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**SWITCH Partnership
(Service Working to Integrate Therapy into Community Health)**



**Collaboration between NHS Lanarkshire,
South Lanarkshire Council, Joint Improvement Team,
Knowledge Transfer Partnership, Queen Margaret University and the
University of Stirling**

Baseline Evidence & Service Redesign Planning Report

June 2008

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Foreword

Our vision within NHS Lanarkshire and South Lanarkshire Council is to establish efficient, patient/service user focused services that are responsive, accountable and measurable. We want to deliver the best possible services, which are evidence based, innovative and sustainable. The workforce personnel who deliver these key frontline services are pivotal and must be engaged in service developments in order to realise improvements in public services.

The SWITCH Partnership is a pioneering joint initiative that is creating inventive solutions to longstanding organisational barriers to joint working, in line with strategic and policy drivers. The project capitalises on the Knowledge Transfer Partnership structure to glean the local expertise and skills of personnel within NHS Lanarkshire and South Lanarkshire Council, with the academic knowledge from both Queen Margaret University and the University of Stirling.

The opportunity heralded within the SWITCH Partnership is to triangulate quantitative and qualitative data to comprehensively explore the existing patient/service user care pathway experience within and across services; defining service structures, systems, processes and practice. The project's 'Baseline and Redesign Planning Report' reflects that patients/service users value occupational therapy services in promoting confidence and independence. However, the report also quantifies the impact of the existing silo organisational structures, demonstrating that the patient/service user pathway experience can be convoluted and service systems can be bureaucratic and inefficient. The unique SWITCH Partnership data set provides a robust foundation, with evidence to underpin a realistic and sustainable service redesign.

The SWITCH Partnership baseline data resonates with the experience of other services within the extended health and social care sector; and lessons can be learnt from the data analysis of this project to inform service developments within a range of health and social care services at a local and national level.

We offer our best wishes and ongoing support to the SWITCH Partnership team and the occupational therapy personnel within NHS Lanarkshire and South Lanarkshire Council involved in this project.




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Executive Summary

Introduction

The SWITCH partnership is charged with completing an evidence based service re-design within the occupational therapy (OT) older adult and stroke services, across NHS Lanarkshire and South Lanarkshire Council. This four year funded¹ programme's objectives will focus on:-

- Redesigning OT services to create efficiencies within current resources
- Delivering person centred OT services
- Developing evidence based practitioners
- Developing whole system performance management information infrastructures

Baseline Evidence

A range of qualitative and quantitative data gathering methodologies were undertaken to develop a comprehensive understanding of the current service arrangements, in efforts to inform the service redesign options.

Literary evidence was used to contextualise current practice and underpin the redesign methodologies. A series of **service mapping² workshops**, which engaged representatives from NHS Lanarkshire and South Lanarkshire Council, were undertaken to define the patient/service user pathway through the existing organisational service structures³, processes⁴ and systems⁵ The current patient/service user pathway experience, within and across these services, was further investigated using **retrospective case record analysis⁶** and **patient/service user and carer interviews⁷**. The professional practice related to patient/service user care was explored through **professional focus groups⁸**; and a **time and motion study⁹** quantified the actual time attributed to practice and service related activity.

The predominant findings illustrated consistent service themes, shared across Acute, Primary Care and Local Authority OT services.

The key positive service attributes related to the:-

- Patients/service users and carers universally regarding the OT therapeutic rapport as being a positive aspect of service delivery.
- Patients/service users and carers reporting the importance of supported transitions from hospital to the community.
- Patients/service users and carers reporting the value of equipment provision and activities of daily living rehabilitation, to facilitate confidence and independence with daily tasks.
- OT personnel reporting joint working arrangements as being a positive aspect of current service arrangements.

¹Initial 3 year funded Knowledge Transfer Partnership project was to implement evidence based practice change within OT services. The baseline evidence highlighted additional system changes required. A year extension has been funded to implement a company led initiative that delivers service system changes to minimise transitions of care.

²Service mapping is a consultative process completed to track and understand existing patient/service user pathways; detailing specific service activities.

