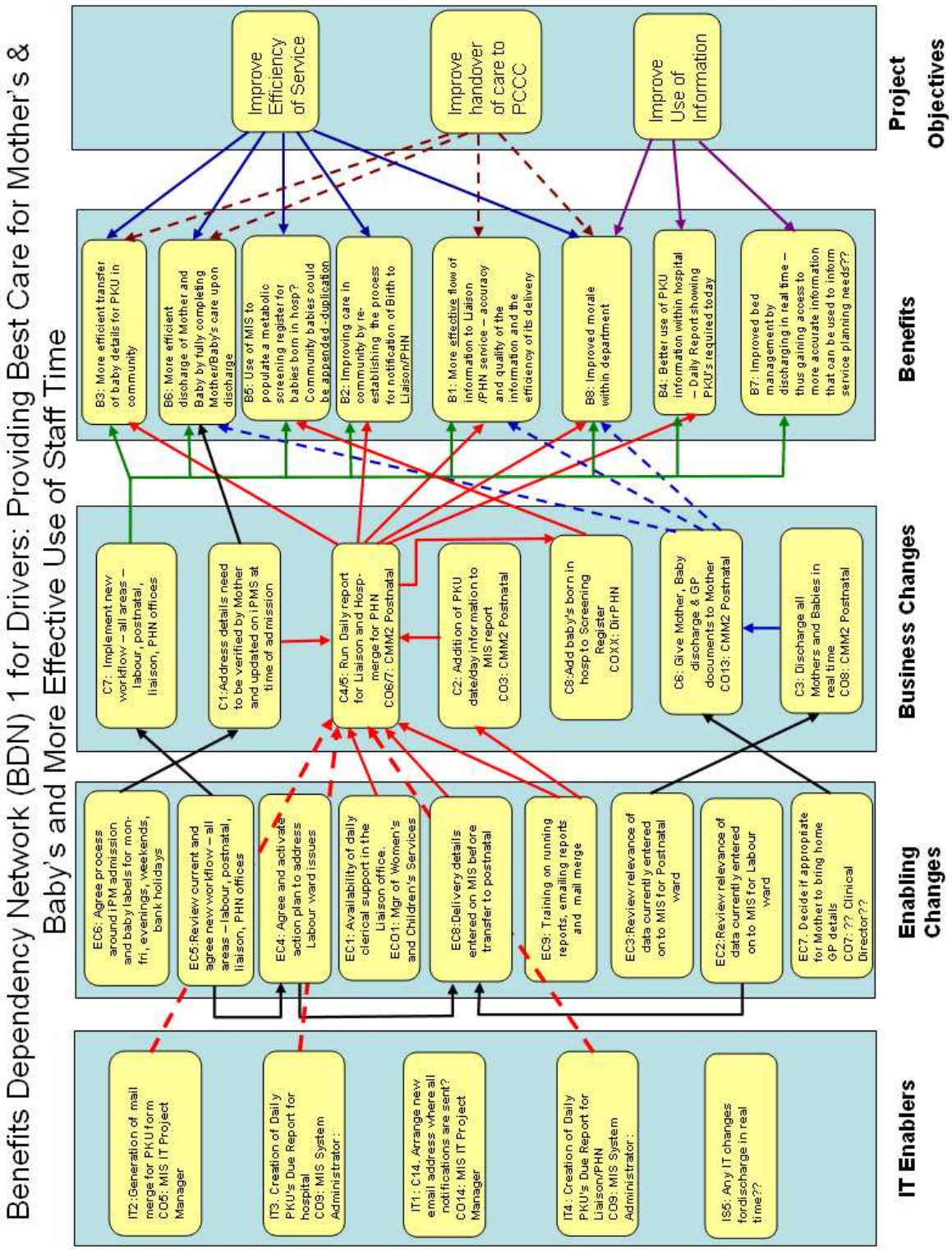

Figure 3-12 More complete benefits dependency map showing benefits and changes for hospital

These were the changes relating to the postnatal department running daily reports from the MIS and the Liaison department using that detail to mail merge and distribute discharge documents to the LHO's. The enabling changes required to allow this business change to happen were therefore key elements in delivering the benefits.

The maps were created in Microsoft PowerPoint and particularly for Figure 3-12 and Figure 3-13 when all of the arrows are in place it looks quite busy, difficult to read and more than a little overwhelming for the untrained eye. The colours used for the various arrows are not of any particular significance, they were merely used to assist both the reader and the researcher in viewing the map. For the purposes of showing it to the focus group the single chart was broken into a series of PowerPoint pages each of which added arrows which addressed a different series of changes and benefits (see Appendix 9). Doing this provided a very visual method of displaying the changes that were needed and the impact that not delivering on any one of them, but in particular, the key ones that would have a major impact on the benefits. This would allow the business to see how important a link these changes are and that if they wish to release the benefits the issues will have to be addressed. It really puts it up to the business managers to find a way to either resolve the issues or to decide that the benefits are not worth pursuing, which in turn brings one nicely back to the business objectives and the drivers map. If the drivers and objectives are truly relevant to the business and the case is strong enough, a way will be found to bring about the changes.

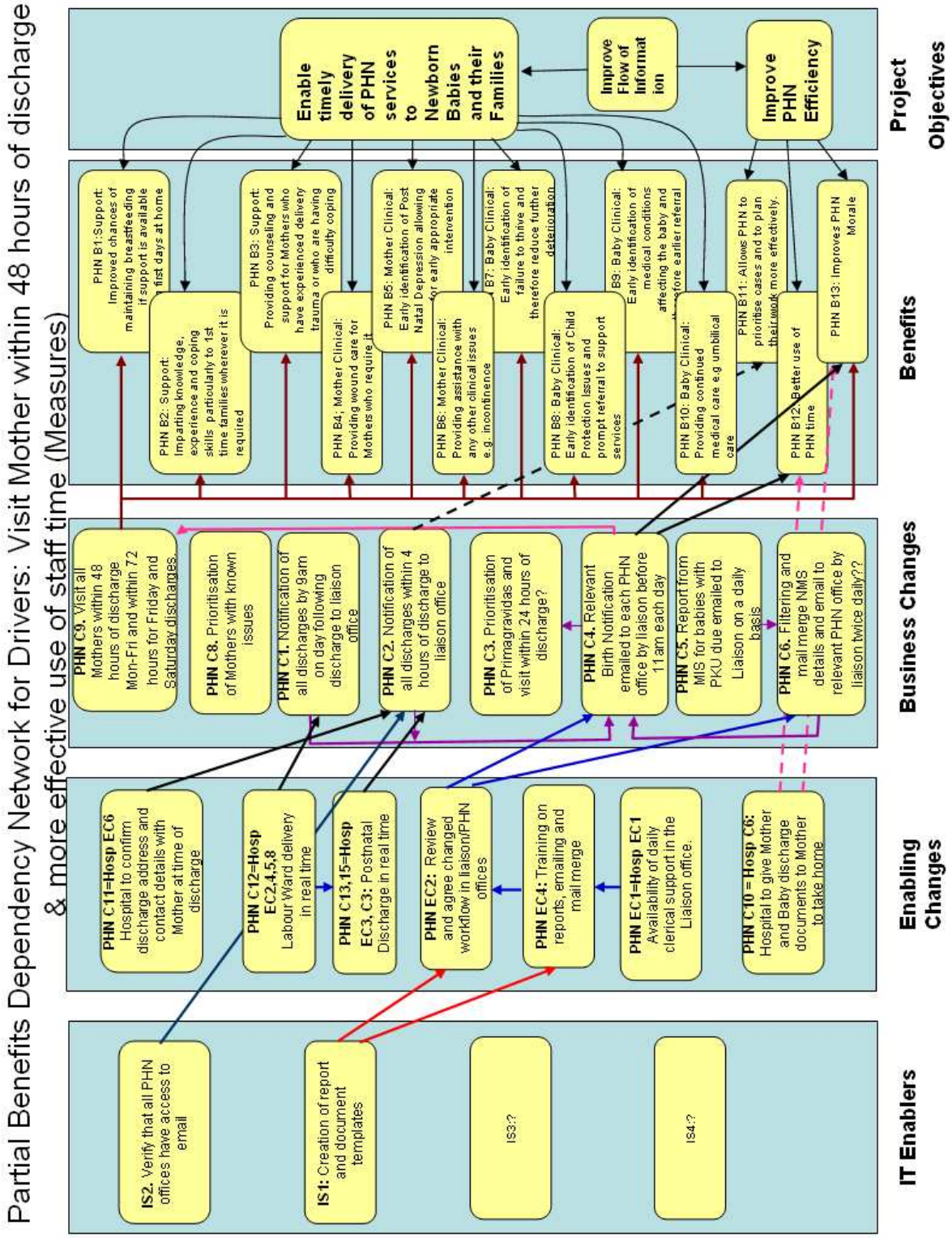

Figure 3-13 More complete benefits dependency map showing benefits and changes for PHN/Liaison group

3.6 Benefit and change templates for both groups

In conjunction with the drawing together of the BDNs individual benefit and change templates were completed for both groups. This is a very intensive piece of work as each benefit is listed associating it with its relevant objective. The benefit description and owner are added into the relevant column (see Figure 3-14 and Figure 3-15 for examples and Appendices 17 and 18 for the fully completed documents).

PHN/Liaison Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B1: Support: Obj 1, 2	Improved chances of maintaining breastfeeding if support is available during first days at home	BO1: Dir/PHN	**CMM2's Postnatal:** C: 1 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M1: % Mother's who are still breastfeeding at PHN primary visit. % Mother's exclusively breastfeeding at PHN primary visit. Figures from PHR	Improvement in both figures	Sept 2010
B2: Support: Obj 1, 2	Imparting knowledge, experience and coping skills particularly to 1st time families wherever it is required e.g. bottle feeding tips and techniques, how to settle baby, getting into a routine etc.	BO2: ADir/PHN	**CMM2's Postnatal:** C: 1 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M2: Qualitative Measure – Consumer study at 3 month developmental check.		Sept 2010

Figure 3-14 Example of PHN/Liaison benefit template

The difficult piece of mapping out each of the changes and change owners that are required to deliver upon this benefit was then completed. While the concept is pretty simple the inter-dependencies that existed within this example meant that it was a very complex piece of work. The process definitely makes one consider precisely the changes that are required for each individual benefit. To complete this mapping a copy of the BDN for each benefit was printed out and a highlighter was used to follow through each of the links on the map noting the change owners involved. The change owners were then listed and each of the changes that that individual was responsible for in relation to each benefit was recorded.

This process gathers together the changes that are required for each benefit and the individuals that are responsible for them. It proved useful to put these changes into an individual document that could be given to each of the change owners; this left the changes very specific for them and provided a good format for individual discussion with the owners.

Hospital Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B3. Obj 1 & 2	More efficient transfer of baby details for Newborn Metabolic Screening test in community	Liaison Nurse	**MRO:** C1, EC6 **CMM2's Postnatal:** C: 2,3,4,5 EC: 2,3,5,6,8 **CMM2's Labour Ward: EC:** 2,3,5,6,8 **CMM3 Ante/Postnatal:** C: 7 EC: 2,3,4,5,7 **Liaison:** C:4 **MIS Sys Admin:** EC: 2,3,5 ITE: 3,4 **MIS Business PM:** EC: 2,3,5,9 **MIS IT PM:** EC 2,3,5,9, ITE: 2	1. 70% reduction in time taken currently to notify – vs. expected time 2. Liaison opinion	70% reduction	Sept 2010
B4. Obj 3	Automated provision of Metabolic Screening information within hospital – Daily Report showing screening required each day	CMM2 Postnatal	**MRO:** C1, EC6 **CMM2's Postnatal:** C: 2,3,4,5 EC: 2,3,5,6,8 **CMM2's Labour Ward: EC:** 2,3,5,6,8 **CMM3 Ante/Postnatal:** C: 7 EC: 2,3,4,5,7 **Liaison:** C:4 **MIS Sys Admin:** EC: 2,3,5 ITE: 3,4 **MIS Business PM:** EC: 2,3,5,9 **MIS IT PM:** EC 2,3,5,9, ITE: 2	Staff opinion survey		End Sept 2010

Figure 3-15 Example of hospital sub-group benefits template

Similar templates were completed for both the hospital and PHN/Liaison based changes (see Figure 3-16 and Figure 3-17 Example of PHN/Liaison group change template for examples and Appendices 17 and 18 for the fully completed documents). This document contained information on the change and dependent benefit numbers, a description of the changes required, identified the people involved and their responsibilities. It also identified pre-requisite or consequential changes that would be required for each change, evidence of completion, a due date and identification of the resources required to enable the change.

Hospital Change Template						
Change or enabler number and dependant benefits	Description	Responsibility and involvement	Prerequisite or consequent changes	Evidence of completion	Due Date	Resources required
C1. B: 1,2,3,4,5,6,8	Address details need to be verified by Mother and updated on iPMS at time of admission – knock on affect for baby labels – need to agree a process around this for mon-fri, evenings, weekends, bank holidays	Medical Records Officer	**P:** EC6:Agree SLA **C:** None	E1: Address details correct on baby labels 95% time	June 2010	Meet with MRO Provide details on accuracy and impact of errors
C2. +A8	Addition of Relevant Newborn Screening and PHN office information to report and use of email to distribute	CMM2 Postnatal	**P:** EC9: Training; IT4: Create report **C:** C: 4,5 use of report	E2: Liaison able to use MIS report to generate new discharge documents	W/S 16th Aug 2010	Generate report - 30 minutes for training clerical support on ward. 2 hours training for Liaision
C3.	Discharge all Mothers and Babies in real time	CMM2 Postnatal	**P:** EC3, 5, C7 Review MIS data and workflow **C:** C6 Documentation home with Mother	1. E3: Discharge time on MIS in advance of iPMS discharge time 2. Documentation going home with Mother	Early June 2010	MIS team to review dataset with midwives
C4.	Run Daily report for Liaison - liaison to add in PHN office and Merge for community before emailing to offices	CMM2 Postnatal	**P:** C2, EC2,4,5,8,9 (Delivery to MIS in real time) IT4, Provide reports and training **C:**	E4: 90% reduction in Liaison requests for PKU info	Early Sept 2010	30 minutes training on report generation

Figure 3-16 Example of hospital sub-group change template

PHN/Liaison Change Template						
Change or enabler number and dependant benefits	Description	Responsibility and involvement	Prerequisite or consequent changes	Evidence of completion	Due Date	Resources required
EC4:	Workflow changes to allow discharge Mother and baby on MIS in real time	CO11: CMM3 Postnatal	**P:** EC5 delivery details in real time **C:** EC2 Workflow;	E11: 90% Discharge on MIS before Mother leaves hospital	Mid May 2010	Meetings with CMM3 - activate action plan
EC5:	Promote labour detail entry in real time	CO12: CMM3 Labour Ward	**P:** None **C:** EC4 Workflow	E12: 70% Delivery details entered in real time	Start May 2010	Letter to midwives
EC6:	Processes within hospital to confirm discharge address and contact details with Mother at time of discharge	CO13: CMM2 Postnatal	**P:** None **C:** None	E13: Contact details always correct – measure from number of calls to Hospital re contact details	Mid June 2010	Meet with MRO re current processes
IS1:	Creation of report and document templates.	CO14: MIS IT PM	**P:** None **C:** C3, EC2,3 Use of reports	E14: Reports and templates available for use	End July 2010	4 hours MIS team to create & test reports
IS2:	Verify that all PHN offices have access to specific discharge email addresses	CO15: MIS IT PM	**P:** None **C:** EC3 Training	E15: List of email addresses supplied to Liaison or PHN office	Mid August 2010	Apply for email to ITO's - 1 hour
IS3:	Verify that relevant PHN offices have access to MIS	CO16: MIS IT PM	**P:** None **C:** C7 Use of reports	E16: MIS available in PCCC	Mid August 2010	MIS team to confirm

Figure 3-17 Example of PHN/Liaison group change template

Completing both of the templates highlighted interdependencies that had not been previously represented on the BDM. This alone proved the worth of these templates. The benefit and change templates for the community based group were then completed also. This time the process was much quicker as the author now had experience in generating the hospital based documents.

3.7 Next workshops

3.7.1 Hospital sub-group – 2nd workshop

A second workshop was held with the focus group at this point to provide an opportunity to discuss and finalise upon the benefits and their owners and to establish and agree upon the changes required and who should own them.
In advance of this meeting some testing of the proposed technology changes (running a report from MIS of relevant details to Microsoft Excel and use of this spreadsheet to mail merge into existing PHN forms) to ensure that they were possible and relatively simple to carry out, was done. This technical solution was demonstrated and discussed at the meeting. This was met with great enthusiasm and gave a real sense of where the group could get to; again it helped to paint the picture of what could be accomplished and made the more difficult changes seem achievable and worthwhile.
The changes required were discussed and agreed at this point and the group were asked to consider when a go live date would be possible. Recording of some of the measurements was also agreed so that a bench mark would exist to measure improvements where specific targets had been established. It was also agreed that some of the work relating to the changes would begin e.g. review of dataset recorded in MIS with each of the departments. As many of the benefits and changes were common with the PHN focus group it was agreed that a meeting of both groups would allow consensus to be reached on a number of areas.

3.7.2 PHN group – 2nd workshop

A second PHN workshop was held to firm up on the full list of the benefits, changes and owners required and to establish exactly what information the PHN would require to enable delivery of the benefits. It should be noted that representatives from public health nursing in a third county were invited to attend by one of the other PHN areas involved in the process. This was significant as it signalled that the Director of PHN had confidence in the process and wished to broaden its impact.

Again a demonstration of the possible technical solution was given (a mail merge of a spreadsheet of information extracted into a PHN document) to show how achievable the solution was and to paint a picture for the people involved of what might be involved at a practical level. A brain-storming session was then held to identify the information that the PHN would need to meet the benefits. This was a very lively session with active participation from all present. It emerged from these discussions that preliminary early notification of birth was not required by all counties present. One county would like to get early notification and the other felt it would be sufficient to get notification of discharge as early as possible. A suggestion of having only one document that would serve many purposes was made and this was agreed. It was also agreed that the mother should take the discharge documentation home so that it would be available to the PHN when she arrives to visit the mother. This was a suggestion made and noted during the first workshop and which met with support from both groups. It was also agreed that the county that would like early notification of birth would be given access to and training on the MIS system so that they could pull that information for themselves.

The hospital sub-group were invited to attend for the last hour of this meeting. This worked out very well on several levels. It afforded an opportunity for both sides of the service to meet and for them to get to 'put a face to a name'. It allowed both sides to see the commitment that was present from the other side of the service and to hear about their pressures and also observe each other's willingness to work together to improve the service. It also facilitated end to end agreement of the process changes that would be required to deliver on the benefits. This brought the commitment to change out of the immediate sphere of each individual service and enabled ownership of the changes. In other words it cemented the fact that changes were coming. One attendee commented that 'I have waited twenty years for a meeting like this'. This comment was a true reflection of benefits realisation in motion, i.e. active participation of the stakeholders in a spirit of collaboration.
It was agreed that based on the content of the workshop the researcher would make a first attempt at a discharge notification document and distribute to all parties for comment. The full current and future state workflows would be finalised and

circulated and the changes to the BDN's and change and benefit templates based on the decisions made, would be applied to those documents. It was also agreed that work would commence on the enabling and business changes that would be required.

A preliminary go live date of the 16th June 2010 was tentatively agreed.

3.8 Finalising the benefits realisation plan

Following this workshop the full benefits dependency network maps were updated for both groups (see Figure 3-18 and Figure 3-19). There were significant updates required to the PHN changes as it was agreed that only one document would be given and it would include both screening and discharge information. Many areas of the PHN group BDN's linked directly with the hospital sub-group BDN's in terms of the changes required and their owners and this was indicated on the PHN/Liaison group maps. The benefit and change templates were also updated to reflect the decisions made at the combined meeting and work began on the enabling changes.

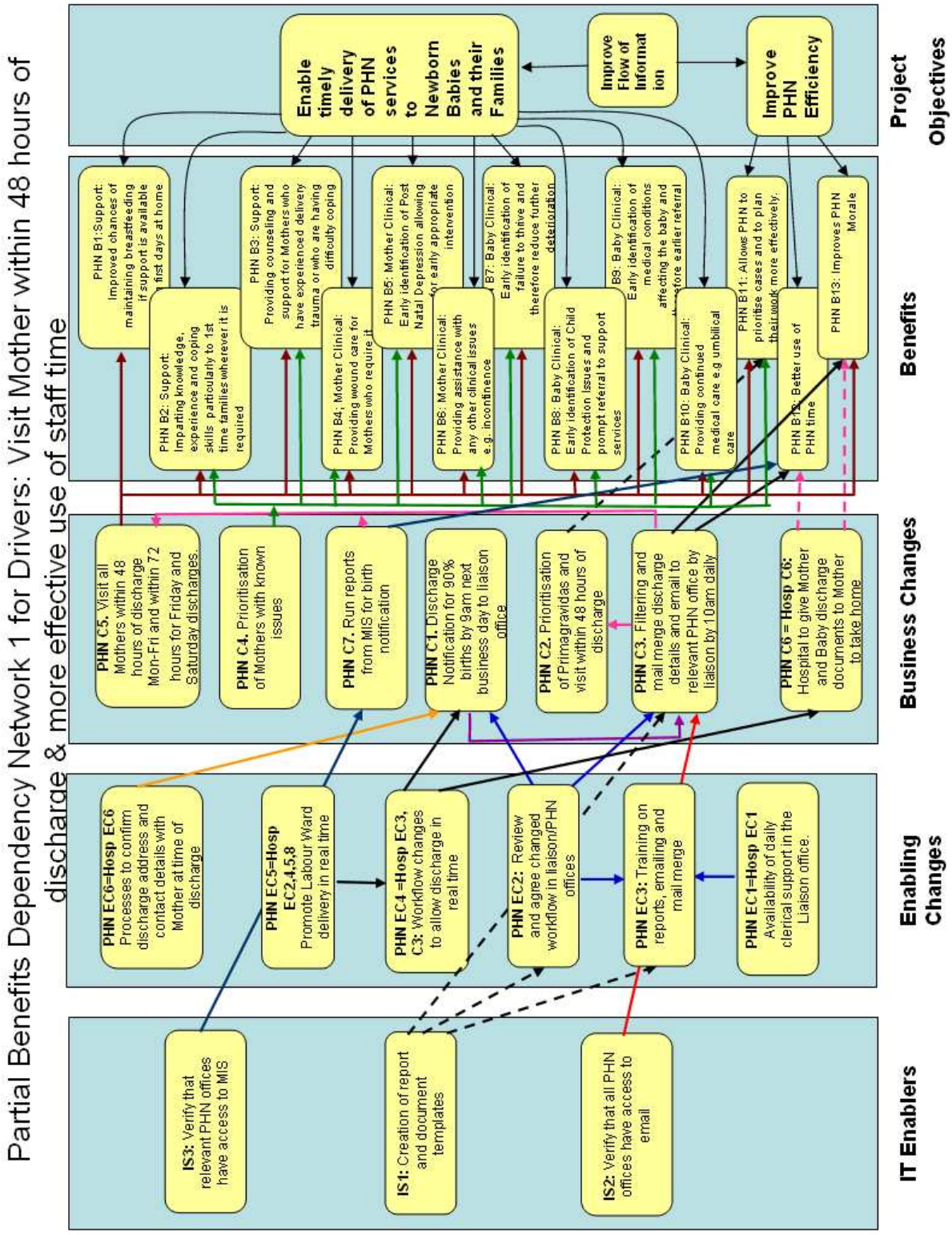

Figure 3-18 Final BDN for PHN group

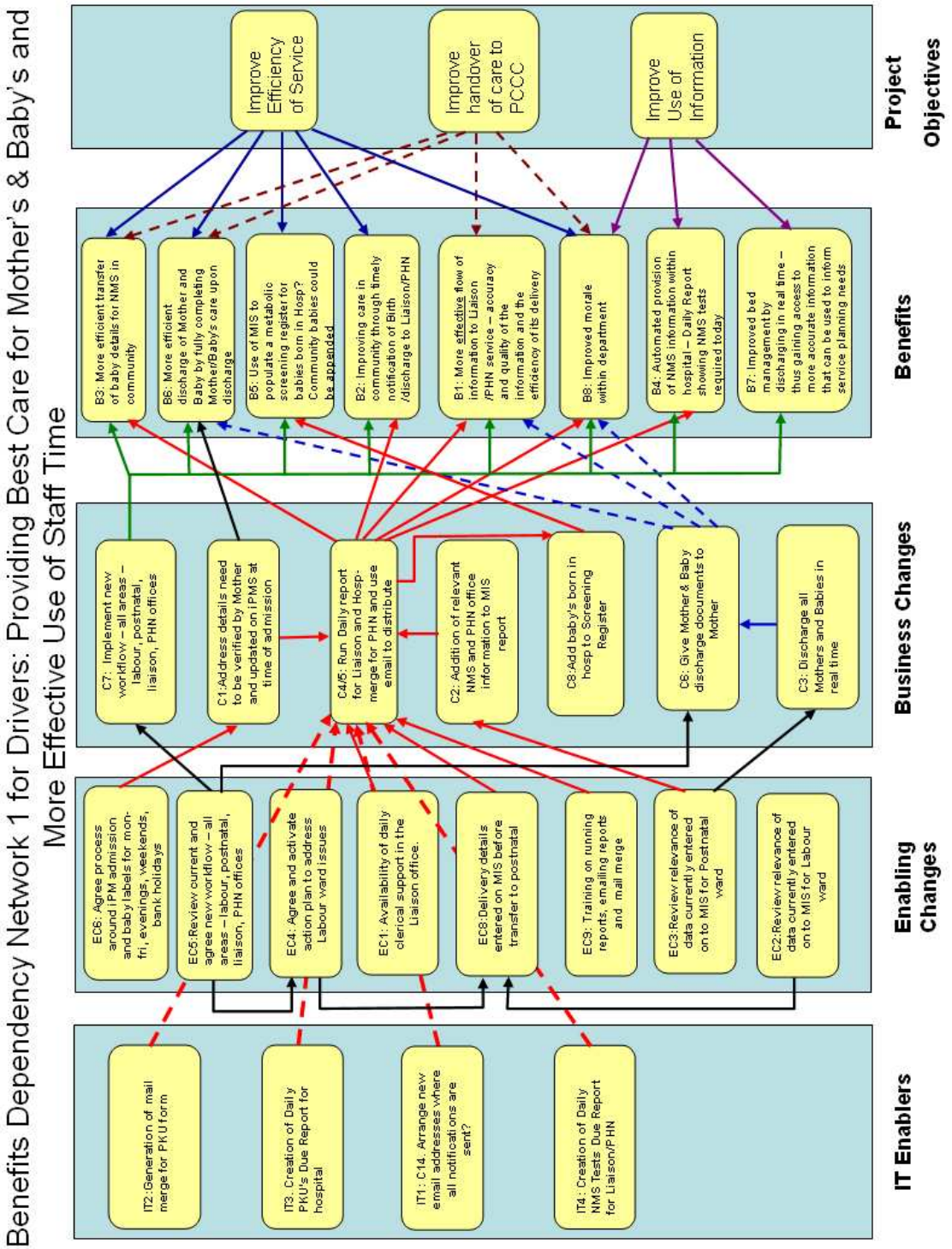

Figure 3-19 Final BDN for Postnatal group

3.9 Activating change

Once general agreement was gained on the changes, the work required to bring them about began. As this process is retrospectively looking at an existing system many of the enabling changes could be worked on and activated straight away.

3.9.1 Preparing the way

Any reports required to extract the relevant information from the MIS were developed and tested. An initial discharge document was created and distributed to the group. One nominee gathered together feedback from the rest of the group and stakeholders outside of the immediate group. The discharge document was updated and re-circulated based on this feedback. There were many communications via email right throughout this phase, seeking feedback and agreement as changes were made (see Appendix 10 for provisional and final discharge documents).

Individual meetings were required with combinations of members of the focus groups to finalise current workflow and potential changes, and how they might be delivered.

The current data set being captured in each area was reviewed and agreements made on information that was no longer required. This information was documented for submission to the vendor for inclusion in the next release (see Figure 3-20 for an example).

Section/Question	Comment	Action Required	Inteirm Suggestion
Onset of Labour			
Positions/all questions	full section not required	Hide/delete/Skip	return past it
Delivery			
Birth Summary/Location	Not required	Hide/delete/Skip	return past it
Delivery/positions	full section not required	Hide/delete/Skip	hit save button
Method of Delivery			
Delivery information/Presentation at delivery	Make this mandatory	Make this mandatory	Continue entering
Baby			
Baby details/ Is this also the babys surname	Not required	Hide/delete/Skip - baby will need to default to Mothers surname	Answer Yes
Baby details/ Babys PPSN Number	Not available - not used	Hide/delete/Skip	return past it
Paediatric Consultant on duty	Not required - this relates to the consutlant on duty which is not known to the staff	Hide/delete/skip	return past it
Initial examination/Baby's first temperature	Not currently printing anywhere - would like it to appear on Baby Part 2 - temperature heading is there already	Write onto baby part 2 document beside temperature	Continue entering temp

Figure 3-20 Example of template for system changes and interim suggestions

An action plan was devised for the labour ward midwives to encourage data entry in real time (see Appendix 8). Part of the plan was to meet with all of the labour ward clinical midwifery managers-grade two (CMM2), to explain why the information was required in real time and to garner their support for improving the number of delivery details entered by the midwife who was present at the birth. However, on trying to activate the plan it proved very difficult to meet all of the CMM2s and so, to move the process on the action plan was amended to provide a letter to the labour ward midwives explaining what was going on and why their help was needed. It also outlined how support could be given to them (see Appendix 11). This letter was placed in the labour ward communications book where each midwife would have an opportunity to see and read it.

Once the labour ward began trying to enter data in real time, the postnatal ward nurses were also asked to commence trying to discharge the mother and baby in real time. This required some changes to workflow and while staff were willing to try to discharge in real time, it proved very difficult. Additional changes to the workflow were agreed which included some assistance from the data inputters for the discharges early in the day. Again a letter explaining why the changes were required was placed in the communications book, where all of the midwives would be able to read it (see Appendix 12).

Other enabling changes such as providing email addresses for the PHN clerical offices and agreeing contingency arrangements for when key clerical staff are on leave were also addressed.

3.9.2 Benchmarking measurement

In parallel with this, process measurement of current state also commenced. Some of these measures were already available and others had to be recorded anew. The purpose of measurement is manifold, some could be used as a benchmark to assist in measuring change e.g. amount of time being spent on the postnatal ward each week in preparing documentation for the liaison office (see Figure 3-21), or for the

purposes of making a case for implementing change should resistance be met or additional buy in be required. While others would be used to provide evidence that change has happened and that all areas are ready to activate the full plan.

PKU SHEET

This page will be used to record the amount of time that is currently spent getting PKU/Birth Notification details to Liaison. Please include time spent leaving documents over to liaison and down to reception as well as the time spent finding and writing the information into the various books and sheets. It will help in making a case for any changes we require.

Date	Time taken for PKU/Birth Notification
26/04/10 (Monday)	2 hours
27/04/10 (Tuesday)	1 hour.
28/04/10 (Wednesday)	30 mins
29/04/10 (Thursday)	30 mins.
30/04/10 (Friday)	30 mins
03/05/10 (Monday) - Bank Holiday	———
04/05/10 (Tuesday)	2 hours
05/05/10 (Wednesday)	30 mins

Figure 3-21 Recording of time taken by ward clerk in preparing documentation for the Liaison office

The liaison department were asked to record the amount of time they currently spend getting information ready for the PHN service. A form was supplied for this (see Figure 3-22). The department reverted with measure of three hours per day.

PHN SHEET

This page will be used to record the amount of time that is currently spent getting PKU/Birth Notification details to community. Please include time spent leaving documents over to reception, preparing faxes/faxing, getting documents ready for post as well as the time spent finding and writing the information into the various books and sheets. It will help in making a case for any changes we require.

Date	Time taken for PKU/Birth Notification

Figure 3-22 Sheet for recording time spent by Liaison department in preparing documentation for the PHN's

Measurements such as the numbers of delivery details being entered onto the MIS directly by labour ward midwives were also gathered (see Table 3-1).

4 weeks from August 2009 (before BR process)				
	W/S 10th Aug	W/S 17th Aug	W/S 24th Aug	W/S 31st Aug
No. births per week	80	72	67	73
No. entered on labour ward	20	11	24	11
% Entered on MIS each day	25%	15%	36%	15%
Daily cumulative over week	25%	20%	25%	22%
Total over period				23%

Table 3-1 Snapshot of deliveries entered by labour ward midwives from August 2009

An information system exists in one of the counties served by the maternity hospital which records details of the PHN's visits with the mother and baby, this system is called the Personal Health Record or PHR. Figures from this system were used to benchmark the numbers of primary visits to the mother by the PHN that are delayed due to late notification (see Table 3-2). There is a formal KPI measurement recorded by the HSE however the reasons for not meeting the KPI are not identified within the figures. As the counties involved are all experiencing major difficulties with late notification, any changes to the figures taken from the PHR could be regarded as indicating either positive or negative levels of change in each of counties being service by the hospital.

PHN primary visit delayed due to late notification 2010					
	Feb	March	April	May	Totals
Number of visits	146	178	161	166	651
Number of visits on time	71	68	84	92	315
Number of late visits	75	110	77	74	336
Late visits due to late notification	48	50	39	37	174
% Late visits in total	51%	62%	48%	45%	52%
% Late visits due to late notification based on total number of visits	33%	28%	24%	22%	27%

Table 3-2 Details on PHN visits which are delayed due to late notification of birth

This system was also used to extract measurements on the breastfeeding trends (see Table 3-3).

Breastfeeding ceased between hospital and PHN 1st visit 2010					
	Feb	March	April	May	Totals
Breastfeeding in Hospital	74	92	85	83	334
Exclusively breastfeeding @ PHN visit	55	50	52	57	214
Partially breastfeeding @ PHN visit	15	24	23	16	78
Total (exclusive or partial) @ PHN visit	70	74	75	73	292
Ceased breastfeeding by 1st PHN visit	4	18	10	10	42
% Still breastfeeding	95%	80%	88%	88%	87%
% Partially breastfeeding	20%	26%	27%	19%	23%
% Exclusively breastfeeding	74%	54%	61%	69%	64%
% Ceased	5%	20%	12%	12%	13%

Table 3-3 Figures from PHR system on breastfeeding trends for one of the LHO's participating in the study

Once all of the enabling changes are in place and evidence is available that all changes can be implemented successfully the new workflows may be initiated and the release of benefit and therefore greater value commence.

3.10 Summary and conclusion of the process chapter

This chapter described in detail the planning stages of the application of the Cranfield benefits realisation methodology against an existing obstetric system. It commenced with the establishment of focus groups of key staff members who identified and agreed upon specific benefits they would like to release from the system. These benefits all linked to business objectives which relate to existing business drivers. The relevant measures that could be used to demonstrate delivery of the benefit and owners who had a vested interest in the benefit were also identified and agreed by the focus groups. The enabling, business and ICT changes that would be required to release the benefits were identified as were the associated measures and owners.

The tools and templates which are detailed in the Cranfield methodology were used throughout the process. This led to the production of documents such as investment objective/driver maps, benefits dependency maps, benefit and change templates, stakeholder assessments maps, stakeholder analysis forms and action plans

mentioned in section 3.2.1. These documents are the initial product of the benefits realisation process. The stakeholders were all involved in approving the content and therefore have full knowledge of the required changes and associated responsibilities. The documents combine to provide the stakeholders with a comprehensive plan of the steps that need to be taken to release the benefits desired (see Figure 3-3, Figure 3-6, Figure 3-10 and Appendices 7, 8, 15, 16, 17 and 18).

The next chapter will take a closer look at the implementation of the changes and the resultant findings.

4 Findings

The intention of this dissertation was to explore if the application of a benefits realisation process retrospectively to an existing obstetric system would be worthwhile in terms of releasing greater value from the system. At this point in time the benefits realisation plan has been agreed with the stakeholders. The enabling changes are under way and evidence of change is being collected.

This chapter will focus on reporting the changes that have been enabled and the appropriate measurements supporting them. It will discuss how the benefits will be measured and in some cases will detail the anticipated results and how they will be calculated. Both the approaches that did and did not work well during the running of the Cranfield methodology will be identified as well as some unanticipated benefits. The findings will seek to establish if in answer to the principal research question, true additional value either has been released or is expected to be released from the application of the process.

Throughout this chapter tables and figures presented earlier in the dissertation are re-inserted for comparative purposes and for the convenience of the reader.

4.1 Synopsis of the changes

The project objectives that both groups identified were to improve the efficiency of their respective services, improve the handover of care of the mother and baby both in terms of quality and timeliness and to improve the use and flow of information. At a high, inter-departmental level the new workflow required to enable delivery of many of these objectives can be seen in Figure 4-1. If the labour ward midwives enter the delivery details in real time, then when the mother is ready for discharge the postnatal ward midwives will be able to discharge the mother and baby in real time on the system, in turn allowing the postnatal ward clerk to run a report from

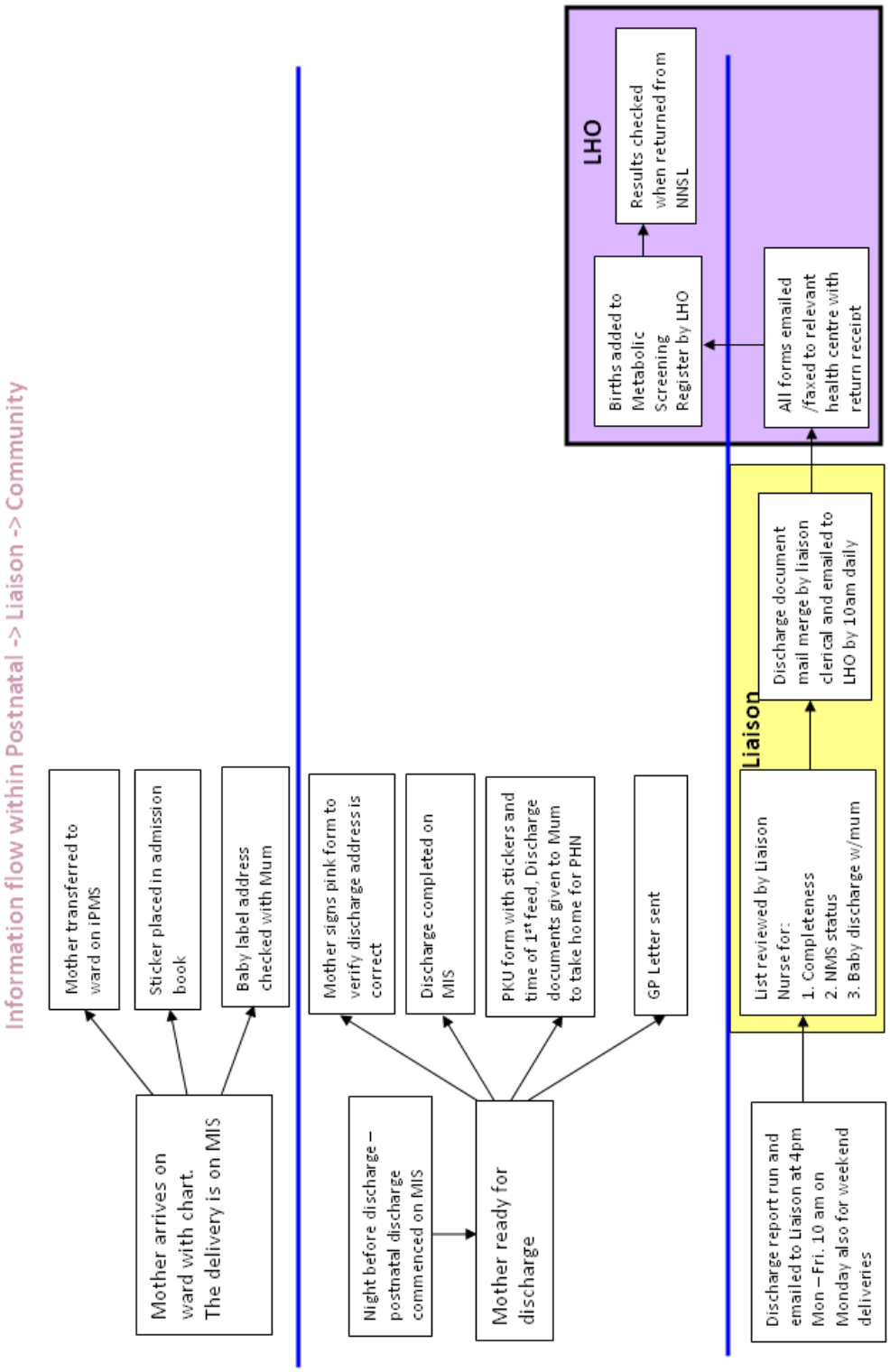

Figure 4-1 New workflow

the MIS each evening which would contain the key information identified by the focus groups as being required by the PHN, and email it to the liaison office.
Each morning the liaison ward clerk could then filter the information electronically and email it to the relevant PHN office. Not only should this process assist the PHN in visiting the mother and baby in a much more timely manner, but it should also allow them to prioritise their visits based on clinical need. In addition the changes should bring about a significant saving of staff time as it would replace the highly manual and cumbersome workflow that currently exists (see Figure 3-5). The successful implementation of these key elements should improve the hand over of care of the mother and baby from the hospital to the community setting and should have a positive impact on the care provided.

4.2 The changes that were enabled

Table 4-1 shows the numbers of deliveries being entered directly by the labour ward midwives before the process began.

4 weeks before from August 2009 (before BR process)				
	W/S 10th Aug	W/S 17th Aug	W/S 24th Aug	W/S 31st Aug
No. births per day	80	72	67	73
No. entered on labour ward	20	11	24	11
% Entered on MIS each day	25%	15%	36%	15%
Daily cumulative over week	25%	20%	25%	22%
Total over period				23%

Table 4-1 Snapshot of deliveries entered by labour ward midwives from August 2009

MIS Usage levels within the labour ward had previously been captured for four weeks in August 2009, as the level of system usage in the labour ward has been consistent from its initial deployment in 2007, these figures can be regarded as being reflective right up until the point when the enabling changes were activated. They are being used as a baseline measurement. As can be seen, on average only 23% of delivery details were being entered directly by the midwives. This meant that not only was the information being entered 'second hand' by data inputters who had not been present at the birth, but that 77% of the time the births were not up on the

MIS when the mother and baby arrived at the postnatal ward and so the chances of this volume of deliveries being entered onto the MIS before discharge was much reduced. The average length of stay postnatally is two days, this rises to an average of four days for mothers who have had a caesarean section, therefore there is a very limited period of time when the system can be updated and the information be of real time use if it is not entered in the labour ward.

Once the action plan for labour ward was enabled and the letter to the labour ward midwives was placed in the communications book there was an immediate and dramatic increase in the numbers of deliveries being entered directly by the labour ward midwives.

4 weeks from May/June 2010 (post labour ward action plan)				
	W/S 31st May	W/S 7th June	W/S 14th June	W/S 21st June
No. births per day	68	76	82	58
No. entered on labour ward	45	46	47	34
% Entered on MIS each day	66%	61%	57%	59%
Daily cumulative over week	66%	63%	61%	59%
Total over trial period				62%

Table 4-2 Numbers of delivery details being entered directly by labour ward midwives post labour ward action plan activation

As shown in Table 4-2 the average number of birth details being entered directly by the labour ward midwives rose to 62% an increase of 167% on the previous figures (see Table 4-1). There had been many attempts in the past to encourage direct entry of delivery data by the labour ward however none resulted in this level of success. This success could be attributed to the benefits realisation process and the special consideration that was given to stakeholders as a consequence. Actions such as communicating with the stakeholders to let them know what was going on and why it was required were key actions. As part of the action plan, meetings had been held with some of the Labour ward CMM2's. However it was only once the letter to the midwives was placed in the communications book that this significant jump in direct entry of data took place. Some of the midwives commented that they did not know that their information was passed onto the PHNs for instance.

Explaining the need for change and building a case for it while acknowledging the extra effort that would be required was the catalyst for stakeholder buy-in here. The entry of delivery details in real time was a key enabling change that was required for release of many of the benefits. This improvement can be directly attributed to the benefits realisation process. A point of note however is the gradual decrease in numbers being entered by the midwife from the first week in Table 4-2 through to the last week, this will need to be monitored. At the time of writing this figure has held at an average of 60% (week starting 19th July). Continuous feedback of these figures to both the managers and staff of the labour ward will be required, and an updated communication to keep the labour ward staff informed of the impact that their changed workflow is having on the hand over of care to community may also assist in maintaining it.

Once the labour ward had begun entering much of their details onto the system the focus then shifted to the postnatal ward, to see if discharge in real time could be achieved. While technology had been provided previously in the guise of hand held computers and computers on wheels to facilitate discharge at the bedside, the majority of discharges were being entered retrospectively at the end of the day when all mothers and babies being discharged had gone home. Measurement commenced on collecting evidence that change had happened and to provide a flag that the changes both in the labour ward and the postnatal ward were sufficient to safely activate the full plan (see Table 4-3).

Initial efforts at discharging in real time were disappointing. However, a letter was issued to the midwives explaining the reasons for the changes at the start of the week of 5th July 2010 (see Appendix 12). From that point onwards the average numbers of discharges which were completed by the time the Mother was leaving the hospital jumped from 37% to 51% and then 58%, a much more promising position.

Week starting Tuesday 22nd May 2010								
	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Wk Ave
No. discharges per day		10	7	13	10	6	10	56
No. with discharge documents complete		1	4	5	2	5	0	17
% Entered on time		10%	57%	38%	20%	83%	0%	**30%**
Week starting Monday 28th June 2010								
	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Wk Ave
No. discharges per day	15	5	6	10	13	**4**	4	57
No. with discharge documents complete	0	2	2	7	4	**3**	3	21
% Entered on time	0%	40%	33%	70%	31%	75%	75%	**37%**
Week starting Monday 5th July 2010								
	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Wk Ave
No. discharges per day	6	10	9	4	4	**9**	11	53
No. with discharge documents complete	3	7	3	2	3	**5**	4	27
% Entered on time	0%	40%	33%	70%	31%	75%	75%	**51%**
Week starting Monday 12th July 2010								
	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Wk Ave
No. discharges per day	13	6	9	9	9	**7**	11	64
No. with discharge documents complete	4	4	7	6	4	5	7	37
% Entered on time	50%	70%	78%	50%	75%	56%	36%	**58%**

Table 4-3 Measurement of discharge in real time

4.3 How further changes will be activated and measured

At the time of writing, the postnatal ward managers are confident they will be able to meet the level of discharges in real time required and they have indicated that they are ready to proceed with the next changes. To test this state of readiness the postnatal ward clerk will commence running the report at 4pm daily and will confirm if indeed 90% of the mothers and babies being discharged that day are on the report.