³Service structures are defined as the organisational configuration of services

⁴Service processes are defined as discrete service activity

⁵Service systems are defined as service procedures

⁶Retrospective case record analysis is a structured review of patient/ service user case records; detailing documented service activity

⁷Patient/service user and carer interviews were sessions completed to understand the patient/service user experience through narrative inquiry

⁸Professional focus groups were facilitated group discussions to elicit OT personnel perspectives on services

⁹Time and motion is a business efficiency technique to quantify observed service activity and associated time

The key service issues identified from the range of baseline data related to:-

- Services being fragmented, inaccessible and difficult to navigate for patient/service users.
- Communication within and across services being a challenge experienced by patients/ service users, carers and OT personnel
- Organisational structures being driven by organisational priorities and operating within silo constructs.
- A high incidence of transition of care¹⁰ episodes occurring within and across organisations, resulting in service duplication for patient/service users and OT personnel.
- Service activity being dominated by indirect activity, such as documentation, travel and meetings, with limited opportunity for direct activity e.g. rehabilitation.
- Professional practice being primarily based on 'custom and practice' as opposed to evidence based practice.
- An absence of a whole system OT performance measurement infrastructure to evaluate OT service performance and outcomes for patients/ service users.

Service Redesign Planning

A health economic perspective was adopted in the service redesign planning, to generate pragmatic options for system and practice improvements through service modelling. A collaborative option appraisal and option rating structure for consultation and decision making was embraced, to determine the service redesign options of choice for implementation within current resources. These service redesign planning methodologies involved key stakeholders, including patients/ service users, carers, OT personnel and service managers.

The results of these health economic service redesign planning approaches directed the service redesign to focus on;

- Creating workforce capacity through minimising the incidence of duplicate activity associated with transitions of care within and between services
- Promoting evidence based practitioners through the implementation of an evidence based assessment and outcome measure in practice.
- Implementing an electronic patient/service user centred outcome measure, to demonstrate the impact of service delivery via quality indicators. This will complement the existing input, process and output data measures.

The preliminary results indicate that minimising transitions of care across the whole system workforce creates the equivalent of 4.6 WTE¹¹ OT personnel. The SWITCH partnership proposes to reinvest this capacity into the implementation of an electronic evidence based assessment and outcome measure. This is calculated as requiring a recurring 4.5 WTE.

Conclusion

The evidence would suggest workforce capacity can be created within resource by redesigning organisational systems to facilitate a whole system approach across Acute, Primary Care and Local Authority OT services. This capacity can, in turn, be reinvested into service developments that focus on delivering effective patient/service user care. The organisational, practice and patient/service user benefits centre on reducing areas of service duplicity in the process of transitions of care. This, combined with the introduction of a whole system electronic evidence based tool, will lead to a streamlined and responsive person centred service that provides measurable outcomes for patients/ service users.

¹⁰ Transitions of care relates to the act of transferring a patient/service user from one OT service to another.

¹¹ This represents whole time equivalents and not the number of personnel employed

1. Introduction

1.1 Policy Context

Scotland's public expenditure on NHS and Community Care services was £8.8 billion in 2005/06, rising to an estimated £10.3 billion in 2007/2008 (SE 2005). The political imperative is, therefore, to find innovative solutions to facilitate greater productivity as a tool to contain costs and improve quality (Wilkinson 1997). The current primary health and social care policy documents "Better Health, Better Care" (SG 2007), and "Changing Lives, Social Work Review for the 21st Century" (SE 2006), set out the key priorities for reform through service re-design. The focus is on person centred care, community capacity building, whole system approaches, user involvement, systematic approaches to long term conditions and ensuring a competent workforce to deliver services.

1.2 SWITCH Partnership

The SWITCH Partnership is funded through a Knowledge Transfer Partnership structure, which creates an academic/practice collaboration. The funding partners include South Lanarkshire Council, NHS Lanarkshire, the Joint Improvement Team and the Economic Social Research Council. The academic partners are Queen Margaret University and the University of Stirling.

The SWITCH Partnership was charged with completing an evidence based service re-design within occupational therapy (OT) services across NHS Lanarkshire and South Lanarkshire Council. The main objectives of the partnership are to:

- Redesign OT services to create efficiencies within current resources
- Deliver person centred OT services
- Develop evidence based practitioners
- Develop whole system performance management information infrastructures

This report provides a summary of the SWITCH Partnership baseline evidence and redesign planning. This report is the first of two proposed reports;

1. Baseline Evidence & Service Redesign Planning
2. Service Redesign Implementation and Evaluation

1.3 SWITCH Partnership Service Context

The SWITCH Partnership involves OT personnel from across Acute and Primary Care older adult and stroke services; and the Local Authority OT service in its entirety. Table 1 outlines the staff resource and table 2 details the demand for services in 2007/08.