The next changes to be addressed are to provide training for clerical staff on the reporting and mail merging aspects that will allow the information now present on the MIS to be transferred electronically and therefore much faster to the liaison office and from there to the PHN offices. Preliminary figures on time taken to prepare and distribute this information had already been gathered (see Figure 4-2, a

copy of Figure 3-21). This amounts to 4.5 hours per week. The liaison office recorded that they spend 3 hours per day on distributing this information. So that combined with the details from the ward mean that 19.5 hours are spent within the hospital each week preparing and distributing this information.

PKU SHEET

This page will be used to record the amount of time that is currently spent getting PKU/Birth Notification details to Liaison. Please include time spent leaving documents over to liaison and down to reception as well as the time spent finding and writing the information into the various books and sheets. It will help in making a case for any changes we require.

Date	Time taken for PKU/Birth Notification
26/04/10 (Monday)	2 hours
27/04/10 (Tuesday)	1 hour.
28/04/10 (Wednesday)	30 mins
29/04/10 (Thursday)	30 mins.
30/04/10 (Friday)	30 mins
03/05/10 (Monday) - Bank Holiday	———
04/05/10 (Tuesday)	2 hours
05/05/10 (Wednesday)	30 mins

Figure 4-2 Recording of time taken by ward clerk in preparing documentation for the Liaison office

When the plan is activated staff in these areas will be asked to reassess the amount of time they are spending post activation of the plan in preparing the information. It is expected that there will be a significant saving of time with a reduction of at least 50%. While there will not be a direct economic return from this saving of time the work areas involved are under tremendous pressure and the time gained will redirected towards supporting and improving service delivery.

In terms of the efficiency with which the information is being delivered from the ward to liaison to the PHN office and finally to the PHN, the timestamps from email return receipts will be used to measure each handover point and whether the agreed service delivery timeframes are being met.

The key performance indicators (KPI's) that each local health area returns each month will be monitored to establish if the numbers have improved post activation of the plan. The ultimate measurement for the elimination of late notification will

come from the PHR system which is available in one of the counties involved. This system will provide details on the numbers of delayed primary PHN visits that were directly attributed to late notification (see Table 4-4, a copy of Table 3-2, for the current figures). These figures currently indicate that on average 52% of primary PHN visits are outside of the KPI recommendation of 48 hours from discharge. Based on the total number of visits on average 27% of the time, delayed notification is the reason for missing the KPI.

PHN primary visit delayed due to late notification 2010					
	Feb	March	April	May	Totals
Number of visits	146	178	161	166	651
Number of visits on time	71	68	84	92	315
Number of late visits	75	110	77	74	336
Late visits due to late notification	48	50	39	37	174
% Late visits in total	51%	62%	48%	45%	52%
% Late visits due to late notification based on total number of visits	33%	28%	24%	22%	27%

Table 4-4 Details on PHN visits which are delayed due to late notification of birth

It would be expected that late notification should be almost eliminated. Leaving a 10% margin for unexpected events, which in itself is quite high, and taking the figures from February, March, April and May 2010, it is projected that the average percentage of visits meeting the KPI could improve from 48% to 73%, a quite significant jump (See Table 4-5).

Projected improvements on PHN primary visit post BR activation					
	Feb	March	April	May	Totals
Number of visits	146	178	161	166	651
Number of visits on time	71	68	84	92	315
Number of late visits	75	110	77	74	336
Late visits due to late notification Pre BR	48	50	39	37	174
Allow 10% late contingency Post BR	5	5	4	4	18
New numbers of late visits Post BR	32	65	42	41	180
New Visits on time Post BR	114	113	119	125	471
% late visits in total Post BR	22%	37%	26%	25%	27%
% Late visits due to late notification	16%	8%	10%	10%	11%
% Visits on time	78%	63%	74%	75%	73%

Table 4-5 Projected improvements on PHN primary visit post benefits realisation activation using pre activation figures

Not only should this have an immediate and desirable effect on the primary PHN/Liaison group objectives of enabling timely delivery of PHN services to newborn babies and their families, improving the flow of information and improving PHN efficiency and therefore upon the desired benefits, but it should also provide evidence that a benefits realisation process can be used effectively to address existing known complex inter-service issues and to bring about significant change to improve service delivery and extract greater value from the system. It is the hope of the researcher that given this proof of concept the process could be used time and time again to extract greater benefits. Should this degree of benefit not come about, the service level agreements set out as part of the new information workflow can be dissected and examined to establish where the process is falling down. These processes could then be revisited and amended accordingly in order to extract the desired outcome.

In terms of the actual benefits that are desired by the PHN/Liaison service, the changes described should enable the delivery of most of them. To establish if they have been met several measurements will be required. The PHR can be used to measure the release of benefit one of the PHN/Liaison group 'improved chances of maintaining breastfeeding if support is available for the first days at home'. Current levels of mother's breastfeeding in hospital and both exclusively and partially breastfeeding at the primary PHN visit are available from the system (see Table 4-6).

Breastfeeding ceased between hospital and PHN 1st visit 2010					
	Feb	March	April	May	Totals
Breastfeeding in Hospital	74	92	85	83	334
Exclusively breastfeeding @ PHN visit	55	50	52	57	214
Partially breastfeeding @ PHN visit	15	24	23	16	78
Total (exclusive or partial) @ PHN visit	70	74	75	73	292
Ceased breastfeeding by 1st PHN visit	4	18	10	10	42
% Still breastfeeding	95%	80%	88%	88%	87%
% Partially breastfeeding	20%	26%	27%	19%	23%
% Exclusively breastfeeding	74%	54%	61%	69%	64%
% Ceased	5%	20%	12%	12%	13%

Table 4-6 Figures from PHR system on breastfeeding trends for one of the LHO's participating in the study

The PHN's are expecting that by visiting the Mother in a more timely fashion the chances of maintaining breastfeeding are greatly enhanced. Upon review, the figures on breastfeeding from the PHR they are relatively good, however it will be interesting to see if the benefits realisation process does have a noticeable impact. Reducing the numbers of delayed visits due to late notification and having the ability to prioritise the order of visiting as the PHN will have information to hand for all mothers and babies being discharged should improve the numbers maintaining breastfeeding in either a partial or exclusive capacity. This information could feed decision making in areas such as the absence of weekend cover for primary visits, using the information available to provide an evidence base for local decision making.

The other benefits that need to be measured are qualitative in the main. In terms of morale within the department, the ability to prioritise workload based on the information provided and better use of PHN time, a survey of PHNs is planned for one month into the changed process. Specific values were not assigned to these benefits however an improvement is expected in all cases.

The quality of the support being given by the PHN to the mother will be established by a consumer survey when the mother returns to the health centre for the baby's three month developmental check. This survey will be anonymous in nature and if possible it is hoped that it will be conducted by the Population Health department of the HSE.

The amount of time being spent working on keeping up the neonatal metabolic screening (NMS) programme records is three hours weekly. Upon initiation of the NMS register the time involved will be revisited and should be greatly reduced. The current process does not provide a method of easily seeing which results have not yet been received. The new register will streamline results checking and will provide a visual aid for closing the loop of having a result for every child tested. Currently there is no process in the hospital for checking results of NMS, this process will be re-established and should add to the quality of care being delivered from both the

hospital and the LHO. It is hoped that the hospital and LHO will combine their resources for checking results once they see how easy it is in the new workflow.

4.4 A round up of the benefits

Table 4-7 and Table 4-8 provide a synopsis of the benefits desired by the hospital and the PHN/Liaison groups respectively. In addition to these benefits an unaccounted for saving has arisen from the application of the process. As a direct result of the entry of data by the labour ward midwives the number of data inputter hours has been reduced. This has brought about an economic saving to the department while improving the quality of record keeping and enabling the delivery of the multitude of benefits detailed below.

Hospital based benefits	
B1. More effective flow of information to PHN/Liaison service – this is in terms of the accuracy and quality of the information and the efficiency of its delivery	**M1.** Based on number of PHN/Liaison enquiries – 70% reduction
B2. Improving Mother's/baby's care in community through timely notification of Birth/Discharge to Liaison/PHN	**M2.** <10% late visits by PHN caused by late notification – figures from PHR
B3. More efficient transfer of baby details for NMS in community	**M3.** Time taken now to notify – vs. expected time will provide a measure (e.g. 70% reduction)
B4. Automated provision of metabolic screening information within hospital – Daily Report showing screening required today	**M4.** Staff opinion survey
B5. Use of MIS to populate a metabolic screening register for babies born in hospital. Community babies could be appended	**M5.** All babies born in North Eastern counties entered on register and results checked.
B6. More efficient discharge of Mother and Baby by fully completing Mother/Babies care upon discharge	**M6.** Record time spent now on documentation post discharge – also a staff opinion measure post go live
B7. Improved bed management by discharging in real time – thus gaining access to more accurate information that can be used to inform service planning needs	**M7.** 90% Mothers/baby's discharged in real time
B8. Improved morale within department	**M8.** Staff opinion

Table 4-7 Benefits desired by hospital based group

PHN/Liaison based benefits	
B1: Support: Improved chances of maintaining breastfeeding if support is available during first days at home	**M1:** % Mother's who are still breastfeeding at PHN primary visit. % Mother's exclusively breastfeeding at PHN primary visit. Figures from PHR.
B2: Support: Imparting knowledge, experience and coping skills particularly to 1st time families wherever it is required e.g. bottle feeding tips and techniques, how to settle baby, getting into a routine etc.	**M2:** Qualitative Measure – Consumer study at 3 month developmental check.
B3: Support: Providing counseling and support for Mothers who have experienced Delivery trauma or who are having difficulty coping	**M3:** Qualitative Measure – Consumer study at 3 month developmental check.
B4: Clinical: Providing wound care for Mothers who require it	**M4:** Qualitative measure – PHN survey
B5: Clinical: Early identification of Post Natal Depression allowing for early appropriate intervention.	**M5:** Qualitative measure – PHN survey in relation to effectiveness of identifying post natal depression
B6: Clinical: Providing assistance with any other clinical issues e.g. incontinence	**M6:** Qualitative Measure – Consumer study at 3 month developmental check.
B7: Baby: Early identification of failure to thrive and therefore reduce further deterioration	**M7:** Qualitative measure – PHN survey on early intervention
B8: Baby: Early identification of Child Protection Issues and prompt referral to support services	**M8:** Qualitative measure – PHN survey on early intervention
B9: Baby: Early identification of medical conditions affecting the baby and therefore earlier referral	**M9:** Qualitative survey of PHN's in relation to early intervention
B10: Baby: Providing continued medical care e.g umbilical care	**M10:** Qualitative survey of PHN's in relation to levels of babies affected by preventable medical issues.
B11: Allows PHN to prioritize cases and to plan their work more effectively.	**M11:** Qualitative survey of PHN's in relation to the use of their time
B12: Improves efficiency of the service	**M12:** Amount of time currently being spent searching for correct info vs. time spent post benefit realisation
B13: Improves PHN Morale	**M13:** Qualitative survey of PHN's in relation to morale

Table 4-8 Benefits desired by PHN/Liaison group

Each of these benefits can and will be delivered as a direct result of this process. The stakeholders involved are completely aware of the changes that are either underway or that are required. Evidence of the ability of the business to proceed is currently being gathered across the service and the activation of the full workflow changes will not happen until proof that the workflow can be safely changed is available. Methods of measuring success have been identified and therefore the business will be able to establish if and to what degree benefit has been realised. A process also

now exists to enable re-visitation of any of the desired benefits that are not realised either fully or in part and to pin point why this was the case, based on evidence that the required changes were achieved.

At the time of writing a date for the full activation of the plan has been tentatively reset for early September 2010.

4.5 Limiting factors

The application of benefits realisation processes is by its very nature a positive experience. It provides a 'belt and braces' approach to change and is totally inclusive of the stakeholders throughout. The researcher was conscious throughout this study of identifying not only the approaches that worked well but those that were more difficult than or not as effective as they might be. There was really very little to report on this front.

One point of note however is that while a tentative date of 16th June 2010 was agreed earlier in the process to activate the full plan it has taken longer than this to implement the levels of change required. It should be considered that as the researcher was not working in the hospital for the duration of the process this had a direct impact on the speed of progress.

On another point, the completion and management of the documentation and updates to it were very time consuming. However, the synchronicity of the documents is one of the elements that allow one to highlight and capture missing links in the changes required so while it can hardly be regarded as a fault, it is quite difficult to manage and is therefore worthy of mention.

The ability of the business to identify benefits that they desire must also be taken into consideration. It seemed to be a new concept in the domain where this study was conducted to ask users directly what they wanted from a system and it was quite difficult for stakeholders to pull desired benefits or ideas 'out of the air'. This is

probably more a deficit within the organisation in having the capacity and capability to extract greater value from IT systems as suggested by Lin and Pervan (2003) and the Office of Government (2009b) rather than a direct reflection upon the benefits realisation process used.

4.6 What worked well

In considering the work carried out in applying the Cranfield methodology several key success factors stand out.

Collaborative approach – the inclusive nature of the benefit realisation process brings together a real sense of collaboration for the changes required. Energy is expended trying to seek out benefits for most stakeholder groups involved and to provide support for those groups who have little to gain. The process allowed a line to be drawn in relation to past issues and provided a forum to discuss them without blame, knowing that they were going to be sorted. There was a real sense of working together to achieve common goals. Groups of stakeholders who worked in completely different sections of the HSE had opportunity to meet, discuss and understand their needs and interdependencies.

Ownership – having business ownership of both the benefits and changes is a very effective way of placing responsibility for change directly with the people who have the power to make the changes happen and for benefit delivery with those who have something to gain from it. It really increases the chances of success. Having the business stakeholders identify the benefits that they desire puts forward a very tangible case for making the changes.

Stakeholders - the process around identifying the stakeholders based not only on the benefits but on the stakeholders that will be affected by the changes really makes one consider a much broader cohort of staff members. Using the stakeholder assessment tool to provide a guideline appraisal of possible attitudes towards the benefits and changes based on the net gains or losses that individuals or groups will

experience provides a very effective way of gauging possible buy-in. It would not suffice as the only tool used for stakeholders but it provides a visual representation of the stakeholder groups and highlights those who require special consideration.

Action plans – the concept of having action plans for stakeholders who needed to be brought along with the process worked very well. It makes one consider a series of steps or multi-pronged approach to gaining stakeholder buy-in rather than just taking one approach.

Communications - in the experience of the researcher communication is the key to success. As the benefits realisation process allows for the identification of all stakeholders it improves the chances of communicating well with all of them. The very inclusive nature of the process promotes a sense of ownership and of being listened to which in turn leads to improved communications.

Rigour – the rigour that the Cranfield approach brings to managing change should not be underestimated. On several occasions throughout the process working through one tool highlighted missing links or details that would be required to successfully deliver on the benefits that were absent from another. The individual tools all fit very well together and while they appear easy to use they facilitate complex thinking.

Retrospective element - it was a great luxury to have an existing system in place and to be able to change some of the ways various departments operate, while maintaining current workflow. This allowed the participants to establish if the full plan could be activated or if there were any unseen issues, in other words, to begin gathering evidence of change to support the ability of the organisation to release the benefits desired.

4.7 Was the research question answered?

Undoubtedly yes, the application of a benefits realisation process could release greater value from an existing obstetric information system. Although the process has not yet fully concluded greater value has already been released from the system. As the application of the process has such a rigorous element confidence is very high that most benefits will be achieved and should some be not fully delivered a process exists to revisit, change and re-implement in order to release them.

5 Summary and conclusion of research

This research study aimed to establish if 'the application of a benefits realisation process could release greater value from an existing obstetric information system?' It also provided an opportunity to research benefits realisation approaches and how they might be applied.

5.1 Summary of research

A literature review based on existing research studies into benefits realisation management for IT was conducted. It defined benefits realisation and set in context the need for organizations to invest in the direct management of benefits to release value from IT enabled change projects. As the Cranfield method had been widely cited and appeared to have a comprehensive yet straight-forward series of tools available for use, in conjunction with the fact that the researcher could gain access to an interview/coaching session with one of the key contributors to the methodology it was chosen as the method that was applied during the primary research of this dissertation.

The study then described in detail the planning stages of the application of the Cranfield benefits realisation methodology against an existing obstetric system. It commenced with the recruitment of focus groups of key staff members who identified and agreed upon specific benefits they would like to release from the system. The benefits, measures and owners were all documented and inserted into a benefits dependency map (BDM). The changes required for each benefit were then identified and documented along with associated measures and owners. These were sub-divided into enabling, business and ICT changes and were added to the BDM. Throughout this process the Cranfield tools and templates were used to capture and link the relevant details so that a comprehensive plan was fully agreed with the stakeholders. This resulted in the creation of several documents identifying in various formats not only the benefits themselves but also the steps that need to be

taken to release them (see Figure 3-3, Figure 3-6, Figure 3-10 and Appendices 7, 8, 12, 15, 16, 17 and 18).

The study then went on to report the changes that have been enabled and the appropriate measurements supporting them. At the time of writing some of the initial enabling changes had been activated and evidence is being gathered to demonstrate if they are in place. Current state measurements have been recorded wherever possible to provide a baseline for comparison for when future state workflows were introduced. As the plan would not be fully activated before completion of this dissertation, projected figures were derived from some of these current state figures to give an indication of the results that might be anticipated. Both the approaches that did and did not work well during the running of the Cranfield methodology were identified.

The findings of this study are that undoubtedly yes, the application of a benefits realisation process could release greater value from an existing obstetric information system. Although the process has not yet fully concluded greater value has already been released from the system.
As the application of the process has such a rigorous element confidence is very high that most benefits will be achieved and should some be not fully delivered a process exists to revisit, change and re-implement in order to release them.

5.2 Conclusion of research

In conclusion, while this plan has yet to be fully activated it has proven to be very worthwhile and not only is it expected to be successful, it should provide evidence of the value of revisiting ICT systems with a view to deriving greater benefits from them.

In the current economic climate funding for ICT systems within the HSE is extremely limited and taking a fresh look at existing systems and their ability to enable changes that allow the release of greater value is an area that merits further exploration by

the HSE. One would have to wonder if the HSE are indeed getting full value out of existing systems, based on the reportedly high failure rate of IT systems in terms of delivering real value (Doherty *et al.*, 2008). While the implementation of the MIS had been deemed to be technically successful significant additional value is anticipated following the benefits realisation process. There must surely be other systems worth revisiting in such a manner.

The ability to use information in new and creative ways is a competency that would seem to require development with the HSE Dublin North East and the researcher would suspect within other areas of the HSE. When challenged with identifying desired benefits from the MIS as a whole it was found to be quite difficult to think of new ways in which information could be used. There was greater ability when focusing on known problem areas or small distinct areas of service delivery.

One of the aims of this study was to provide education on benefits realisation. The participation by staff in the study will hopefully have transferred some of these skills throughout the departments involved. The process has equipped the departments involved to pursue desired benefits and to establish if they were indeed delivered. The cyclical nature of benefits realisation should also equip the departments involved with a methodology that can be used to seek out and deliver additional benefits. It was certainly a novel approach within the hospital and local health area; it instilled confidence and created a collaborative atmosphere of working together to improve the ways in which we work.

It is only when one really becomes specific in detailing and fully considering the benefits that are desired by an individual, department or organisation that the changes required and their possible impact can be fully explored. The consideration given within this process to stakeholders is particularly useful in terms of the management of change. Another aim of this study was to inform the national Maternal and Newborn Clinical Management System which is under procurement at the moment. Some of the hospitals who will implement this system have paper based records at the moment and others have IT systems that record only a small

portion of the dataset that will now be expected. The levels of change required in these hospitals should not be under-estimated and there is no doubt that a benefits realisation process would increase the chances of successfully delivering it. At the very least it would facilitate the multi-disciplinary collaboration that will be needed and will allow the hospitals to understand the changes and consider the impact for the various stakeholder groups. The work of this dissertation could form a starting point for benefits realisation process for this system deployment.

At the Healthcare Informatics Society of Ireland (HISI) symposium in 2009 one of the keynote speakers Dr Edward Murphy, highlighted the need for healthcare providers to begin thinking of IT in terms of the information it can provide rather than focusing on the technical elements (Murphy, 2009). It is the opinion of this researcher that using a benefits realisation process can and will enable such thinking and deliver much greater results.

Bradley indicates that while a full application of all elements of his benefits realisation process are important, 'starting any one of the them should enable you to move forward on a voyage of discovery and success' (Bradley, 2006). This is a view supported by Peppard and the Cranfield approach (Peppard, 2010). It is the hope of this researcher that such a voyage may now have begun in the HSE Dublin North East.

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Appendix 1: Information sheet for focus group participants

Information Sheet for Focus Group Participants

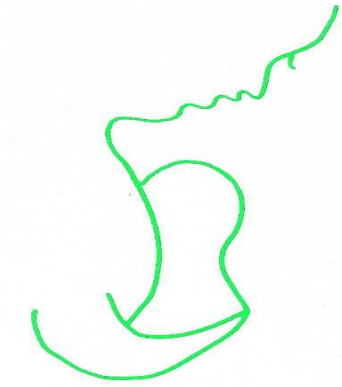
Introduction

The maternity information system (MIS) was installed in the Hospital in 2007. The introduction of the system was a huge cultural change which took place in very challenging times. The use of a computer to record clinical details in real time was a completely new concept within the hospital. The large amount of detail entered by Clinicians (Midwives, Consultants, Doctors) and Clerical staff into the MIS makes it a very rich source of information about both the Mother and Baby. However, those entering the information often appear to gain very few direct benefits from all of this.

What's going on?

With that in mind I would like to take a fresh look at the benefits that users would like to get from the system. It is also necessary to review what information is recorded, when and by whom and to take a fresh look at what information is needed by individuals, in what format and when it is needed. In other words how to we get the right information to the right people at the right time.

To do this I am asking for your help please. It is only by speaking with staff from right across the service that we will be able to identify what benefits we would like from the system, how these benefits could be delivered and what changes would be required to deliver them. Learning what the people using the system on a daily basis think would work better is very important. This would leave the users with a system that is working for them and is an important tool in helping to deliver quality services to Mothers and Babies.



What's involved?

You have been invited to take part in this study, along with others, as you are involved in service delivery to Mothers and newborns. This involves taking part in a focus group whose remit will be to agree upon essential and desired benefits that the service would like to pursue. It is intended that the focus group will work by adding it as an agenda item within existing meeting structures. This focus group will also be asked to consider approval for whatever workflow/process/system changes that may be required to release the benefits from the system.

Benefits:

This study is all about benefit. There is an opportunity for all involved to have their opinions reflect the way that the system develops and how it is used. Part of the study hopes to identify ways in which clinical staff entering the data can gain greater benefit from all of their effort. Getting more benefits from the system should lead to improvements for the service and its users. I hope that the study will provide a good business case for any changes to the MIS that are identified, which should assist with applying for funding. There is minimal risk to you in participating. I will be available during the period of the research study to discuss any concerns or issues.