Table 1 - Service Resource 2007/08

	Acute	Primary Care	Local Authority	TOTAL
Staff Numbers	28	23	45	96 Staff
Staff WTE	22.3	20.5	37	79.8 WTE
Staffing Budget	£1,111,567		£1,452,480	£2,464,047

Table 2 - OT Service Referrals 2007/08

	Acute	Primary Care	Local Authority	TOTAL
Annual OT Referrals	3,146	3,495	7,288	13,929

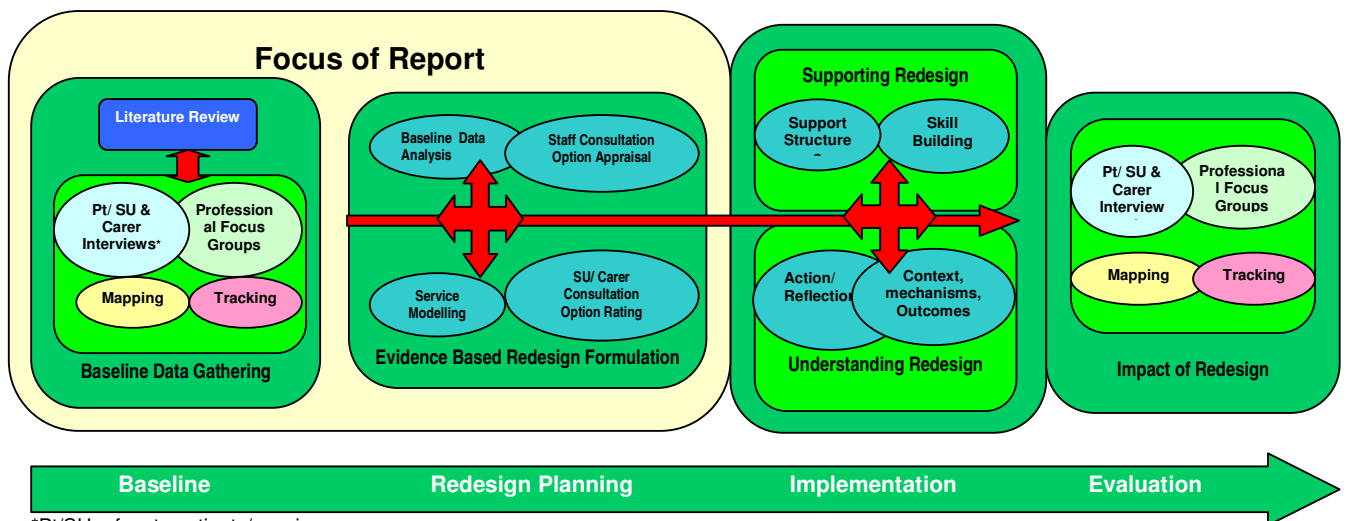
1.4 Project Design

The project design has four key stages.

- Stage 1 - Baseline data gathering to create baseline evidence to support evidence based decision making
- Stage 2 - Redesign planning to prioritise and determine the nature of the evidence based service redesign
- Stage 3 - Implementation to introduce and support the process of change within practice
- Stage 4 - Evaluation to understand the change and measure the impact of the service redesign

Figure 1 presents an overview of the SWITCH partnership methodology to be undertaken within the four year programme.

Figure 1 - SWITCH Partnership Methodology



*Pt/SU refers to patients/ service users

This report will outline the baseline evidence and redesign planning components of the SWITCH Partnership activity to date.