Confidentiality:

If you agree to take part your identity will remain confidential, a code will be used in place of your name. Your name will not be published and will not be disclosed to anyone outside the study group. If your identity could be deduced I will make a list of quotations that I would like to use and will ask your permission to use them in advance of study completion. The information included in my report will be read and examined by academic staff in Trinity College Dublin as part of my examination. I will be the only person who will know to whom the code relates. All hand written records will be securely stored in a locked cabinet and any computer notes will be password protected. All data will be retained for five years and then disposed of by myself. In the extremely unlikely event that unlawful activities are reported to me in the context of the research interviews, I will be obliged to report the activity to the appropriate authorities.

Voluntary Participation:

Should you not wish to participate in the study, this will not affect your future treatment in terms of employment or career opportunities. If you agree to participate in the study, you can withdraw at any stage during the study and your future treatment in terms of employment or career opportunities will not be affected by this withdrawal.

Permission:

Permission to carry out this study has been obtained from the Director of Nursing and Midwifery Services, the General Manager Regional Women and Children's Directorate, the HSE North East Area Research Advisory Committee and Research Ethics Committee.

Further information: You can get more information or answers to your questions about the study, your participation in the study, and your rights, from Julie Bellew who can be telephoned at 087-8218811 or e-mailed at julie.bellew@hse.ie If the study team learns of important new information that might affect your decision to remain in the study, you will be informed at once.

Appendix 2: Consent form for focus groups

Consent Form for Focus Groups

Research Project: Releasing greater value from the Maternity Information System
Researcher: Julie Bellew

1. I confirm that I have received a copy of the Information Sheet for the above study. I have read it and understood it. I have received an explanation of the nature, purpose and duration of the study and what my involvement will be.

2. I have had time to consider whether to take part in this study and I have had the opportunity to ask questions.

3. I understand that my participation is voluntary and that I am free to withdraw at any time and without giving any reason and without prejudice to my legal and ethical rights.

1. I understand that information given by me as part of the focus group during this study will be noted and used for analysis purposes. I understand that the researcher will provide me with a copy of the decisions made by the focus group to confirm their accuracy.

4. I understand that the data generated throughout the research process may be used for publication in a healthcare journal at a later stage.

5. I understand that if the data is to be used in any other unrelated studies, then I shall be contacted and my permission sought for this to occur.

6. All information gathered during this study will be treated confidentially. All participants will be represented by a code to protect their identity.

7. I agree to take part in the above study.

_____ _____
Participants Signature Date

_____ _____
Researcher Signature Date

Contact details: **email:**julie.bellew@hse.ie **Phone:** 087-8218811

(The researcher will keep the original copy of this form and a copy will also be given to the participant).

Appendix 3: Letters to service managers

Researcher: Julie Bellew
Research Project: Releasing greater value from the Maternity Information System

Dear Director of Public Health Nursing,

I am currently completing the MSc in Health Informatics, at Trinity College Dublin. I propose to conduct a research study as outlined above as a requirement for the fulfilment of this course.

The aim of the study is to take a fresh look at the benefits that could be derived from the maternity information system which is in use in XXX hospital and to apply a process that will identify the business and system changes that would be required to make these gains. Some of the resulting system changes that may be identified could be proposed to the system vendor for inclusion in the next release, for other developments such as additional functionality (interfaces and such) the research will have provided a sound business case for funding application to the HSE. The whole study is about concentrating on the Information piece of IT - seeking to provide the right information to the right people at the right time. The study will also provide recommendations that could be taken on board for system use in XXXX hospital and for the national obstetric system also.

The purpose of this letter is to request your permission to discuss the research project with representatives of public health nursing and the liaison nurse in the hospital. A high level focus group of service managers from both clinical and business perspectives will be invited to identify the current business objectives of the service and to agree upon the individual business benefits that are desired. This group will also have a role in ratifying recommendations made by another focus group consisting of MIS system administrators with midwifery backgrounds, a business project manager and some system users who will be invited to assist in identifying the changes that may be required and who should own them.

Participation in the study is voluntary with the participants having the right to withdraw at any stage. Confidentiality of those who participate and their location will be upheld and they will have access to the findings of the study on its completion. The supervisor of this study will also have access to the findings and data collected as is deemed necessary. Names of participants and location will only be known by the primary researcher and will be treated with confidentiality. Ethical permission has been granted by the Healthcare Research Advisory Committee, HSE Dublin North East Area and the Research Ethics Committee of Trinity College Dublin.

Should you wish any further clarification on any aspects of the study please do not hesitate to contact me.

Yours Sincerely,

_____

Julie Bellew

Researcher: Julie Bellew
Research Project: Releasing greater value from the Maternity Information System

Dear Operations Manager,

I am currently completing the MSc in Health Informatics, at Trinity College Dublin. I propose to conduct a research study as outlined above as a requirement for the fulfilment of this course.

The aim of the study is to take a fresh look at the benefits XXX hospital would like to receive from the maternity information system and to apply a process that will identify the business and system changes that would be required to make these gains. Some of the resulting system changes that may be identified could be proposed to the system vendor for inclusion in the next release, for other developments such as additional functionality (interfaces and such) the research will have provided a sound business case for funding application to the HSE. The whole study is about concentrating on the Information piece of IT - seeking to provide the right information to the right people at the right time. The study will also provide recommendations that could be taken on board for system use in XXXX and for the national obstetric system also.

The purpose of this letter is to request your permission to discuss the research project with staff members. A high level focus group of service managers from both clinical and business perspectives will be invited to identify the current business objectives of the service and to agree upon the individual business benefits that are desired. This group will also have a role in ratifying recommendations made by another focus group consisting of MIS system administrators with midwifery backgrounds, a business project manager and some system users who will be invited to assist in identifying the changes that may be required and who should own them.

Participation in the study is voluntary with the participants having the right to withdraw at any stage. Confidentiality of those who participate and their location will be upheld and they will have access to the findings of the study on its completion. The supervisor of this study will also have access to the findings and data collected as is deemed necessary. Names of participants and location will only be known by the primary researcher and will be treated with confidentiality. Ethical permission has been received from the Healthcare Research Advisory Committee, HSE Dublin North East and the Research Ethics Committee of both the HSE Dublin North East and Trinity College Dublin.

Should you wish any further clarification on any aspects of the study please do not hesitate to contact me.

Yours Sincerely,

_____
Julie Bellew

Researcher: Julie Bellew
Research Project: Maximising the benefits from the Maternity Information System

Dear Director of Nursing and Midwifery,

I am currently completing the MSc in Health Informatics, at Trinity College Dublin. I propose to conduct a research study as outlined above as a requirement for the fulfilment of this course.

The aim of the study is to take a fresh look at the benefits XXX hospital would like to receive from the maternity information system and to apply a process that will identify the business and system changes that would be required to make these gains. Some of the resulting system changes that may be identified could be proposed to the system vendor for inclusion in the next release, for other developments such as additional functionality (interfaces and such) the research will have provided a sound business case for funding application to the HSE. The whole study is about concentrating on the Information piece of IT - seeking to provide the right information to the right people at the right time. The study will also provide recommendations that could be taken on board for system use in XXXX and for the national obstetric system also.

The purpose of this letter is to request your permission to both undertake the study in the hospital and to discuss the research project with obstetric staff. A high level focus group of service managers from both clinical and business perspectives will be invited to identify the current business objectives of the service and to agree upon the individual business benefits that are desired. This group will also have a role in ratifying recommendations made by another focus group consisting of MIS system administrators with midwifery backgrounds, a business project manager and some system users who will be invited to assist in identifying the changes that may be required and who should own them.

Participation in the study is voluntary with the participants having the right to withdraw at any stage. Confidentiality of those who participate and their location will be upheld and they will have access to the findings of the study on its completion. The supervisor of this study will also have access to the findings and data collected as is deemed necessary. Names of participants and location will only be known by the primary researcher and will be treated with confidentiality. Ethical permission is being sought from the Healthcare Research Advisory Committee, HSE Dublin North East Area and the Research Ethics Committee of Trinity College Dublin. Research will commence once this has been obtained.

Should you wish any further clarification on any aspects of the study please do not hesitate to contact me.
Yours Sincerely,

_____
Julie Bellew

Appendix 4: Presentation to focus groups

Food for thought on Benefits Realisation....

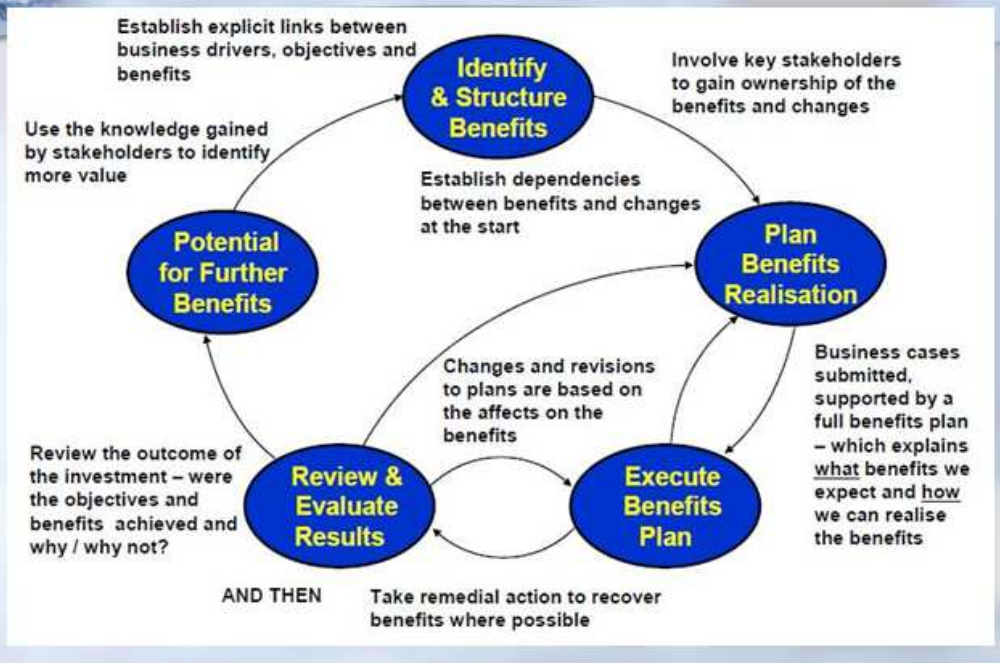
1. Technology on its own does not have any inherent value.
2. Benefits arise when technology enables people to do things differently.
3. Only business managers and users can release business benefits.
4. All projects have outcomes, not all outcomes are benefits!
5. Benefits must be actively managed to be obtained.

(Cranfield methodology)

Definitions

- Benefit management :
  'The process of organising and managing so that the potential benefits from using technology are actually realised'.
- Business benefits:
  An advantage on behalf of a stakeholder or group of stakeholders
- Stakeholders
  Anyone who will benefit from or be affected by the changes

Benefits Realisation Life Cycle



What's involved?

- Benefits
  - Need to be specific – what exactly do we want / do we expect
  - Need to be measurable – how will we know when a benefit has been delivered
  - Need to be owned – who is responsible for ensuring this benefit is delivered, must have a vested interest in the benefit
- Changes
  - Business Changes – new ways of working
    - Are there things that we need to do differently to achieve this benefit?
    - Workflow issues?
    - Need evidence of change – how will we know change has happened?
    - Need an owner – who is responsible? Who can ensure change is made
  - Enabling Changes - prerequisites
    - What once off changes/supports are needed to achieve this benefit
    - E.g.. Training, protocols/policies – which babies are entered on the system

A special word on Stakeholders

- Their role
  - How do they work currently?
  - Influence ?
- What's in it for them?
  - What gain will be involved
- What changes will they or their colleagues be required to make?
- How willing are they to make the necessary changes?
- Plans on how to influence those who are not willing to change!!
- Need for a stakeholder analysis

What about them?

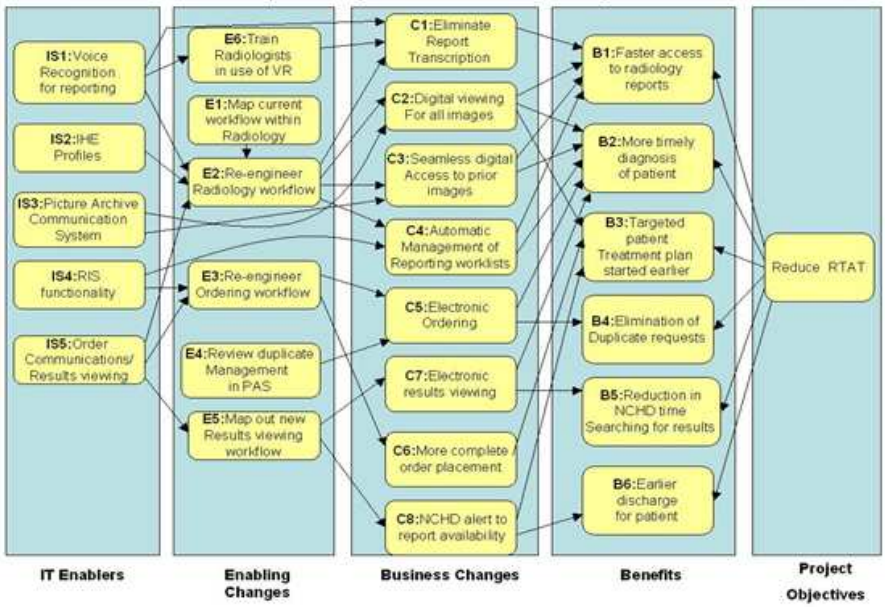
- **What needs to happen**
  - Involvement of stakeholders
  - Spirit of collaboration
  - Active ownership of benefits
  - Energized and focused Communications Plan
  - Peer to peer networks – forums for discussion
- **Who are they?**

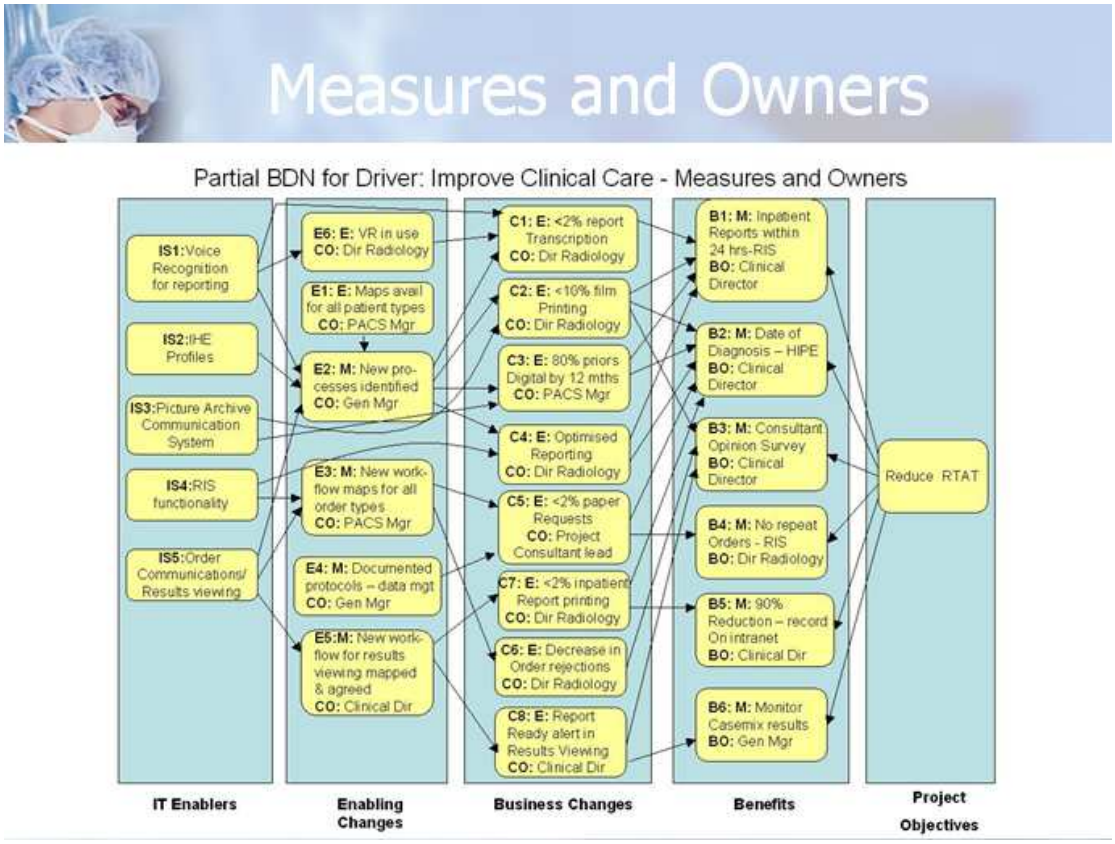
Benefits Realisation Plan

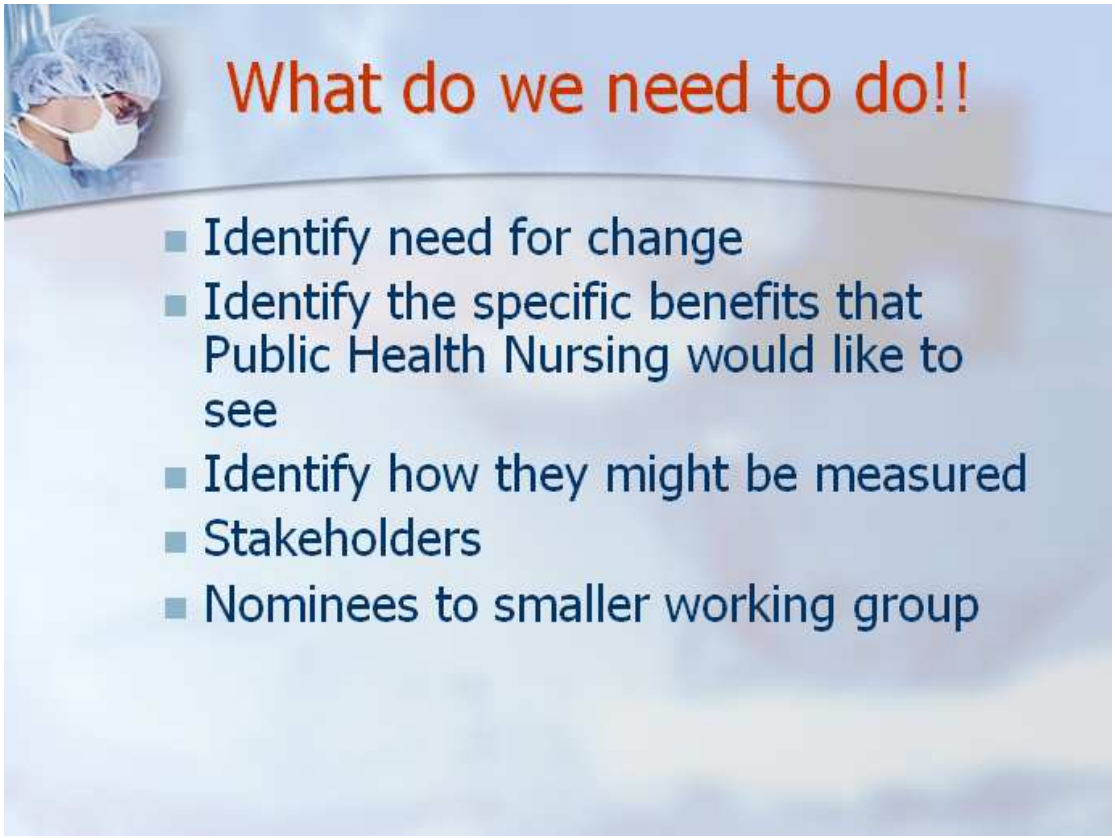
- Why do we want to improve?
  - (These are the business drivers)
- What improvements (Benefits) do we want / could we get?
- Where will improvements occur?
  - How can they be measured?
- What changes are needed for improvement?
- Who is responsible for making changes?
- Who will be affected by the changes?
- How and when can the changes be made?

Benefits Dependency Network

Partial Benefits Dependency Network for Driver: Improve Clinical Care




Measures and Owners
Partial BDN for Driver: Improve Clinical Care - Measures and Owners
IS1:Voice Recognition for reporting
IS2:IHE Profiles
IS3:Picture Archive Communication System
IS4:RIS functionality
IS5:Order Communications/ Results viewing
E6: E: VR in use CO: Dir Radiology
E1: E: Maps avail for all patient types CO: PACS Mgr
E2: M: New pro-cesses identified CO: Gen Mgr
E3: M: New work-flow maps for all order types CO: PACS Mgr
E4: M: Documented protocols – data mgt CO: Gen Mgr
E5:M: New work-flow for results viewing mapped & agreed CO: Clinical Dir
C1: E: <2% report Transcription CO: Dir Radiology
C2: E: <10% film Printing CO: Dir Radiology
C3: E: 80% priors Digital by 12 mths CO: PACS Mgr
C4: E: Optimised Reporting CO: Dir Radiology
C5: E: <2% paper Requests CO: Project Consultant lead
C7: E: <2% inpatient Report printing CO: Dir Radiology
C6: E: Decrease in Order rejections CO: Dir Radiology
C8: E: Report Ready alert in Results Viewing CO: Clinical Dir
B1: M: Inpatient Reports within 24 hrs-RIS BO: Clinical Director
B2: M: Date of Diagnosis – HIPE BO: Clinical Director
B3: M: Consultant Opinion Survey BO: Clinical Director
B4: M: No repeat Orders - RIS BO: Dir Radiology
B5: M: 90% Reduction – record On intranet BO: Clinical Dir
B6: M: Monitor Casemix results BO: Gen Mgr
Reduce RTAT
IT Enablers
Enabling Changes
Business Changes
Benefits
Project Objectives


What do we need to do!!
Identify need for change
Identify the specific benefits that Public Health Nursing would like to see
Identify how they might be measured
Stakeholders
Nominees to smaller working group


Here we go....

Appendix 5: Template for seven questions grid

High Level Objective:	
Why do we need to improve performance?	1. 2.
What improvements do we want/could we get?	1. 2.
Where will improvements (benefits) occur? How can they be measured? Can they be quantified? Can a financial value be put on it?	<u>Benefits:</u> B1. M1. B2. M2. B3. M3. B4. M4. B5. M5. B6. M6.
What changes are needed for improvement?	C1. C2. C3. C4. C5. C6. C7. C8.
Who is responsible for making changes?	CO1: CO2: CO3: CO4: CO5: CO6: CO7: CO8:
Who will be affected by the changes?	C1: C2: C3: C4: C5: C6: C7: C8:
How and when can changes be made?	<u>How & When</u> C1: C2: C3: C4: C5: C6: C7: C8:

Appendix 6: Benefits realisation notes

Benefits Realisation Workshop in XXX Hospital 14th April 2010

Work area: OPD Unit 1 Unit 2 Labour Ward EPAU FAU MLU
Multiple areas

Job Title (optional): _____

Name (optional): _____

What two benefits would you like to see:

Benefit 1:

Benefit 2:

Appendix 7: Stakeholder analysis

Stakeholder	Benefits Perceived	Changes Needed	Perceived Resistance	Commitment (Current & Required)				
				Anti	None	Allow it to happen	Help it happen	Make it happen
Definitions	Individual and organisational benefits for each stakeholder and group	Changes to be made by or which affect each stakeholder or group	Resistance of each stakeholder or group and reason for this	Are against the project and will attempted to stop it or hinder progress	Are either unaware the project is going on or do not think it affects them	Will comply when requested to do tasks required by the project eg. Attend training	Will provide knowledge, time and resource to ensure the project meets objectives and time scales	Will instigate, oversee or carry out changes and ensure that all relevant changes are completed successfully
Midwifery Staff								
OPD Midwives	1. Clear, legible obstetric history available at all times	None at the moment	None at the moment			C ▶ R		
EPAU Midwives	1.(Individual) None identified at this time 2. (Organisational) Provide details on all antenatal attendance ate EPAU 3. More complete record available	Commence using system	None at the moment			C ▶ R		
Antenatal Midwives	1. (Individual) None 2. (Organisational) would improve statistics available on length of stay and reason for same - could contribute evidence based change	Need to discharge all Mothers when leaving ward	None at the moment			C ▶ R		
Labour Ward Midwives	1. (Individual) None - don't have the time to use system 2. (Organisational) would improve support for mother and baby both within hospital and when discharged	Need to enter delivery details in real time	High expectation of resistance. To date system is in daily use by few of the midwives.	C ▶				R

Stakeholder	Benefits Perceived	Changes Needed	Perceived Resistance	Commitment (Current & Required)				
				Anti	None	Allow it to happen	Help it happen	Make it happen
Post Natal Midwives	1. Could fully finish with Mother + Baby at discharge 2. Less inquiries from Liaison 3. Would not have to leave PHN info to reception at weekends 4. No duplication of data entry i.e. paper & MIS	1. Discharge Mum & Baby at bedside	As the benefits outway the changes required it there should be minimal resistance however it is a big change to use MIS at the bedside. Each Midwife will need to have the changes discussed outlining the benefits			C ►		R
Student Midwives	1. (Individual) provides training and practice on electronic record keeping 2. (Organisations) provides support to labour ward midwives.	Suggest assistance of student midwives within changed workflow	None at the moment			C ►	R	
Midwifery Managers								
Ante/postnatal CMM3	1. (Individual) Better morale (Organisational) 2. Improved flow of info within department 3. Improved flow of info to Liaison/PHN and therefore better handover of care 4. Improved NMS processes 5. Improved bed management info	1. Need to constantly enforce changes agreed	None			C ►		R

Stakeholder	Benefits Perceived	Changes Needed	Perceived Resistance	Commitment (Current & Required)				
				Anti	None	Allow it to happen	Help it happen	Make it happen
Labour ward CMM3	(Organisational) 1. Bedding in of the MIS 2. Knowledge that staff contributing to other advantages 3. Removal of 'thorn from side' due to non-entry of information	1. Need to constantly enforce changes agreed	None at moment			C ►		R
Manager of Women's and Children's Services	(Organisationa) 1. Better record keeping 2. Use of information to improve care 3. Better communication 4. More efficent use of time 5. (Individual) Better morale	1. Need to constantly ensure changes agreed are happening 2. Assist with securing clerical support each day for Liaison 3. Promote use of information within unit	None					C ► R
Antenatal CMM2's	(Organisational) 1. Better information on admissions during pregnancy 2. Information gathering on discharge by 11am 3. (Individual) Better relationship with Liaison	1. Need to ensure all Mothers and babies are being discharged in real time 2. Work with MIS team to establish reporting needs	None			C ►		R
Labour ward CMM2's	1. NONE - staff unhappy having to use the system	1. Need to constantly enforce changes agreed	Don't see/understand reasons for it and it is an overhead for their dept.		Some are here C ►	Others are here C ►		R

Stakeholder	Benefits Perceived	Changes Needed	Perceived Resistance	Commitment (Current & Required)				
				Anti	None	Allow it to happen	Help it happen	Make it happen
Post Natal CMM2's	(Organisational) 1. Streamline PHN info 2. Improve NMS info available 3. Better Morale 4. (Individual) Better relationship with Liaison 5. More efficient and effective handover of care to PCCC	1. Ensure staff discharge in real time 2. Support new workflows for info to liaison	None - very supportive of change - complete acknowledgement that current system is not working			C ►		R
Medical Staff								
Consultants	1. (Organisational) Understand clinical audit benefits at a high level	None - just continue as is	None at moment			C ► R		
SHO's	1. (Organisational) Understand clinical audit benefits at a high level 2. (Individual) Can provide information for research projects	None - just continue as is	None at moment			C ► R		
Registrars	1. (Organisational) Understand clinical audit benefits at a high level 2. (Individual) Can provide information for research projects	None - just continue as is	None at moment			C ► R		
Clerical Staff								
Birth Notification Staff	1. (Organisational) Discharge details available earlier	None - just continue as is	None at moment			C ► R		

Stakeholder	Benefits Perceived	Changes Needed	Perceived Resistance	Commitment (Current & Required)				
				Anti	None	Allow it to happen	Help it happen	Make it happen
Ward Clerk	1. (Individual and Organisational) Automatic production of NMS and discharge documents - huge time saving.	Run two reports daily	None at moment			C ►	R	
Medical Records Staff (Admissions Clerical Staff)	None (individual) 1. (Organisational) Improved record keeping. 2. Time saving if contact details are always correct.	Check address details when admitting patients	None at moment			C ►	R	
Ultrasound clerical support	None	None - just continue as is	None at moment			C ► R		
Liaison Nurses	(Individual and Organisational) 1. Better communication 2. More efficent use of time 3. Better morale		Concerns re increased responsibility - ownership			C ►		R
Liaison Clerical	(Organisational) 1. More efficient use of time 2. Org benefit of improved flow of information 3. Proof of timely notification	1. Trainning required in Lotus Notes, MS Excel and mail merge in MS Word 2. Run and email reports to LHO daily	None at moment			C ►		R
PHN Staff								
Directors of PHN	(Organisational) 1. Improved efficiency of staff 2. Improved KPI figures 3. (Individual) Better Staff Morale	Identify contingency arrangements for clerical staff leave	None at moment				C ►	R

Stakeholder	Benefits Perceived	Changes Needed	Perceived Resistance	Commitment (Current & Required)				
				Anti	None	Allow it to happen	Help it happen	Make it happen
Public Health Nurses	(Organisational) 1. More efficient use of time 2. Improved care delivery	Commence using information provided to delivery on benefits identified for Mother's and Baby's	None at moment		C ►	R		
PHN Clerical Support	(Organisational) 1. Automated workflow 2. Org benefit of improved flow of information 3. Improved NMS process - should save time and effort	1. Add PHN name to each of the forms provided in the email from Liaison. 2. Print out forms 3. Use new NMS register in MS Excel	None at moment		C ►			R

Appendix 8: Action plan

Action plan for Labour Ward:

1. Meet with CMM2's and CMM3 to gain commitment to change
    a. Explain reasons why it is needed (see known facts below)
    b. Explain agreements to reduce dataset
    c. Discuss workflow changes required
        - √ All admissions entered in admissions room
        - √ Login to MIS part of labour ward setup
        - √ For induced women start onset of labour
2. Get a list of all labour ward midwives
3. Arrange information sessions on a 1 or 2 to 2 basis (two MIS staff)
    a. Gives the midwives an opportunity to hear from first hand why it is needed
    b. Gives an opportunity to express their opinions and to make comments
    c. If there are areas of concern for midwife they have a chance to state it (e.g. need more training – lack of confidence on the computer)
4. Provide list of changes required to vendor for inclusion in next build

Known facts

The very best person to enter the details onto the MIS is the midwife that was present at the birth.

By entering this information once it can be used for the following:

- ✓ Work towards replacing the purple baby chart
- ✓ Pass information over to the post natal dept
- ✓ Information used by breastfeeding nurse to help and support mothers to keep it going.
- ✓ Inform the liaison nurse that a birth has taken place
    - Alerts PHN's that a birth has taken place in their area
    - Hands over really good information on the birth and health of Mother and baby to the PHN
    - Gives them a better chance to get to the Mother quickly (61% in Nov)
        - Better chance of maintaining breastfeeding for Primagravida
        - Support clinical care after discharge – e.g. better wound care – could have positive impact on postnatal readmission; help with incontinence issues; umbilical care etc.
        - Gives Mother support with coping skills – very early discharge
        - Better chance of meeting PKU/metabolic screening timeframe
- ✓ Trying to streamline the discharge process – if all of the information is there
- ✓ Used for birth notifications to the GRO – speeds up Children's allowance!!
- ✓ Used for National Perinatal Reporting Centre.

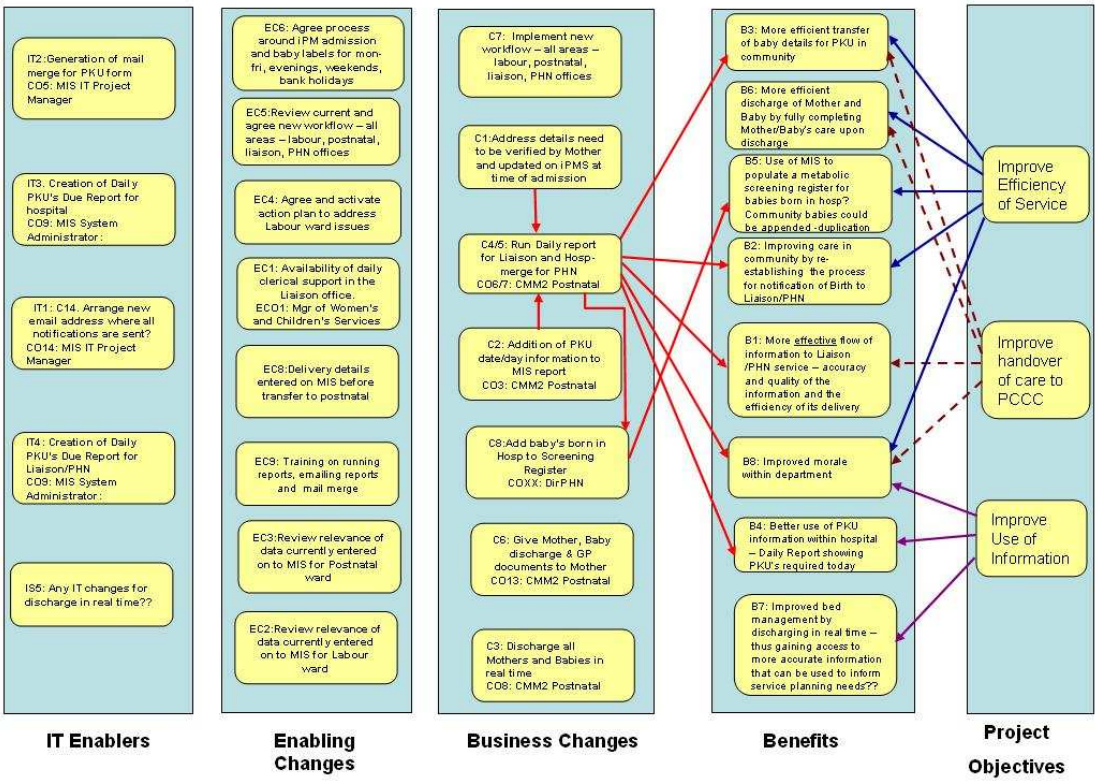
If the delivery is not put up then:

- ✗ Quality of the information is not as good – best person is midwife
- ✗ Sick babies not available for import onto neonatal system

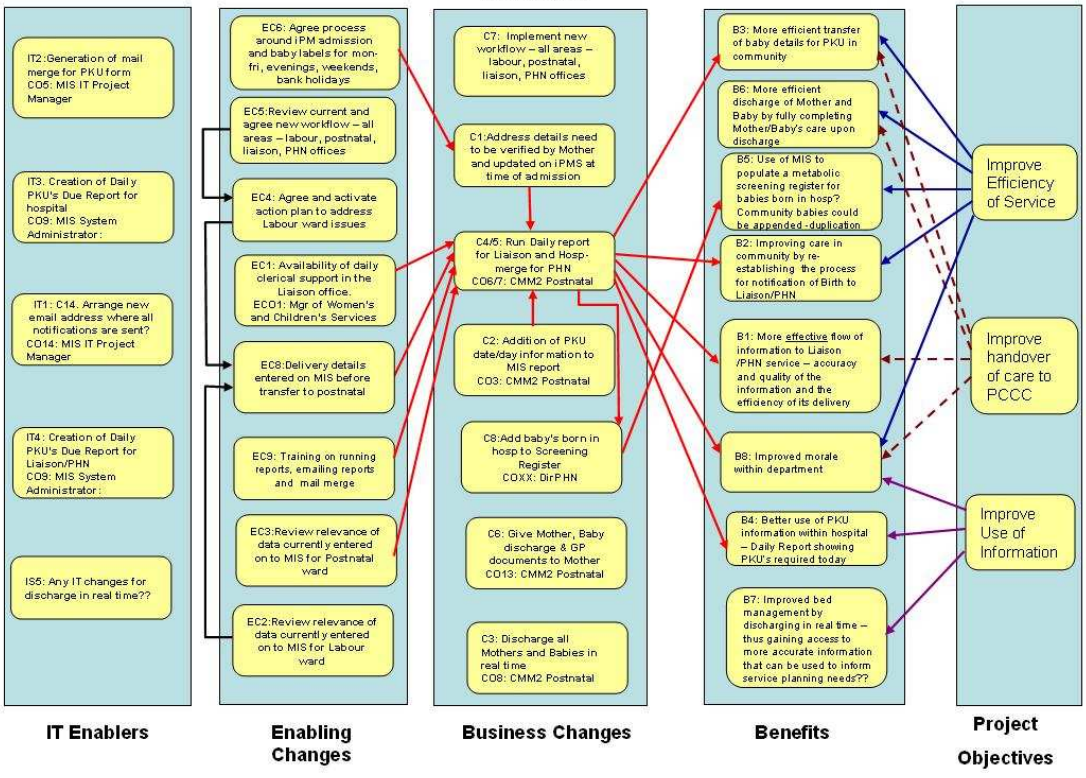
- Delays in notifying the PHN – Mother left at home without support for longer than necessary
- Delays in newborn metabolic screening
- Stops postnatal discharging in real time – leaves discharge long-winded.

Appendix 9: PowerPoint breakdown of benefits dependency maps

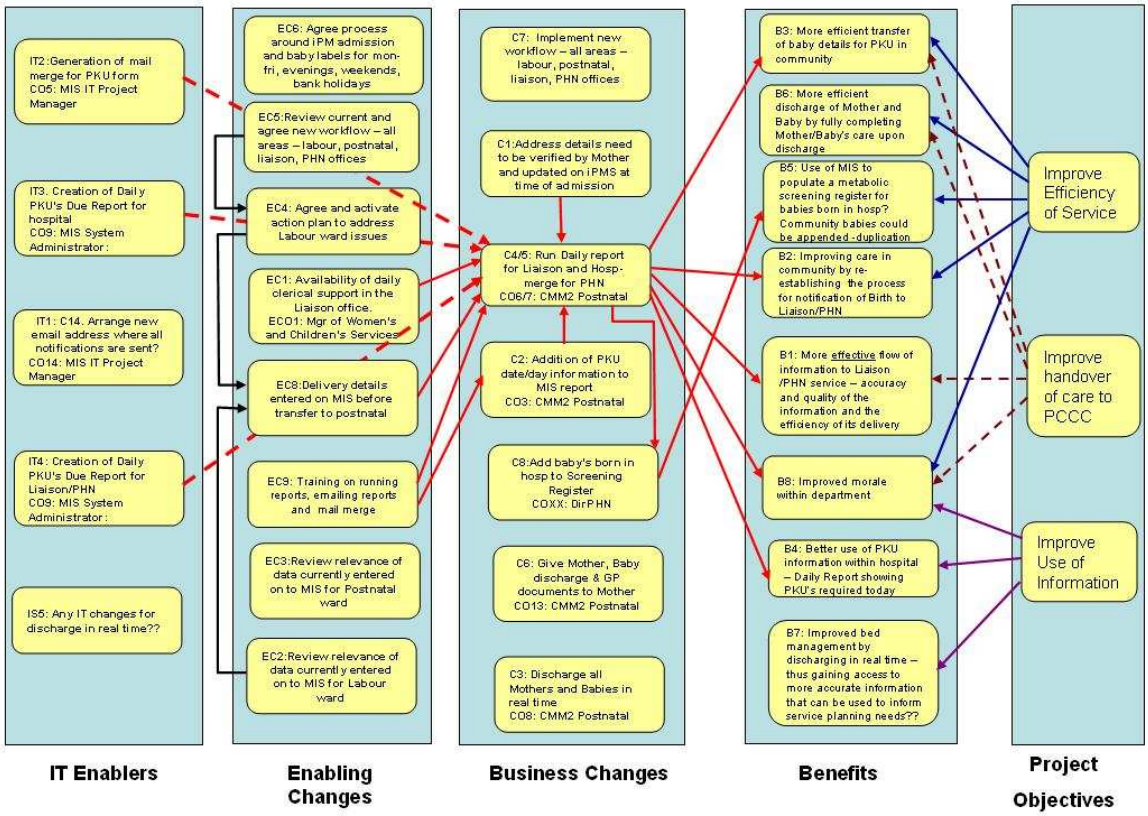
Making Business changes 1,2,4, 5 and 8 happen, can help benefits 1,2,3,4,5 and 8 to be delivered



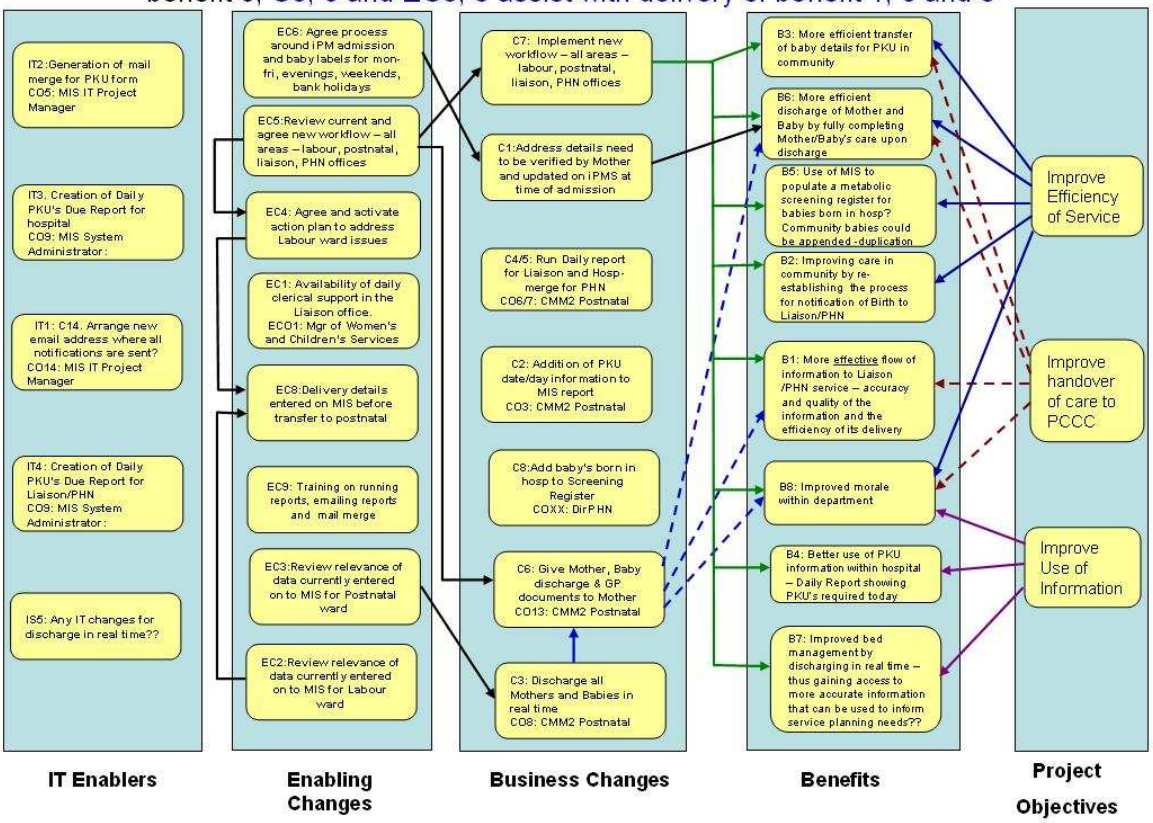
To make business change 4 and 5 happen Enabling Changes (EC) 1, 2, 4, 6 and 8 must be delivered



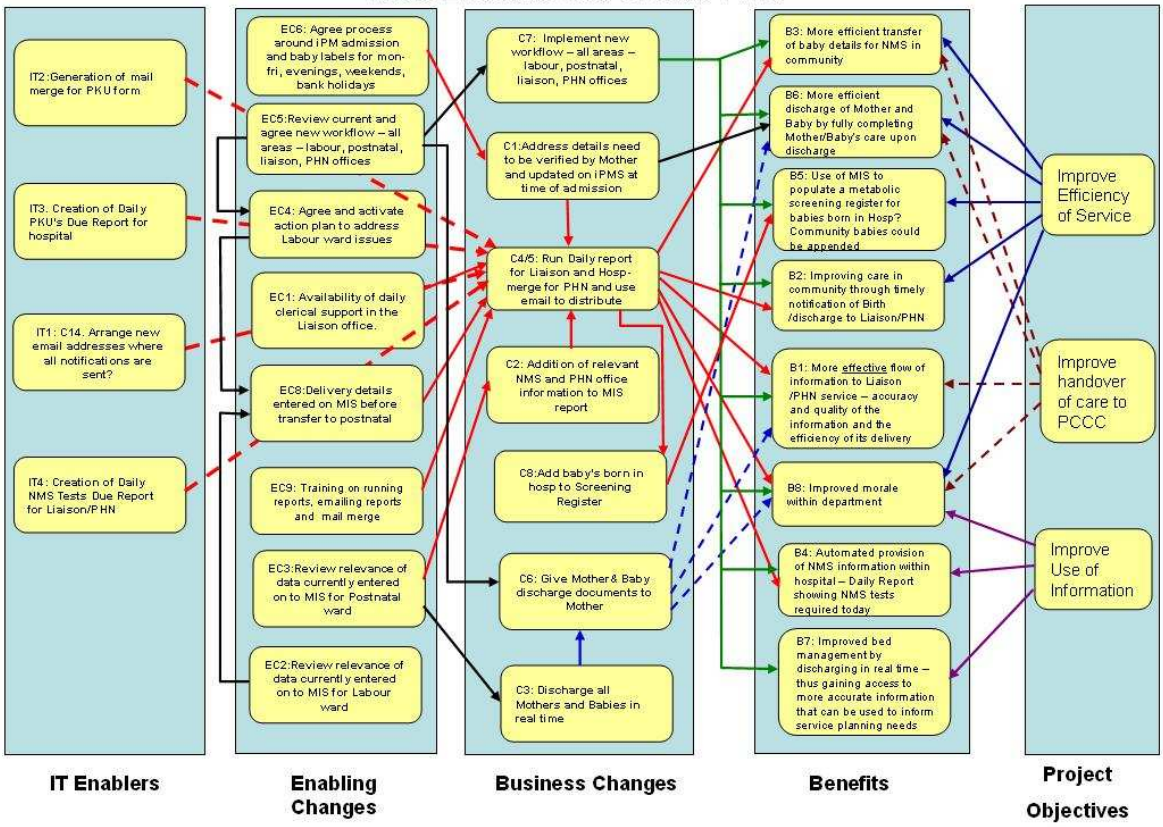
To make business change 4 and 5 happen IT changes 1,2 and 3 must be in place



Changes C7 and EC5 add to the delivery of all benefits; C1 and EC6 assist with delivery of benefit 6; C3, 6 and EC3, 5 assist with delivery of benefit 1, 6 and 8