2. Baseline Evidence

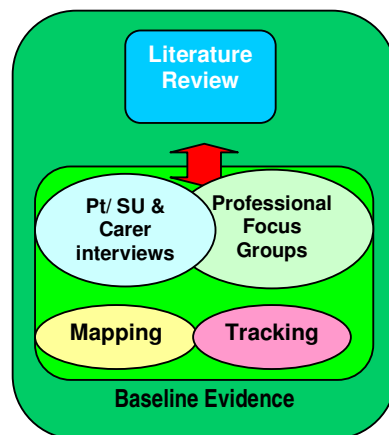
2.1 Methodology

The baseline evidence was generated through multiple methodologies to develop a comprehensive understanding of current services from different research paradigms and stakeholder perspectives. These focused on:

- Literary evidence to contextualise current practice and underpin the redesign methods
- Understanding the patient/ service user pathway experience within and across services
- Defining organisational service structures, processes and systems
- Confirming and understanding the current professional practice arrangements within and across services
- Quantifying the nature of, and the actual time associated with service and professional practice activity

The following outlines the discrete baseline evidence methodologies and findings to understand the multifaceted elements of service delivery. The baseline data gathering activities were completed across the geography of Lanarkshire¹². Figure 2 highlights the baseline methods adopted.

Figure 2 - Baseline Data Gathering Overview



2.2 Literature Review

The literature review included a wide range of literature encompassing; policy review, older adult and stroke systematic reviews, economic evaluations for older adult and stroke services, OT practice and evidence based practice, change management, integration of health and social care services and service redesign.

The systematic literature review evidences OT roles to be efficacious. This is evidenced by OT providing positive outcomes for older adults with a range of diagnostic conditions; including stroke, rheumatoid arthritis and older adults who have experienced a fall. OT interventions included activities of daily living (ADL) focused rehabilitation and environmental adaptations. These outcomes include a reduction in long term dependency and disability, increased participation in life tasks, increased social participation and improved quality of life (Tse, 2005; Legg, 2006; Walker et al, 2004; Outpatient Services Trialist Group, 2003; Steultjens, et al, 2004; Steultjens, et al, 2003; Bowen, 2002; Vanderlee, et al, 2001; Dekker, et al, 1998; Legg et al, 2007). The economic evaluation literature provided evidence to

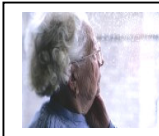
¹² Geography of Lanarkshire refers to NHS Lanarkshire and South Lanarkshire Council

compare Early Supported Discharge Team¹³ service models with traditional inpatient service models. The outcomes of these studies highlighted that equivalent clinical outcomes can be achieved for both service model types. However, the distinct benefits of the community based Early Supported Discharge Team model was its capacity to address the delayed discharge policy agenda in terms of saving bed days, (ESD Trialist group 2005, Kwan et al 2004, Anderson 2002, Teng et al 2003, Miller et al 2005, Weiss 2003).

2.3 Patient/Service User and Carer Interviews

Interviews were completed with patients/service users and carers from NHS Lanarkshire and South Lanarkshire Council. A total of 26 in-depth interviews were completed. Interviews were focused on understanding the narrative of individual patient/service user and carer pathway experiences, within and across services.

Patient/service users and carers highlighted several areas they valued from current OT services. Universally, patients/service users and carers highlighted the professional rapport and relationship with OT personnel to be of significant value in aiding positive outcomes from OT input. In line with the literature evidence, patient/service users also highlighted the value of OT input through rehabilitation and equipment provision to facilitate confidence and independence with ADL tasks. Additionally, those who were interviewed, whom had received a supported transition from hospital through Early Supported Discharge Team services, noted this to be a highly valuable experience in supporting them return home from hospital during a vulnerable period.



“The OT helped me get home from hospital as I had been in for a long time, they gave me the confidence to do things for myself again” (Patient, NHSL)

The patient/service users and carers also highlighted areas for service development. These included some concerns regarding the limited length of, and accessibility to, OT service provision across the care pathway, particularly for rehabilitation services. The current requirement to repeat personal information during assessment across services within the care pathway was identified to be an area of frustration. Furthermore, patients/service users noted incidences of ineffective communication across services, particularly during periods of transition from one service to another. This led to instances where patients/service users ‘fell through the net’ and had no identified point of contact to support them navigate back into the system.

Carers highlighted ineffective communication to be a challenge. They reported that they did not always feel communicated with in terms of OT service input and discharge recommendations. As a consequence, carers felt unable to support their relative with the use of equipment or implementing techniques prescribed by the OT personnel involved. Finally, carers reflected that the existing service structures provided limited follow-up arrangements following discharge, which they found disconcerting when faced with the responsibility of sustaining their relative at home.