Benefits Dependency Network 1 for Drivers: Providing Best Care for Mother's & Baby's and More Effective Use of Staff Time



Appendix 10: Draft and final discharge documents

Seirbhíse Sláinte
Health Service Executive

***** NEONATAL METABLOIC SCREENING *****
Transfer of Information to Community Health Care Units
From Liaison Dept. 555-2222222

Received from: _____ **Unit:** _____ **Date:** _____/__/_____ **Time:** _____

SECTION 1. TO BE COMPLETED BY LIAISON STAFF:

MOTHER'S FULL NAME: Minnie Mouse BABY'S SURNAME: Mouse

ADDRESS: The House North Road Drogheda Co Louth CHART NO: D1111111

TEL NO'S; 1) LAND LINE: 0411111111 2) Next of Kin Phone: 0412222222

DOB: 20/08/2010 TIME: 19:29:28 Sex: **Male** PARA: **2+0**

BIRTH WEIGHT: **3160** GRMS TIME OF FIRST FEED: METHOD: **Artificial[1]**

TEST DUE DATE: 20/08/2010 DAY: **Monday** BETWEEN / BEFORE: _____

FAXED/PHONED TO: _____DATE: _____TIME: _____CONFIRMATION Y□ / N □

SECTION 2. TO BE COMPLETED BY CLERICAL OFFICER PHN DEPARTMENT:

PHN TO RECEIVE INFORMATION: _____ AREA CODE: _____

REFERRAL SOURCE: _____FAXED to HEALTH CENTRE □ PHONED to PHN □

DATE: _____TIME: _____CONFIRMATION RECEIVED YES □ / NO□

SIGNED: DATE:

SECTION 3 TO BE COMPLETED BY PHN: 1st Test □ Repeat □

COLLECTION DATE _____POSTED BY_____DATE_____

CARD NUMBER: _____REGISTRATION NUMBER: _____

SIGNED: _____DATE: _____

PARENTAL CONSENT: **The Neonatal screening procedure has been explained to me and I consent to the blood test being carried out on my baby.**

Signature: _____ **Date:** _____

First draft of document generated by MIS for Community

Seirbhís Sláinte Health Service Executive

*** DISCHARGE NOTIFICATION ***

Information for Community Health Care Units

From Liaison Dept. 555-2222222

MOTHER'S DETAILS | **PHN Name: Area Code:**

MOTHER'S FULL NAME: **Snow White DISCHARGE DATE: 26/05/2010**

ADDRESS: **Big House Kells Co Meath** MOTHER'S MRN: **D1111111**

ALTERNATE DISCHARGE ADDRESS: **Another house, Navan, Co. Meath**

TEL NO'S: MOTHER: 0863333333

NEXT OF KIN: Phone: 0864444444

BABY'S FATHER'S NAME: **Prince Charming**

Preferred contact **Prince Charming, 08711111111 08711111111 041888888**

BABY DETAILS Forename:_____ Surname:_____

DOB: **24/05/2010** TIME: **9:08:00 AM** Sex: **Female** PARITY AT BOOKING: **0+1**

BABY'S MRN: D123456 GESTATION AT BIRTH: **41** BIRTH WEIGHT: **3180** GRMS

APGAR SCORES: **9 at 1 min 10 at 5 mins** PLACE OF DELIVERY: **Delivery Suite[1]**

FEEDING AT DELIVERY: **Breast[0]** FEEDING AT DISCHARGE: **Breast[1]**

METHOD OF DELIVERY: **Spontaneous - Vertex[1]** OUTCOME OF BIRTH: **Livebirth**

IS BABY DISCHARGED WITH MOTHER: **Yes**

WAS BABY ADMITTED TO NNU: **No** If yes then REASON:

OTHER RELEVANT DETAILS: **?RETAINED PRODUCTS FOR SCAN , HOME ON ANTIBIOTICS. HB 8.4G FOR FBC AT 6 WEEKS WITH GP**

GP: **Dr Dolittle, Kells, Co. Meath**

METABOLIC SCREENING 1st Test ☐ Repeat ☐

Test STATUS: **To be given in Community** TEST DUE DATE: **28/05/2010**

COLLECTION DATE _____ **POSTED BY** _____ **DATE** _____

CARD NUMBER: _____ **REGISTRATION NUMBER:** _____

SIGNED: _____ **DATE:** _____

Final draft of document generated by MIS for Community

Appendix 11: Letter to labour ward midwives

MIS Update

Introduction

Hello everyone, we wanted to acknowledge the great effort that you are all making to get the delivery details up on the MIS before the Mother and Baby leave the labour ward and in particular the rate at which the neonatal admissions are getting up onto the MIS and we wanted to let you know what we are hoping to do with that information. The large amount of detail that you enter into it makes the MIS a very rich source of information about both the Mother and Baby.

What difference can it make?

The information that is entered once by you is used over and over again. There is no doubt that that the very best person to enter the delivery details onto the MIS is the midwife that was present at the birth.

When the delivery is put up the information can be used to:

- √ Pass information over to the post natal dept
- √ Provide accurate information to the breastfeeding nurse in hospital to help and support mothers to keep it going.
- √ The liaison nurse can be informed that a birth has taken place, this in turn:
  - √ Alerts PHN's that a birth has taken place in their area
  - √ Hands over really good information on the birth and health of Mother and baby to the PHN
  - √ Gives them a better chance to get to the Mother quickly
  - √ Better chance of maintaining breastfeeding, especially for the Primagravida
  - √ Support clinical care after discharge – e.g. better wound care; help with incontinence issues; umbilical care etc.
  - √ Gives Mother support with coping skills
  - √ Better chance of getting PKU/metabolic screening taken at the right time.

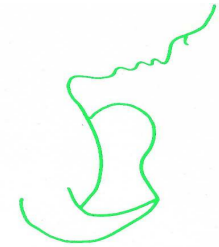
The whole reason for putting the information on the MIS is to help provide better care for our Mothers and Babies.

If the delivery is not put up then:

- × Quality of the information is not as good – best person is midwife
- × Sick babies not available for import onto neonatal system
- × Delays in notifying the PHN – Mother left at home without support for longer than necessary

- Stops postnatal discharging in real time – leaves discharge long-winded.

What we are trying to do?



At the moment when our Mothers and Babies are discharged into the community just over 50% of them get a visit from the PHN within 2 days. Of the Mothers who do not get a visit in time 25% of those are because the PHN was not notified in time – this is averaging at around 50 Mothers per month in County XXXX, we could double that if XXXX was taken into consideration, not to mention XXXXX. So it is fair to say that around 100 Mothers per month are not getting the support that they need.

To address this clinical risk issue we are going to try to change the way that the care of the Mother and Baby are handed over to community.

The labour ward has a really key role in trying to get this working properly. We do know that it is not always easy to find the time to enter the details in to the MIS. One of the issues you have raised is the number of times that you are being asked the same question again and again. A few weeks ago some of the CMM2's went through the labour ward parts of the MIS with us and we all agreed on particular items that are not needed. This is being sent to the vendor however it will take some time to get it sorted.

How can we help?

In the mean time we are proposing that the MIS administrators will base themselves in the department for a few weeks from Monday 31st May. During this time they will run through the MIS with each of you, showing the areas that are no longer required. They will also work with you to find out how we could change the way that the MIS is used. For example:

- When a Mother arrives at the admissions room her admission should be completed there and then if she is staying in.
- When a labour ward is being prepared for use could the computer be switched on and logged into the MIS with the patient details could be opened?
- For women being induced could the onset of labour be completed either in part or fully before the baby is actually born?
- Are there times when the student nurses could help?

There isn't one single magic way of using the system that will make it easier however working directly with you we hope to find different ways to use it that may help.

In return, we promise to ask the system vendor to make the changes you have suggested and we will work with you to try to find a way to enter most babies onto the system. There will always be times when it is just too busy to do so but with the changes above and with suggestions from you we hope that we will get there.

Appendix 12: Letter to postnatal ward midwives

MIS Update

Introduction

Hello everyone, we wanted to acknowledge the great effort that you are all making to get the discharge details up on the MIS before the Mother and Baby leave the hospital. From the time when the MIS first went live you have always been very supportive and have entered your discharge details on the day of discharge. We wanted to let you know why we are asking for real time entry of the information and what we are hoping to do with that information. The detail that you enter into it makes the MIS a very rich source of information about both the Mother and Baby.

What difference can it make?

You are the last person to provide clinical care to the Mother and Baby before discharge. The next person to provide care and support is the PHN and we need to improve the handover of this care.

When the discharge details are entered in real time the information can be used to:

- √ Inform liaison of discharges and PKU's due in community on the day of discharge
- √ This in turn hands over really good information on the birth and health of Mother and baby to the PHN, which in turn:
  - √ Gives them a better chance to get to the Mother quickly
  - √ Better chance of maintaining breastfeeding, especially for the Primagravida – you have spent a lot of time with some Mothers helping to get breastfeeding established – this can sometimes be in vain when the Mother doesn't get support when home.
  - √ Support clinical care after discharge – e.g. better wound care; help with incontinence issues; umbilical care etc.
  - √ Gives Mother support with coping skills
  - √ Better chance of getting PKU/metabolic screening taken at the right time.

The whole reason for putting the information on the MIS in real time is to help provide better care for our Mothers and Babies.

If the discharge is not put up in real time then:

- ✘ We will not be able to improve the way that we inform community that a baby has been born.
- ✘ Quality of the information that you enter often will not get to the PHN in time to be of real help for our Mother's and Baby's
- ✘ Delays in notifying the PHN – Mother left at home without support for longer than necessary

What we are trying to do?

At the moment when our Mothers and Babies are discharged into the community just over 50% of them get a visit from the PHN within 2 days. Of the Mothers who do not get a visit in time 25% of those are because the PHN was not notified in time – this is averaging at around 50 Mothers per month in County XXX, we could double that if XXXX was taken into consideration, not to mention XXXXX. So it is fair to say that around 100 Mothers per month are not getting the support that they need.

To address this clinical risk issue we are going to try to change the way that the care of the Mother and Baby is handed over to community. We can use the information on the MIS to email Liaison and therefore PHN's that a Mother from their area has been discharged – this is much faster than the current way of letting them know. This one page includes details of the birth and the discharge clinical details. In particular it includes the discharge comments that you enter onto the system.
The discharge documents that you print out are currently posted out to the relevant PHN – this is very slow and is often the only way that the PHN knows that a birth has taken place. If the discharge documents could be given to the Mother to take home they would be available for the PHN when she visits.

We do know that it is not always easy to find the time to enter the details in to the MIS when discharging due to pressure for beds. However, if the details are entered onto the system in real time then they do not have to be written on the pink sheet as well – this would eliminate the doubling up of your work. It also means that when the Mother and Baby leave the hospital that you are completely finished with their care.
One of the issues you have raised is around the questions you are being asked by the MIS. A few weeks ago the MIS administrators went through the Mother and Baby discharge parts of the MIS with representatives of yourselves and it was agreed that particular items were not needed. This is being sent to the vendor however it will take some time to get it sorted.

How can we help?

In the mean time, it has been agreed that the data inputters will provide some assistance each day that they are there to help enter the discharge details. The computer on wheels has been provided to see if it would help. If you would like any help using it or becoming familiar with it please let us know. Printers have been provided in the two 6 bed wards – this should help with entering the details. If you can think of different ways/times when the discharge on the MIS could be completed please let us know.
There isn't one single magic way of using the system that will make it easier however working directly with you we hope to find different ways to use it that may help.

In return, we promise to ask the vendor to make the changes you have suggested and we will work with you to try to find the best way to use the system. There will always be times when it is just too busy to do so but with the changes above and with suggestions from you we hope that we will get there.

Appendix 13: Final seven question grid for PHN/Liaison group

High Level Objective A: Timely delivery of PHN Newborn services High Level Objective B: Improve the flow of information from Hospital to PCCC High Level Objective C: Improve efficiency of the PHN Newborn service	
Why do we need to improve performance?	**1.** Not reaching all Mothers within 48 hours of discharge from Hospital **2.** Flow of information from Hospital to Community needs to be optimised **3.** PHN time is not being used to best effect **4.** Not all families are not receiving optimal support from the service due to delays in access – need to provide an equitable service in terms of access **5.** PHN does not always have all of the information required
What improvements do we want/could we get?	**1.** Meet the KPI of the PHN visiting the Mother at home within 48 hours of discharge from hospital **2.** To allow the PHN to prioritise visits/workload **3.** To provide the PHN with all of the relevant information required **4.** To provide support to Parents and particularly the Mother when it is needed i.e.' the right input at the right time'. **5.** To attend to Clinical Needs of all Mothers and Babies in a timely fashion **6.** To continue New Parent Education **7.** To support and enhance the professional standing of the PHN Service
Where will improvements (benefits) occur? **How can they be measured?** **Can they be quantified?** **Who will own them?** **Notes:** **B1 = Description of the Benefit** **M1 = Method of measuring benefit 1** **The benefits listed here are not in any order of preference**	**Benefits:** **B1: Support: Improved chances of maintaining breastfeeding if support is available during first days at home** **M1:** % Mother's who are still breastfeeding at PHN primary visit. % Mother's exclusively breastfeeding at PHN primary visit. Figures from PHR. **BO1: Dir/PHN** **B2: Support: Imparting knowledge, experience and coping skills particularly to 1st time families wherever it is required e.g. bottle feeding tips and techniques, how to settle baby, getting into a routine etc.** **M2:** Qualitative Measure – Consumer study at 3 month developmental check. **BO2: ADir/PHN** **B3: Support: Providing counseling and support for Mothers who have experienced Delivery trauma or who are having difficulty coping** **M3:** Qualitative Measure – Consumer study at 3 month developmental check. **BO3: ADir/PHN** **B4; Clinical: Providing wound care for Mothers who require it** **M4:** Qualitative measure – PHN survey **BO4: ADir/PHN** **B5: Clinical: Early identification of Post Natal Depression allowing for early appropriate intervention.** **M5:** Qualitative measure – PHN survey in relation to effectiveness of identifying post natal depression

	BO5: Dir/PHN **B6: Clinical: Providing assistance with any other clinical issues e.g. incontinence** **M6:** Qualitative Measure – Consumer study at 3 month developmental check. **BO6: ADir/PHN** **B7: Baby: Early identification of failure to thrive and therefore reduce further deterioration** **M7:** Qualitative measure – PHN survey on early intervention **BO7: ADir/PHN** **B8: Baby: Early identification of Child Protection Issues and prompt referral to support services** **M8:** Qualitative measure – PHN survey on early intervention **BO3: Dir/PHN** **B9: Baby: Early identification of medical conditions affecting the baby and therefore earlier referral** **M9:** Qualitative survey of PHN's in relation to early intervention **BO9: Dir/PHN** **B10: Baby: Providing continued medical care e.g umbilical care** **M10:** Qualitative survey of PHN's in relation to levels of babies affected by preventable medical issues. **BO10: ADir/PHN** **B11: Allows PHN to prioritise cases and to plan their work more effectively.** **M11:** Qualitative survey of PHN's in relation to the use of their time **BO3: Dir/PHN** **B12: Improves efficiency of the service** **M12:** Amount of time currently being spent searching for correct info vs. time spent post benefit realisation **BO3: ADir/PHN** **B13: Improves PHN Morale** **M13:** Qualitative survey of PHN's in relation to morale **BO3: Dir/PHN**
E1: = Evidence of change **CO1: = Change owner** **What changes are needed for improvement?**	**C1.** Discharge Notification of all births by 9am next business day to liaison office **E1: 90% births notified to Liaison by 9am next business day following discharge** **CO1: CMM2 Postnatal** **C2.** Prioritisation of Primagravidas and visit within 48 hours of discharge? **E2: PHR 90% of Primagravidas visited with 2 days of discharge – figures from PHR** **CO2: ADir/PHN** **C3.** Filtering and mail merge discharge details and email to relevant PHN office by liaison by 10am daily **E3: Lists sent to each PHN office by 10am** **CO3: Liaison Nurse**

	C4. Prioritisation of Mothers with known issues - Deprivation etc. **E4: Use of discharge information to prioritise visits** **CO4: ADir/PHN** **C5.** Visit all Mothers within 48 hours of discharge Mon-Fri and within 72 hours for Friday and Saturday discharges. **E5: PHR – 90% Mothers visited within agreed timeframe – figures from PHR** **CO5: ADir PHN** **C6:** Hospital to give Mother and Baby discharge documents to Mother to take home **E6: Details available when PHN arrives – qualitative survey PHN** **CO6: CMM2 Postnatal** **C7.** Run reports from MIS for birth notification **E7: Access to MIS reports from community** **CO7: MIS ICT PM** **ENABLING CHANGES** **EC1.** Availability of daily clerical support in the Liaison office. **E8: Confirmation that support available** **CO8: Manager of Women's and Children's Services** **EC2:** Review and agree changed workflow in liaison/PHN offices **E9: Changed workflow operating** **CO9: CMM3's Ante/Postnatal, Labour Ward, D/PHN** **EC3:** Training on running reports, emailing reports and mail merge **E10: Reports being run and distributed** **CO10: CMM2's Postnatal, Liaison, A/Dir PHN** **EC4:** Workflow changes to allow discharge Mother and baby on MIS in real time **E11: 90% Discharge on MIS before Mother leaves hospital** **CO11: CMM3 Postnatal** **EC5:** Promote labour detail entry in real time **E12: 70% Delivery details entered in real time** **CO12: CMM3 Labour Ward** **EC6:** Processes within hospital to confirm discharge address and contact details with Mother at time of discharge **E13: Contact details always correct – measure from number of calls to Hospital re contact details** **CO13: CMM2 Postnatal** **IT Enablers** **IS1:** Creation of report and document templates. **E14: Reports and templates available for use** **CO14: MIS IT PM** **IS2:** Verify that all PHN offices have access to specific discharge email addresses **E15: List of email addresses supplied to Liaison or PHN**

	office **CO15: MIS IT PM** **IS3:** Verify that relevant PHN offices have access to MIS **E16: MIS available in PCCC** **CO16: MIS IT PM**
Who is responsible for making changes?	**Detailed above**
Who will be affected by the changes?	**C1:** CMM2 Postnatal, Postnatal midwives, Ward clerk, Liaison clerical, Liaison Nurse **C2:** PHN, A/Dir PHN **C3:** Liaison Clerical, Liaison Nurse, PHN clerical, PHN's **C4:** PHN's **C5:** PHN's **C6:** Postnatal Midwives, Ward clerk, PHN's **C7:** Ward Clerk **EC1:** Liaison nurse, **EC2:** Liaison nurse, Liaison Clerical, PHN's, PHN clerical **EC3:** Ward Clerk, Liaison clerical, PHN clerical **EC4:** Ante/Postnatal Midwives, CMM2's **EC5:** Labour ward midwives, CMM2's, CMM3 **EC6:** MRO, A&E Clerical, OPD clerical **IS1:** MIS Team **IS2:** MIS IT PM, IT Officers, PHN clerical **IS3:** MIS Team
How and when can changes be made?	**How & When** **C1:** At go live **C2:** Post full activation of plan **C3:** At go live **C4:** Post full activation of plan **C5:** Post full activation of plan **C6:** At go live **C7:** At go live **C8:** Before activation of plan **EC1:** Before activation of plan **EC2:** Before activation of plan **EC3:** Before activation of plan **EC4:** After EC5 and before full activation of plan **EC5:** Before activation of plan **EC6:** Before full go live **IS1:** Before activation of plan **IS2:** Before activation of plan **IS3:** Before go live

Appendix 14: Final seven question grid for hospital group

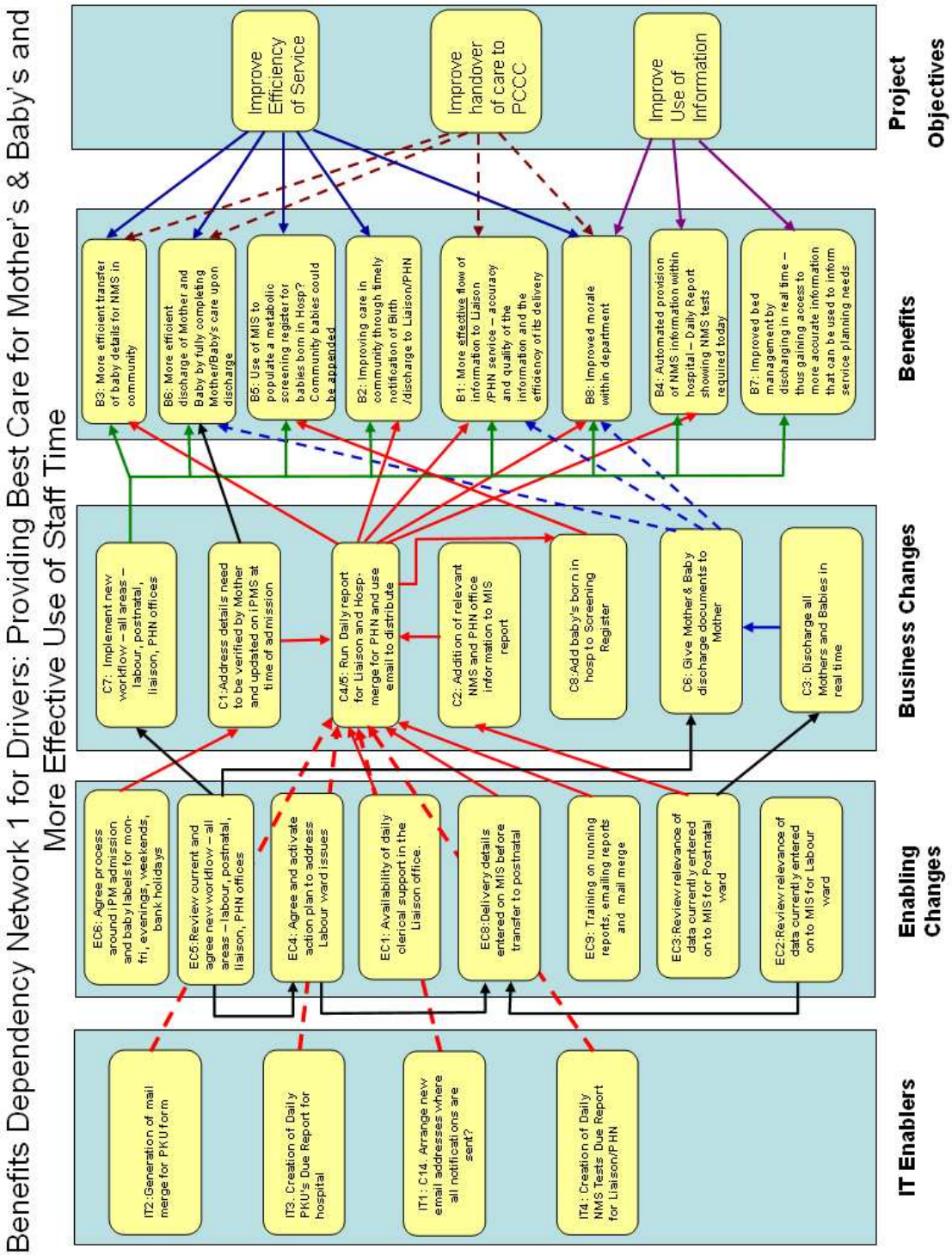
High Level Objective A: Improving use of information **High Level Objective B: Improving handover of care to PCCC** **High Level Objective C: Improving efficiency of the service**	
Why do we need to improve performance?	**1.** Flow of information to PCCC is currently manual and very time consuming **2.** There are significant levels of duplication of effort within department **3**. There are known issues with quality of discharge information (contact details in particular) **4.** Information entered onto MIS of little value currently, yet it is very time consuming
What improvements do we want/could we get?	**1.** Fully complete Mother's and Baby's care and documentation on discharge **2.** More efficient handover of care to PCCC – less duplication of effort **3.** Fewer knock on enquiries from PHN and Liaison **4.** Better use of staff time **5.** Improve staff morale **6.** Commence using MIS to support provision of services
Where will improvements (benefits) occur? **How can they be measured?** **Can they be quantified?** **Notes:** **B1: = Description of the Benefit** **M1: = Method of measuring benefit 1** **BO1: = Owner of the benefit** (the person who is responsible for making sure that the benefit is delivered) **The benefits listed here are not in any order of preference**	**Benefits:** **B1.** More effective flow of information to Liaison/PHN service – this is in terms of the accuracy and quality of the information and the efficiency of its delivery **M1.** Based on number of Liaison/PHN enquiries – 70% reduction **BO1: CMM2 Postnatal/Liaison + A/Dir PHN** **B2.** Improving Mother's/baby's care in community through timely notification of Birth/Discharge to Liaison/PHN **M2.** <10% late visits by PHN caused by late notification – figures from PHR **BO2: Dir PHN** **B3.** More efficient transfer of baby details for NMS in community **M3.** Time taken now to notify – vs. expected time will provide a measure (e.g. 70% reduction) need a measure from Liaison/community **BO3: Liaison Nurse + A/Dir PHN** **B4.** Automated provision of metabolic screening information within hospital – Daily Report showing screening required today **M4.** Staff opinion survey **BO4: CMM2 Postnatal** **B5.** Use of MIS to populate a metabolic screening register for babies born in hospital? Community babies could be appended – could that be agreed?? **M5.** All babies born in North Eastern counties entered on register and results checked. **BO5: Manager Women's and Children's Services/Dir PHN** **B6.** More efficient discharge of Mother and Baby by fully completing Mother/Babies care upon discharge **M6.** Record time spent now on documentation post discharge – also a staff opinion measure post go live **BO6: CMM2 Postnatal**