“If you fill out one form with one person why do you have to go over and over the same questions with other people? It puts people off, the hassle you know” (Service user, SLC)

“We could have been approached more....I think we should have been here to discuss things with the OT rather than things just being delivered” (Carer, NHSL)

¹³ Early Supported Discharge Team refers to community based service which provides multidisciplinary rehabilitation support for patients on discharge from hospital.

2.4 Professional Focus Groups

Joint focus groups were completed with OT's from NHS Lanarkshire and South Lanarkshire Council. These focus groups concentrated on understanding the OT role in practice, current service strengths and areas for future development.

Within the focus groups, OT personnel identified their unique contribution to be:

'The skilled analysis of a person's ability and potential to engage in a range of occupations within an environment, in efforts to promote independence with meaningful daily tasks.'

OT personnel highlighted the existing direct access by health OT personnel to local authority equipment as a positive joint working arrangement. An additional current service strength was acknowledged to be strong working relationships with the extended multidisciplinary team members. However, OT personnel described current professional practice to be focused on assessment, equipment provision, and discharge coordination; with restricted opportunity for community resettlement and rehabilitation across the care pathway. This service and practice restriction was considered to be channelled by the fragmented organisational structures, coupled with the practice parameters being driven by organisational priorities. The perceived impact of this on the patients/service users was an increased level of dependency; as services focus on 'compensatory' interventions that do not always serve to realise the patient's/service user's full potential.

"It's down to resources on the ground as to how much time we have to commit to any one patient on a regular basis" (OT, NHSL)

The OT personnel also highlighted that current professional practice is primarily based on custom and practice and noted existing challenges in utilising evidence to underpin practice, e.g. limited time, access and skills to research/evidence. These areas of concern were identified to be areas for future service development.

"....reading appropriate journal articles are relevant but you know you don't have time to read research during work time" (OT, SLC)

2.5 Service Mapping

A mapping methodology was designed to understand the patient/service user pathway processes and activity as perceived and described by OT personnel. In addition, the mapping methodology captured service systems and associated activity (including parallel processes¹⁴). A total of 15 workshops were completed; 8 focused on service specific pathways within OT services; whilst 7 focused on pathways between Acute & Primary Care services, and Health & Local Authority services.

The service mapping findings provided an overview of service structures, processes, systems and professional practice. Service systems were highlighted as being constructed to deliver service priorities and lacked a patient/service user focus, e.g. directed by service criteria, service timeframes etc. On reviewing service activity, therapists perceived a "30% direct¹⁵ /70% indirect¹⁶" split of activity in current services. The direct service activity was universally focused on ADL assessment; with a limited rehabilitation focus and restricted usage of

¹⁴ Parallel processes includes services which the OT service are reliant on to deliver services but are not completed by OT personnel, e.g. administration, technical services.

¹⁵ Direct activity is defined as service activities that engage patient/service users and carers directly, e.g. assessment, intervention and communication

¹⁶In-direct activity is defined as service activities undertaken on behalf of patient /service users and carers that does not require there direct involvement, e.g. documentation, communication with other professionals, meetings and travel.

evidence based approaches and assessments. The indirect service activity was reported to focus primarily on documentation across all service areas. Service mapping illustrated that the terms and conditions of employment varied between the two organisations and a significant difference in the roles and responsibilities assumed by OT support staff in Health and Local Authority were highlighted, i.e. support staff in Local Authority have higher levels of autonomy in case load management.

The service mapping also illustrated that Acute, Primary Care and Local Authority services operated in silo constructs, resulting in duplication for patients/service users and OT personnel. The areas of duplication were perceived to arise primarily as a result of transitions of care between services. The findings indicated that the incidence of transitions of care occurred primarily between Acute and Primary Care rather than Health and Local Authority. The limited incidence of transitions of care between Health and Local Authority was perceived to be due to the effective direct access to equipment arrangements. The prevalence and standard of information sharing associated with transitions of care varied across Acute, Primary Care and Local Authority. The variation was also evident within the same service types across different service localities in Lanarkshire, due to locally negotiated arrangements.