	B7. Improved bed management by discharging in real time – thus gaining access to more accurate information that can be used to inform service planning needs?? – we need to tease this out **M7.** 90% Mothers/baby's discharged in real time **BO7: CMM3 Postnatal** **B8.** Improved morale within department **M8.** Staff opinion **BO7: CMM3 Postnatal**
What changes are needed for improvement? **C1: = Change** **CO1: =** Change Owner (the person who is responsible for making sure that the change happens). **EC1: = Enabling Change**	**C1.** Address details need to be verified by Mother and updated on PAS at time of admission – knock on affect for baby labels – need to agree a process around this for mon-fri, evenings, weekends, bank holidays **E1: Address details correct on baby labels 95% time** **CO1: Medical Records Officer** **C2.** Addition of relevant NMS and PHN office information to report **E2: Liaison able to use MIS report to generate PKU documents** **CO2: CMM2 Postnatal** **C3.** Discharge all Mothers and Babies in real time. **E3: Discharge time on MIS in advance of PAS discharge time** **CO3: CMM2 Postnatal** **C4.** Run Daily report for Liaison – Liaison to merge for community **E4: 90% reduction in Liaison requests for NMS/discharge info** **CO4: CMM2 Postnatal** **C5.** Run Daily report for Hospital NMS tests required **E5: List of PKU's required generated from MIS** **CO5: CMM2 Postnatal** **C6.** Give Mother and Baby discharge documents to Mother **E6: 90% reduction in discharge document bundles going to liaison** **CO6: CMM2 Postnatal** **C7:** Implement changed workflow – all areas – labour/postnatal/liaison/PHN offices **E7: MIS in use in real time – 90% admissions/ births/ discharges entered in real time – report from MIS** **CO7: CMM3's Ante/Postnatal, Labour Ward** **C8:** Use MIS report to add babies born in hospital to screening register **E21: Screening register for all babies available in LHO** **CO21: Manager of Women's and Children's Services + Dir PHN** **ENABLING CHANGES** **EC1.** Availability of daily clerical support in the Liaison office. **E8: Confirmation that support available** **CO8: Manager of Women's and Children's Services** **EC2:** Review relevance of data currently entered on to MIS for Labour ward **E9: Information session on which fields to skip; changes**

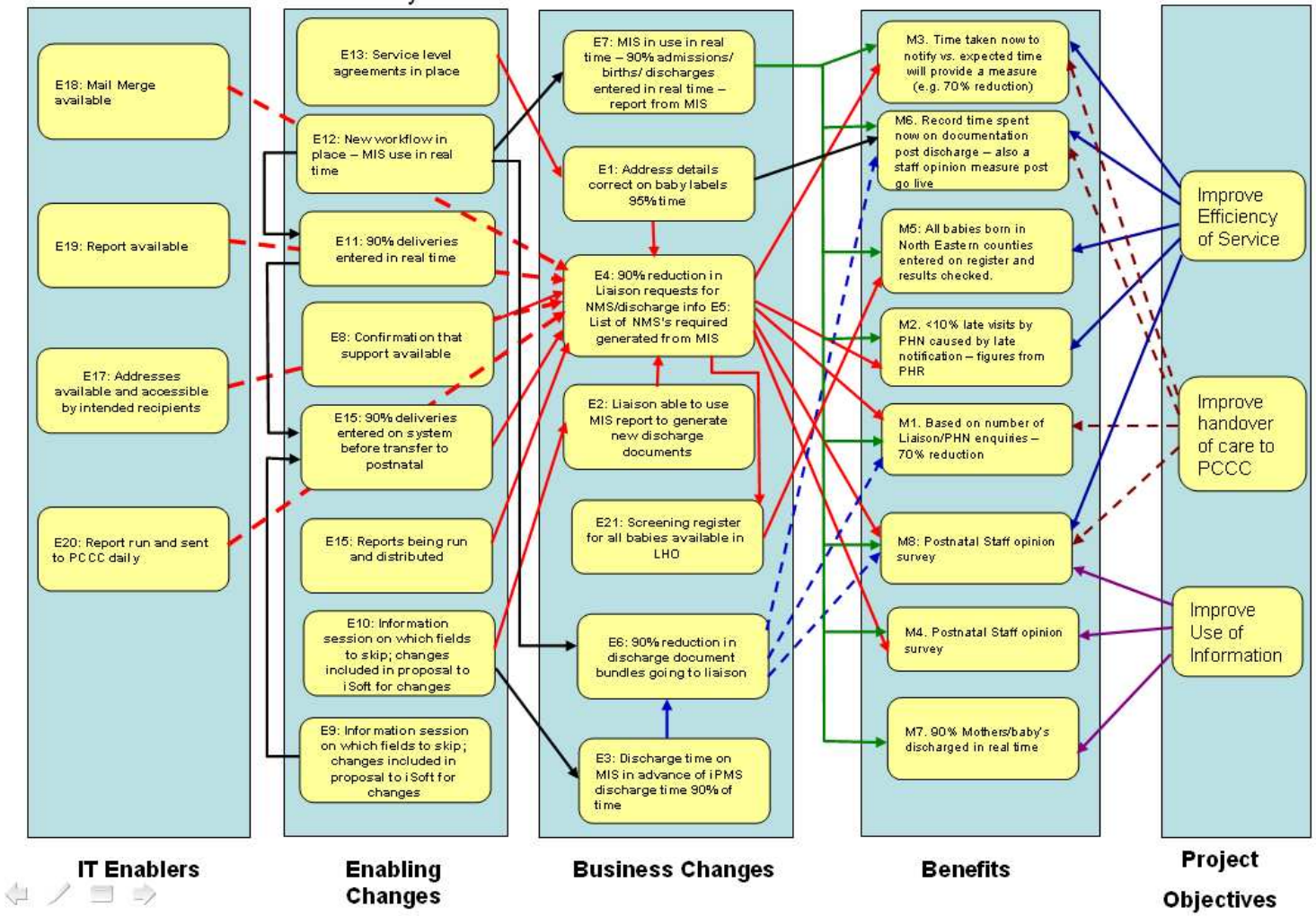
	included in proposal to vendor for changes **CO9: MIS Business Project Manager** **EC3.** Review relevance of data currently entered on to MIS for Postnatal **E10: Information session on which fields to skip; changes included in proposal to vendor for changes** **CO10: MIS Business Project Manager** **EC4:** Agree and activate action plan for labour ward **E11: 90% deliveries entered in real time** **CO11: MIS Project Managers/ CMM3 Labour ward** **EC5:** Review and agree changed workflow – all areas – labour/postnatal/liaison/PHN offices **E12: New workflow in place – MIS use in real time** **CO12: CMM3's Ante/Postnatal, Labour Ward** **EC6:** Need to agree a process around PAS admission and baby labels for mon-fri, evenings, weekends, bank holidays **E13: Service level agreements in place** **CO13: Medical Records Officer/CMM2's** **EC7:** Decide if appropriate for Mother to bring home GP details **E14: Written approval on directive, agreement from PHN's** **CO14: Clinical Director/CMM3 Postnatal** **EC8:** Delivery details must be entered on MIS before transfer to postnatal **E15: 90% deliveries entered on system before transfer to postnatal** **CO15: CMM3 Labour ward and CMM2's Labour ward** **EC9:** Training on running reports, emailing reports and mail merge **E16: Reports being run and distributed** **CO16: CMM2's Postnatal, Liaison, A/Dir PHN** **IT ENABLERS** **ITE1.** Arrange new email address where all notifications are sent **E17: Address available and accessible by intended recipients** **CO17: MIS IT Project Manager** **ITE2:** Generation of mail merge for discharge form **E18: Mail Merge available** **CO18: MIS IT Project Manager** **ITE3.** Creation of Daily Newborn Metabolic Screening Test Due Report for hospital **E19: Report available** **CO19: MIS System Administrator** **ITE4:** Report from MIS on Birth Dates **E20: Report run and sent to PCCC daily** **CO20: MIS System Administrator**

Who is responsible for making changes?	**Detailed above**
Who will be affected by the changes?	**C2:** Labour ward clerical officer, OPD clinic staff, A&E clerical, private clinic staff, Unit 2 ward clerk **C3:** MIS system admins **C4:** Postnatal clerical support **C5:** MIS IT PM, Liaison clerical staff/PHN office clerical staff **C6:** TBD **C7:** CMM2 & 3's all areas, clerical all areas, 1 x midwife from each area. **C8:** Postnatal midwives, Paeds Consultants, SHO's, Registrars **C9:** MIS Admin **C10:** Postnatal ward clerk, liaison nurse, liaison clerical **C11:** Postnatal ward clerk **C12:** Postnatal midwives, postnatal ward clerk **C13:** Postnatal midwives, postnatal ward clerk **C14:** Postnatal ward clerk, liaison nurse, liaison clerical **C15:** Postnatal ward clerk, liaison nurse, liaison clerical, PHN, PHN Clerical **C16:** Postnatal Midwives, MIS PM, MIS Administrators **C17:** Labour ward Midwives, MIS PM, MIS Administrators **C1:** Labour ward midwives, Consultants, SHO's, Registrars **C18:**
How and when can changes be made?	**How & When** **C1:** Before full activation of plan **C2:** At go live **C3:** Before full activation of plan **C4:** At go live **C5: After C3 (discharge in real time)** **C6:** At go live **C7:** By end of June 2010 **C8:** 2 weeks post go live EC1: Before go-live EC2: May 2010 EC3: Before C3 discharge in real time EC4: Before EC8 delivery in real time EC5: End of June 2010 EC6: Before full activation of plan EC7: June 2010 EC8: Before full activation of plan EC9: Before full activation of plan ITE1: Before full activation of plan ITE2: Before C3 ITE3: Before full activation of plan ITE4: Before full activation of plan

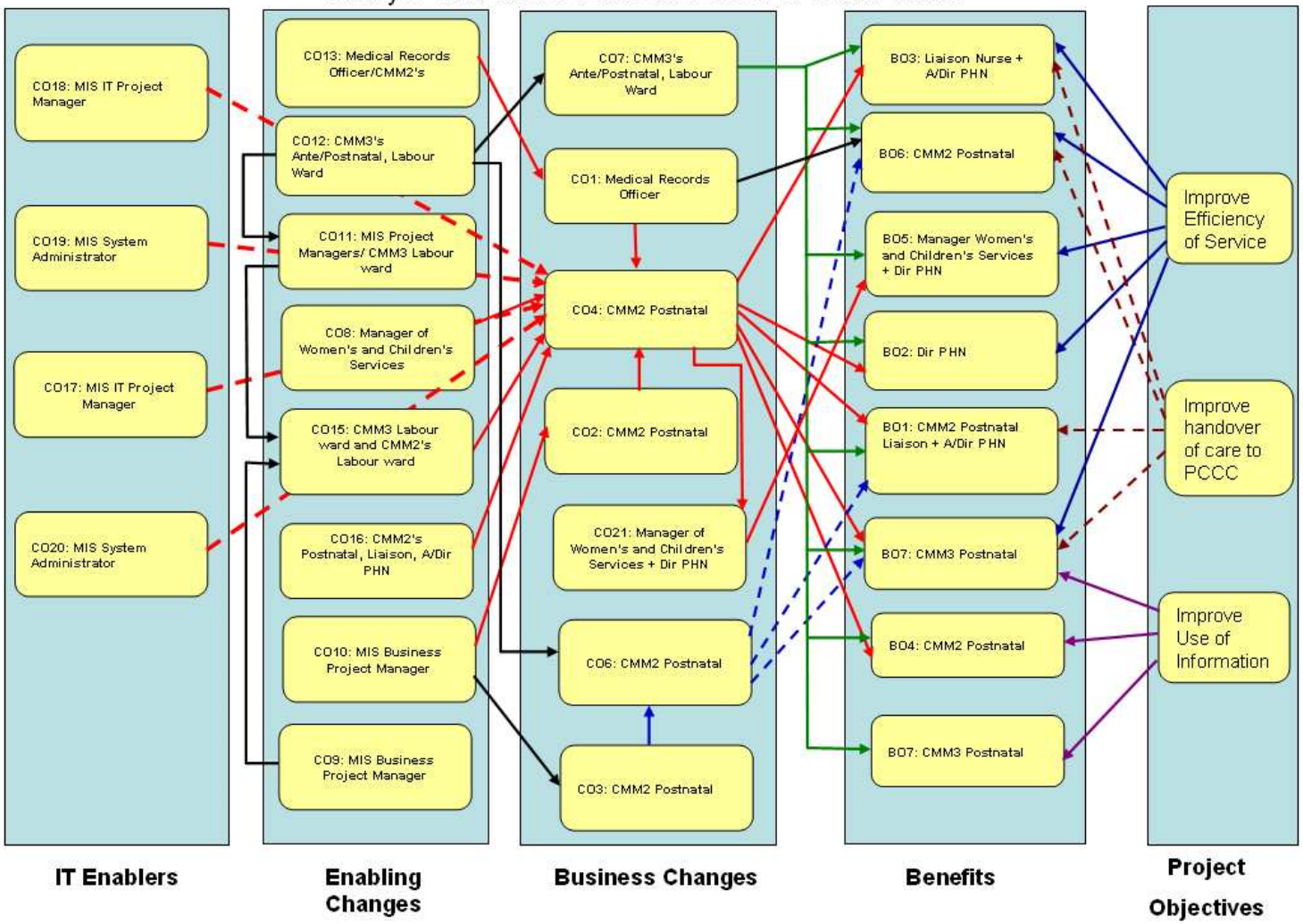
Appendix 15: Hospital group final benefit dependency network (BDN) maps



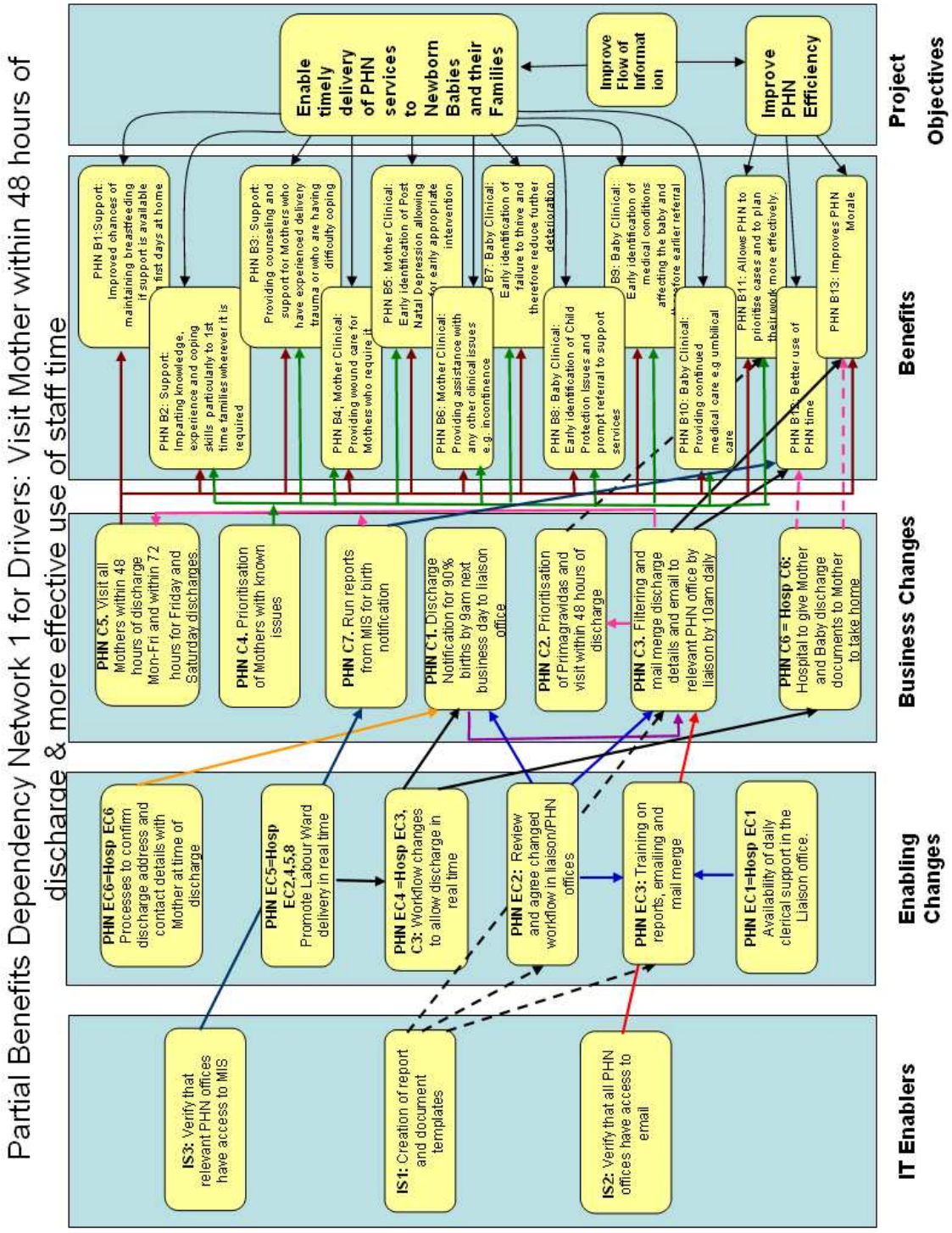
Benefits Dependency Network 2 (Measures) for Drivers: Providing Best Care for Mother's & Baby's and More Effective Use of Staff Time



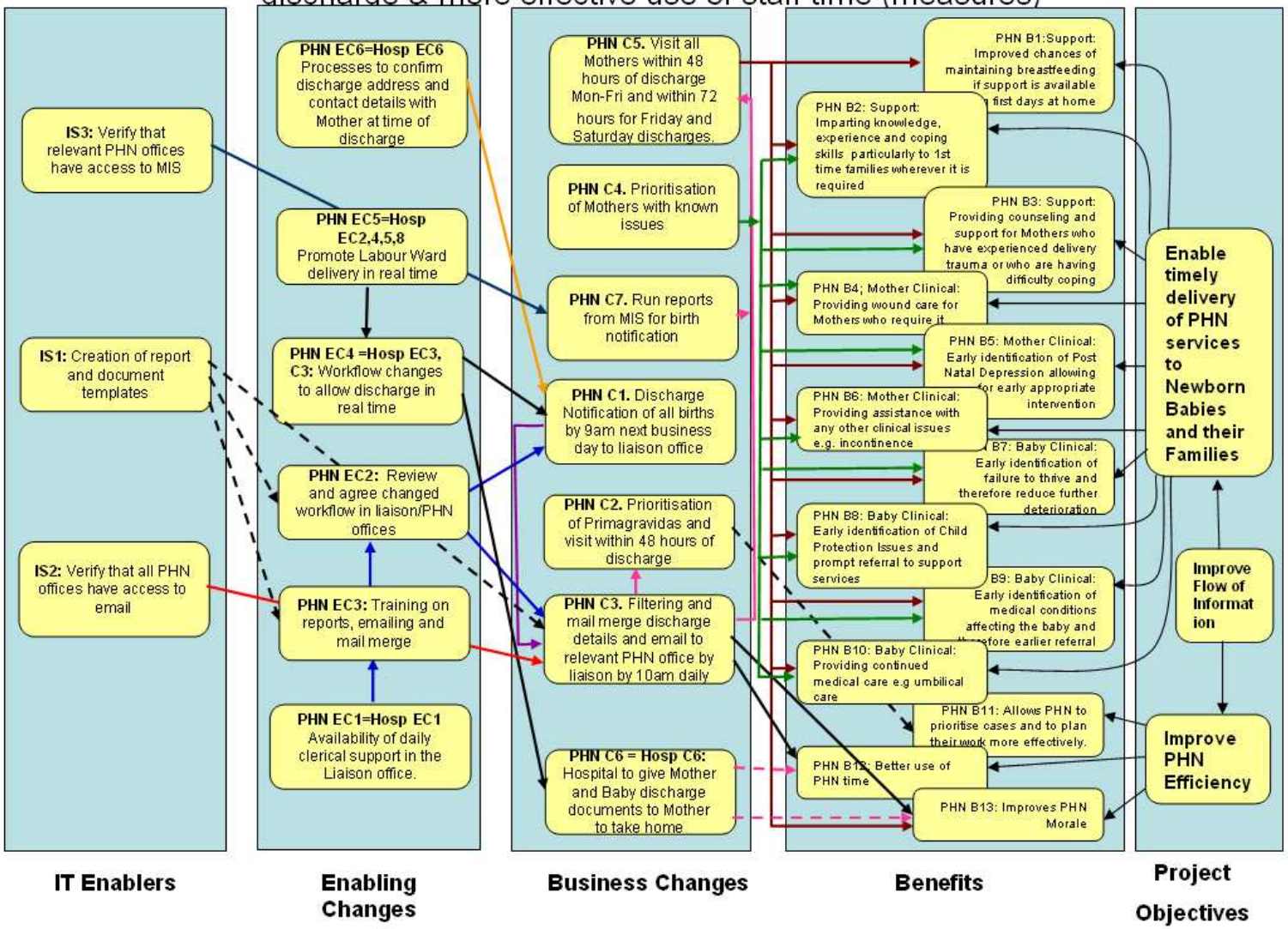
Benefits Dependency Network 3 (Owners) for Drivers: Providing Best Care for Mother's & Baby's and More Effective Use of Staff Time



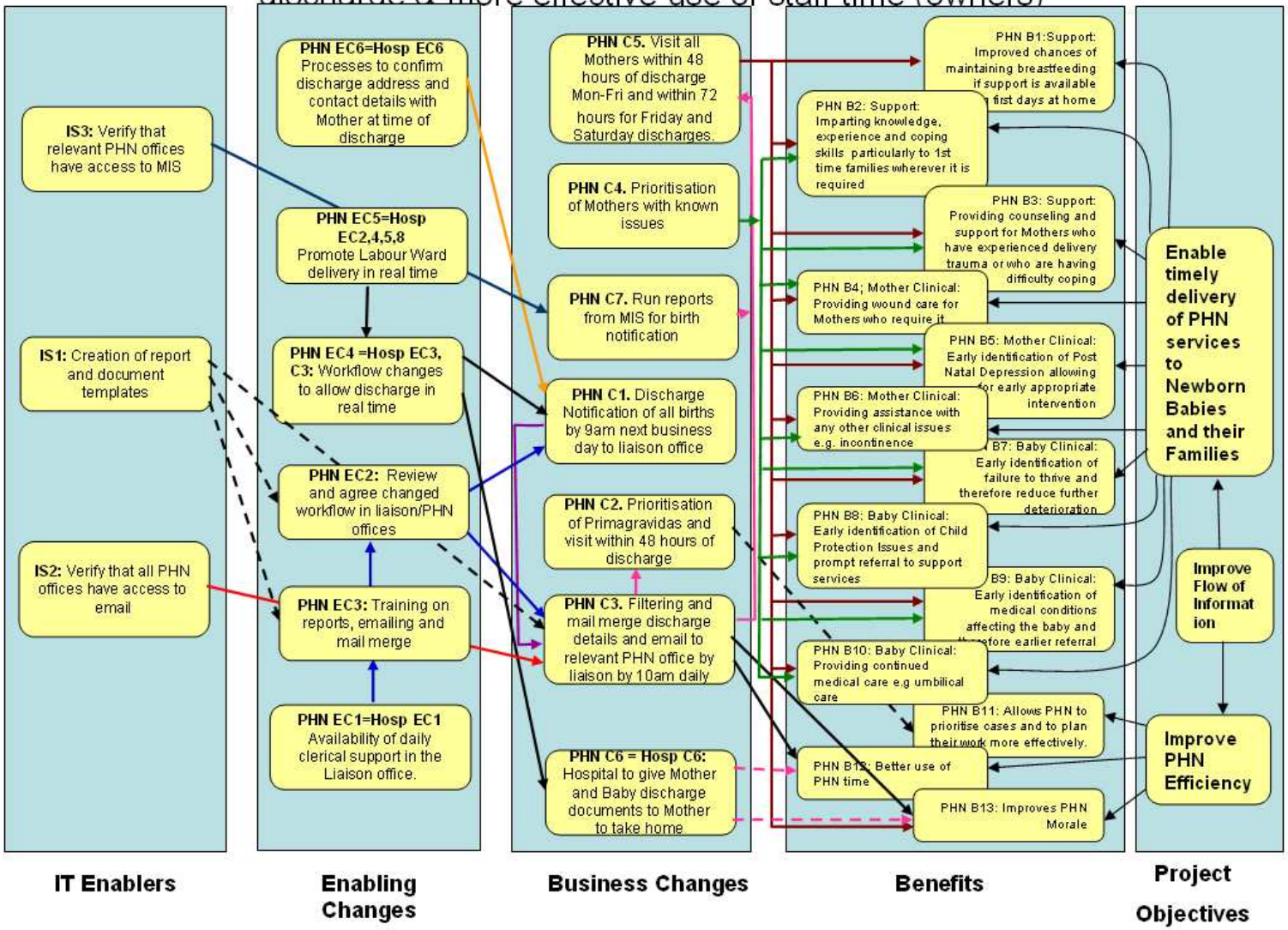
Appendix 16: PHN/Liaison group final benefit dependency network (BDN) maps



Partial Benefits Dependency Network 2 for Drivers: Visit Mother within 48 hours of discharge & more effective use of staff time (measures)



Partial Benefits Dependency Network 3 for Drivers: Visit Mother within 48 hours of discharge & more effective use of staff time (owners)



Appendix 17: Hospital group benefit and change templates

Hospital Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B3. Obj 1 & 2	More efficient transfer of baby details for Newborn Metabolic Screening test in community	Liaison Nurse	**MRO:** C1, EC6 **CMM2's Postnatal:** C: 2,3,4,5 E C: 2,3,5,6,8 **CMM2's Labour Ward: E C:** 2,3,5,6,8 **CMM3 Ante/Postnatal:** C: 7 E C: 2,3,4,5,7 **Liaison:** C:4 **MIS Sys Admin:** EC: 2,3,5 ITE: 3,4 **MIS Business PM:** E C: 2,3,5,9 **MIS IT PM:** E C 2,3,5,9, ITE: 2	1. 70% reduction in time taken currently to notify – vs. expected time 2. Liaison opinion	70% reduction	Sept 2010
B4. Obj 3	Automated provision of Metabolic Screening information within hospital – Daily Report showing screening required each day	CMM2 Postnatal	**MRO:** C1, EC6 **CMM2's Postnatal:** C: 2,3,4,5 E C: 2,3,5,6,8 **CMM2's Labour Ward: E C:** 2,3,5,6,8 **CMM3 Ante/Postnatal:** C: 7 E C: 2,3,4,5,7 **Liaison:** C:4 **MIS Sys Admin:** EC: 2,3,5 ITE: 3,4 **MIS Business PM:** E C: 2,3,5,9 **MIS IT PM:** E C 2,3,5,9, ITE: 2	Staff opinion survey		End Sept 2010

Hospital Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B5. Obj 1	Use of MIS to populate a metabolic screening register for babies born in hospital? Community babies could be appended - could that be agreed??	Manager Women's and Children's Services/ Dir PHN	**MRO:** C1, EC6 **CMM2's Postnatal:** C: 2,3,4,5 EC: 2,3,5,6,8 **CMM2's Labour Ward: EC:** 2,3,5,6,8 **CMM3 Ante/Postnatal:** C: 7 EC: 2,3,4,5,7 **Liaison:** C:4 **MIS Sys Admin:** EC: 2,3,5 ITE: 3,4 **MIS Business PM:** EC: 2,3,5,9 **MIS IT PM:** EC 2,3,5,9, ITE: 2 **Dir PHN:** C:8	Does not take place at the moment in hospital due to time constraints		End Sept 2010
B6. Obj 1 & 2	More efficient discharge of Mother and Baby by fully completing Mother/Baby's care upon discharge	CMM2 Postnatal	**MRO:** C1 **CMM2's Postnatal:** C:3, 6 **CMM2's Labour Ward: EC:** 6,8 **CMM3 Ante/Postnatal:** EC: 5,6,7 **MIS Sys Admin:** EC: 2,3 ITE: 3,4 **MIS Business PM:** EC: 2,3,4 **MIS IT PM:** EC 2,3,4 ITE: 2 **Clinical Director:** EC7	1. Record time spent now on documentation post discharge 2. Staff opinion measure post go live		End July 2010

Hospital Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B8.Obj 1, 2 & 3	Improved morale within department	CMM3 Postnatal	All changes	Staff opinion		September 2010

Hospital Change Template

Change or enabler number and dependant benefits	Description	Responsibility and involvement	Prerequisite or consequent changes	Evidence of completion	Due Date	Resources required
C1. B: 1,2,3,4,5,6,8	Address details need to be verified by Mother and updated on iPMS at time of admission – knock on affect for baby labels – need to agree a process around this for mon-fri, evenings, weekends, bank holidays	Medical Records Officer	**P:** EC6:Agree SLA **C:** None	E1: Address details correct on baby labels 95% time	June 2010	Meet with MRO Provide details on accuracy and impact of errors
C2. +A8	Addition of Relevant Newborn Screening and PHN office information to report and use of email to distribute	CMM2 Postnatal	**P:** EC9: Training; IT4: Create report **C:** C: 4,5 use of report	E2: Liaison able to use MIS report to generate new discharge documents	W/S 16th Aug 2010	Generate report - 30 minutes for training clerical support on ward. 2 hours training for Liaision
C3.	Discharge all Mothers and Babies in real time	CMM2 Postnatal	**P:** EC3, 5, C7 Review MIS data and workflow **C:** C6 Documentation home with Mother	1. E3: Discharge time on MIS in advance of iPMS discharge time 2. Documentation going home with Mother	Early June 2010	MIS team to review dataset with midwives
C4.	Run Daily report for Liaison - liaison to add in PHN office and Merge for community before emailing to offices	CMM2 Postnatal	**P:** C2, EC2,4,5,8,9 (Delivery to MIS in real time) IT4, Provide reports and training **C:**	E4: 90% reduction in Liaison requests for PKU info	Early Sept 2010	30 minutes training on report generation

Hospital Change Template

Change or enabler number and dependant benefits	Description	Responsibility and involvement	Prerequisite or consequent changes	Evidence of completion	Due Date	Resources required
C5.	Run Daily report for hospital based newborn metabolic screening tests	Postnatal Ward Clerk	**P:** C2, EC2,4,5,8,9 (Delivery to MIS in real time) IT4, Provide reports and training **C:**	E5: Need to decide this	W/S 16th Aug 2010	30 minutes training on report generation
C6.	Give Mother & Baby discharge documents to Mother	CMM2 Postnatal	**P:** C3, EC2,4,5,8,9 (Delivery to MIS in real time) EC3,5,7 (Postnatal workflow & Discharge) **C:** None	E6: Reduction in PHN requests for information	Early Sept 2010	None
C7: B 1,2,3,4,5,6,7,8	Implement changed workflow – all areas – labour/postnatal/liaison/PHN offices	CMM3's Ante/Postnatal, Labour Ward	**P:** EC2,3,4,5,6 **C:** None	E7: MIS in use in real time – 90% admissions/ births/ discharges entered in real time – report from MIS	June 2010 onwards	Meetings with CMM2's
C8:	Use MIS report to add babies born in hospital to screening register	Manager of Women's and Children's Services & Dir PHN	**P:** C2, EC2,4,5,8,9 (Delivery to MIS in real time) IT4, Provide reports and training **C:**	E5: Need to decide this	Mid Sept 2010	30 minutes training on report generation
EC1. B 1,2,3,4,8	Availability of daily clerical support in the Liaison office.	Manager of Women's and Children's Services	**P:** None **C:** C5 mail merge to community	E8: Confirmation that support available	April 2010	None
EC2:	Review relevance of data currently entered on to MIS for Labour ward	MIS Business Project Manager	**P:** **C:** EC8 Delivery details in real time	E9: Information session on which fields to skip; changes included in proposal to iSoft for changes	May 2010	Meetings with CMM2's & Midwives

Hospital Change Template

Change or enabler number and dependant benefits	Description	Responsibility and involvement	Prerequisite or consequent changes	Evidence of completion	Due Date	Resources required
EC3.	Review relevance of data currently entered on to MIS for Postnatal	MIS Business Project Manager	**P:** **C:** C3 Postnatal discharge in real time	E10: Information session on which fields to skip; changes included in proposal to iSoft for changes	Early June 2010	Meetings with CMM2's & Midwives
EC4:	Agree and activate action plan for labour ward	MIS Project Managers CMM3 Labour Ward	**P:** EC2 **C:**EC5, 8,	E11: 90% deliveries entered before admission to Postnatal - Postnatal to record	Mid May 2010	Communication meetings with CMM2 MIS admins to work from Labour ward for 3/4 weeks
EC5:	Review and agree changed workflow – all areas – labour/postnatal/liaison/PHN offices	CMM3's Ante/Postnatal, Labour Ward	**P:** **C:** C7, 6 (work in new ways)	E12: Plan activated	W/S 16th Aug 2010	Meetings with CMM2's/Liaison/A/Dir PHN
EC6:	Need to agree a process around iPM admission and baby labels for mon-fri, evenings, weekends, bank holidays	Medical Records Officer	**P:** **C:** C1 (timely address updates on iPMS)	E13: Service level agreements in place	Mid August 2010	Meeting with MRO
EC7:	Decide if appropriate for Mother to bring home GP details	Clinical Director/CMM3 Ante/postnatal	**P:** **C:** C6 (Mother takes home documents)	E14: Written approval on directive, agreement from PHN's	June 2010	CMM3 to raise with Clinical Director

Hospital Change Template

Change or enabler number and dependant benefits	Description	Responsibility and involvement	Prerequisite or consequent changes	Evidence of completion	Due Date	Resources required
EC8:	Delivery details must be entered on MIS before transfer to postnatal	CMM3 Labour ward and CMM2's Labour ward	**P:** EC4, 5, 2 (to facilitate data entry) **C:** C1,2,4,5,8 (real time use of information)	E15: 90% deliveries entered on system within 2 hours of delivery??	End June 2010	MIS team to spend time based in labour ward to assiste with workflow/training - 3 weeks
EC9:	Training on running reports, emailing reports and mail merge	CMM2's Postnatal, Liaison, A/Dir PHN	**P:** IT2,4,3 **C:** 1,2,4,5,8	E15: Reports being run and distributed	Mid August 2010	MIS team to provide training sessions for ward and liaison clerks
ITE1.	Arrange new email address where all notifications are sent	MIS IT Project Manager	**P:** **C:**	E17: Address available and accessible by intended recipients	Mid August 2010	IT Support to provide - 1 hour
ITE2:	Generation of mail merge for discharge form	MIS IT Project Manager	**P:** **C:**	E18: Mail Merge available	End July 2010	2 days
ITE3.	Creation of Daily Newborn Metabolic Screening Due Report for hospital	MIS System Administrator	**P:**None C:C1,2,4,5,8	E19: Report available and in daily use	End Sept 2010	30 minutes - MIS team
ITE4:	Report from MIS on Birth Dates	MIS System Administrator	**P:**None C:C1,2,4,5,8	E20: Report run and send to PCCC daily	End July 2010	1 day - MIS team

Appendix 18: PHN/Liaison group benefit and change templates

PHN/Liaison Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B1: Support Obj 1, 2	Improved chances of maintaining breastfeeding if support is available during first days at home	BO1: Dir/PHN	**CMM2's Postnatal:** C: 1 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M1: % Mother's who are still breastfeeding at PHN primary visit. % Mother's exclusively breastfeeding at PHN primary visit. Figures from PHR	Improvement in both figures	Sept 2010
B2: Support Obj 1, 2	Imparting knowledge, experience and coping skills particularly to 1st time families wherever it is required e.g. bottle feeding tips and techniques, how to settle baby, getting into a routine etc.	BO2: ADir/PHN	**CMM2's Postnatal:** C: 1 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M2: Qualitative Measure – Consumer study at 3 month developmental check.		Sept 2010

PHN/Liaison Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B3: Support: Obj 1, 2	Providing counseling and support for Mothers who have experienced Delivery trauma or who are having difficulty coping	BO3: ADir/PHN	**CMM2's Postnatal:** C: 1 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M3: Qualitative Measure – Consumer study at 3 month developmental check.		Sept 2010
B4: Clinical: Obj 1, 2	Providing wound care for Mothers who require it	BO7: CMM3 Postnatal –	**CMM2's Postnatal:** C: 1 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M4: Qualitative measure – PHN survey		Sept 2010

PHN/Liaison Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B5: Clinical: Obj 1, 2	Early identification of Post Natal Depression allowing for early appropriate intervention.	BO5: Dir/PHN	**CMM2's Postnatal:** C: 1 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M5: Qualitative measure – PHN survey in relation to effectiveness of identifying post natal depression		Sept 2010
B6: Clinical: Obj 1, 2	Providing assistance with any other clinical issues e.g. incontinence	BO6: ADir/PHN	**CMM2's Postnatal:** C: 1 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M6: Qualitative Measure – Consumer study at 3 month developmental check+E4)		Sept 2010

PHN/Liaison Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B7: Baby: Obj 1, 2	Early identification of failure to thrive and therefore reduce further deterioration	BO7: ADir/PHN	**CMM2's Postnatal:** C: 1 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M7: Qualitative measure – PHN survey on early intervention		Sept 2010
B8: Baby: Obj 1, 2	Early identification of Child Protection Issues and prompt referral to support services	BO3: Dir/PHN	**CMM2's Postnatal:** C: 1 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M8: Qualitative measure – PHN survey on early intervention		Sept 2010

PHN/Liaison Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B11: Obj 2, 3	Allows PHN to prioritise cases and to plan their work more effectively.	BO3: Dir/PHN	**CMM2's Postnatal:** C: 1 EC: 3 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1 **PHN** C: 2	M11: Qualitative survey of PHN's in relation to the use of their time	Improvement in both figures	Sept 2010
B12: Obj 2, 3	Improves efficiency of the service	BO3: ADir/PHN	**CMM2's Postnatal:** C: 1,6 EC: 3 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 Dir PHN: EC: 2 A/Dir PHN: EC: 3 MIS IT PM: C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M12: Amount of time currently being spent searching for correct info vs. time spent post benefit realisation	Reduction in time taken	Sept 2010

PHN/Liaison Benefit Template

Benefit number and type and related objectives	Benefit Description	Benefit Owner(s)	Dependant Changes and responsibilities	Measures	Expected value (if applicable)	Due Date
B:13 Obj 2,3	Improves PHN Morale	BO3: Dir/PHN	CMM2's Postnatal: C: 1,6 EC: 3,6 **CMM3 Ante/Postnatal:** EC: 4 **CMM3 Labour:** EC: 2 **Liaison:** C:3 EC: 3 **Dir PHN:** EC: 2 **A/Dir PHN:** C: 5 EC: 3 **MIS IT PM:** C: 7, IS: 1,2,3 **Manager Women's & Childrens Services** EC: 1	M13: Qualitative survey of PHN's in relation to morale		Sept 2010

PHN/Liaison Change Template

Change or enabler number and dependant benefits	Description	Responsibility and involvement	Prerequisite or consequent changes	Evidence of completion	Due Date	Resources required
EC4:	Workflow changes to allow discharge Mother and baby on MIS in real time	CO11: CMM3 Postnatal	**P:** EC5 delivery details in real time **C:** EC2 Workflow;	E11: 90% Discharge on MIS before Mother leaves hospital	Mid May 2010	Meetings with CMM3 - activate action plan
EC5:	Promote labour detail entry in real time	CO12: CMM3 Labour Ward	**P:** None **C:** EC4 Workflow	E12: 70% Delivery details entered in real time	Start May 2010	Letter to midwives
EC6:	Processes within hospital to confirm discharge address and contact details with Mother at time of discharge	CO13: CMM2 Postnatal	**P:** None **C:** None	E13: Contact details always correct – measure from number of calls to Hospital re contact details	Mid June 2010	Meet with MRO re current processes
IS1:	Creation of report and document templates.	CO14: MIS IT PM	**P:** None **C:** C3, EC2,3 Use of reports	E14: Reports and templates available for use	End July 2010	4 hours MIS team to create & test reports
IS2:	Verify that all PHN offices have access to specific discharge email addresses	CO15: MIS IT PM	**P:** None **C:** EC3 Training	E15: List of email addresses supplied to Liaison or PHN office	Mid August 2010	Apply for email to ITO's - 1 hour
IS3:	Verify that relevant PHN offices have access to MIS	CO16: MIS IT PM	**P:** None **C:** C7 Use of reports	E16: MIS available in PCCC	Mid August 2010	MIS team to confirm

PHN/Liaison Change Template

Change or enabler number and dependant benefits	Description	Responsibility and involvement	Prerequisite or consequent changes	Evidence of completion	Due Date	Resources required
C1.	90% births notified to Liaison by 9am next business day following discharge	CO1: CMM2 Postnatal	**P:** C1,3 Report available EC2,4 Workflow; EC 3,5 IS 1 Report/training available **C:** C3 pass on to PCCC; C6 Documents to Mother	E1: 90% births notified to Liaison within 24 hours of delivery	31st July 2010	Meet with CMM2's re new workflow.
C2.	Prioritisation of Primagravidas and visit within 48 hours of discharge?	CO2: ADir PHN	**P:** C1,3 Report available EC2,4 Workflow; EC 3,5 IS 1 Report/training available **C:** None	E2: PHR 90% of Primagravidas visited with 2 days of discharge – figures from PHR	Early Sept 2010	Meeting with PHN's re:use of new information
C3.	Filtering and mail merge discharge details and email to relevant PHN office by liaison by 10am daily	CO3: Liaison Nurse	**P:** EC2,4 Workflow; EC 3,5 IS 1 Report/training available; C2, 5,4 running report **C:** EC2 Workflow	E3: Lists sent to each PHN office by 10am	W/S 16th Aug 2010	Training for liaison clerical
C4.	Prioritisation of Mothers with known issues - Deprivation etc.	CO4: ADir/PHN	**P:** EC2,4 Workflow; EC 3,5 IS 1 Report/training available; C2, 5,4 running report **C:** None	E4: Use of discharge information to prioritise visits	Early Sept 2010	Meeting with PHN's re:use of new information
C5.	Visit all Mothers within 48 hours of discharge Mon-Fri and within 72 hours for Friday and Saturday discharges.	CO5: ADir PHN	**P:** EC2,4 Workflow; C1 EC 3,5 IS 1, 2 Report/training/email available; C3 pass on to PCCC; **C:** None	E5: PHR – 90% Mothers visited within agreed timeframe – figures from PHR	Early Sept 2010	Meeting with PHN's re:use of new information

PHN/Liaison Change Template

Change or enabler number and dependant benefits	Description	Responsibility and involvement	Prerequisite or consequent changes	Evidence of completion	Due Date	Resources required
C6.	Hospital to give Mother and Baby discharge documents to Mother to take home	CO6: CMM2 Postnatal	**P:** EC2,4 Workflow; C1 EC 3,4,5 IS 1, 2 Report/training/email available; C3 pass on to PCCC; **C:**	E6: Details available when PHN arrives – qualitative survey PHN	Mid June 2010	Meet with CMM2's re new workflow.
C7.	Run reports from MIS for birth notification	CO7: MIS ICT PM	**P:** EC2,4 Workflow; EC 3,5 IS 1,3 Report/training available **C:**	E7: Access to MIS reports from community	W/S 2nd Aug 2010	Training for ward clerk - 30 mins
EC1	Availability of daily clerical support in the Liaison office.	CO8: Manager of Women's and Children's Services	**P:** None **C:** EC2,4 Workflow; C1 EC 3,5 IS 1, 2 Report/training/email available; C3 pass on to PCCC;	E8: Confirmation that support available	April 2010	None
EC2.	Review and agree changed workflow in liaison/PHN offices	CO9: CMM3's Ante/Postnatal, Labour Ward, D/PHN	**P:** IS 1 **C:** EC2,4 Workflow; C1 EC 3,5 IS 1, 2 Report/training/email available; C3 pass on to PCCC;	E9: Changed workflow operating	W/S16th Aug 2010	Meet with Liaison & A/Dir PHN re workflow
EC3:	Training on running reports, emailing reports and mail merge	CO10: CMM2's Postnatal, Liaison, A/Dir PHN	**P:** EC1 Clerical support, 2 Workflow **C:** EC4 Workflow; C1 EC 5 IS 1, 2 Report/training/email available; C3 pass on to PCCC;	E10: Reports being run and distributed	W/S16th Aug 2010	Training for ward clerk - 30 mins