The performance management information systems were not cohesive and there was a lack of clarity as to the purpose of the associated activity in certain areas. Service mapping highlighted a variation in service supervision, management and accountability structures, which resulted in differences in service operational arrangements and outcomes. There was also a clear distinction in organisational arrangements, whereby Local Authority OT processes were integral and dependent on parallel processes to fulfil intervention programmes e.g. Legal, Housing services etc; whilst Health OT services are essentially autonomous in delivering intervention programmes. Furthermore, the political influence was noted to be at a service level for Local Authority whilst at an organisational level for Health, compounding the differences in service operational arrangements and outcomes.

2.6 Tracking

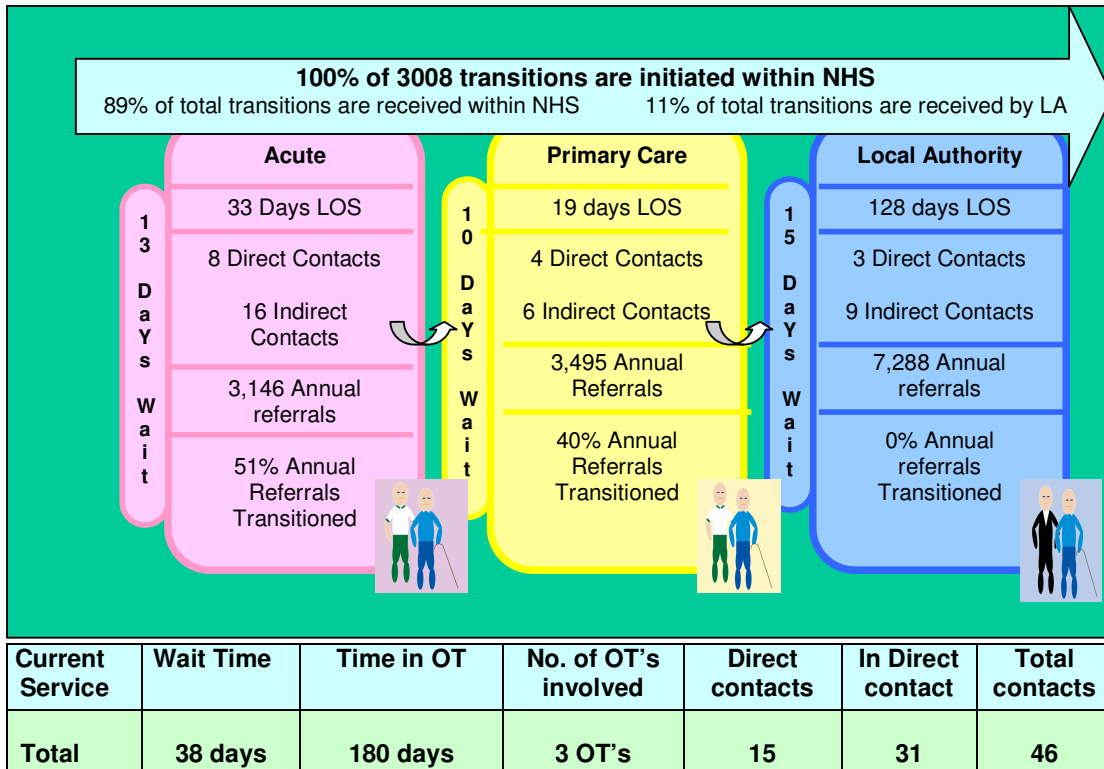
Tracking methodologies were designed to verify and quantify the actual content, frequency and time of service activity as observed in practice. The tracking methodologies took two forms. Firstly, a retrospective case record analysis to track patient/service user pathways within services was completed. This evidence focused on content and frequency of documented activity per patient and highlighted episodes of transitions of care between OT services. A total of 90 patients/service users were tracked across Acute, Primary Care and Local Authority services. Secondly, a time and motion study was completed to record observed direct and indirect service activity undertaken by OT personnel. This data was measured in units of time and quantified the actual time attributed to all service activities. It also defined the method in which the activity was undertaken, detailing the purpose, repetition status and outcome of each activity. The sample included 77 therapists¹⁷ who were observed in practice for a period of one day.

¹⁷ Sample included all OT staff available and excludes those on maternity leave, sick leave and service vacancies

2.6.1 Tracking: Retrospective Case Record Analysis

The retrospective case record analysis data quantified the patient/service user pathway experience. Figure 3, highlights the current service wait time, length of stay (LOS) within OT service, total number of OT contacts and the total number of potential OT's involved in a patient/service user pathway (transitions of care). It also reflects the number, origin and destination of the transitions of care episodes.

Figure 3 - Current Care Pathway



In summary, the current patient/service user pathway across Acute, Primary Care and Local Authority:

- Receives 13,929 referrals per annum
- Accrues a whole care pathway “wait period” of 38 days
- Generates an average “in service” OT length of stay of 180 days
- Results in 3008 transitions of care episodes (100% initiated by Health)
- Routinely engages 3 plus OT services/personnel
- Includes an average of 15 direct contacts and 31 in-direct contacts (1:2 ratio).

Further analysis demonstrated that;

- Acute service were universal “*initiators*” of transitions of care,
- Primary Care are “*initiators*” and “*receivers*” of transitions of care,
- Local Authority are “*receivers*” of transitions of care.

The proportion of transitions of care within Acute, Primary Care and Local Authority, relative to their respective annual referral rates is:

Acute:

- 51% of annual referrals within Acute care are transitioned
 - 38% of transitions are *initiated* to Primary Care services
 - 13% of transitions are *initiated* to Local Authority

Primary Care:

- 40% of Primary Care annual referrals are transitioned
 - 31% of transitions are *initiated and received* within Primary Care
 - 9% of transitions are *initiated* to Local Authority

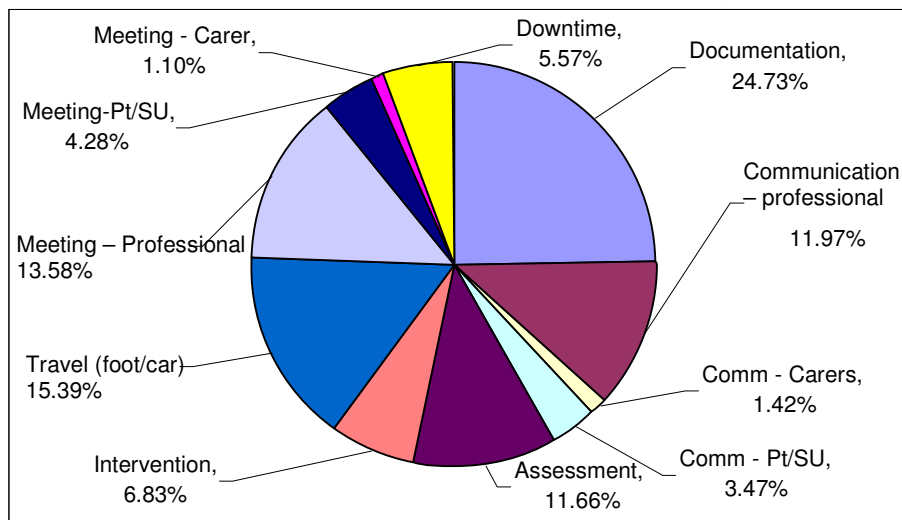
Local Authority:

- 0% of annual referrals are transitioned from Local Authority
 - 11% of transitions are *received* from NHS Lanarkshire

2.6.2 Tracking: Time and Motion

The time and motion tracking data provided an account of the actual time attributed to the activity under the categories of “assessment”, “intervention”, “communication”, “documentation”, “meetings” and “travel”. It also detailed the content and purpose of each activity, the method adopted, the repetition status of the activity and the outcome of each activity. Figure 4 highlights the time, as a percentage of a working day, across a range of direct and indirect service activities across the whole system.

Figure 4 – Whole System Service Activity: Time Allocation per Day



The time and motion data confirms that the direct/indirect service activity ratio is 28.76% and 71.24% respectively across Acute, Primary Care and Local Authority.

In summary, the top three **direct** service activities are:

- Assessment 11.66%
- Intervention 6.83% and
- Meetings (patient/service users and carers) 5.38%

The top three **indirect** service activities are:

- Documentation 24.73%,
- Travel (foot/car) 15.39% and
- Meetings (professional) - 13.58%.

Table 3 represents the top 2 discrete service activities within Acute, Primary Care and Local Authority, reflected as a proportion of the whole system service time percentage denoted in the Figure 4 pie chart.

Table 3 - Direct/ Indirect Activities: Acute, Primary Care & Local Authority

Activity (Ref: Figure 4)	Acute	Primary Care	Local Authority
Assessment (11.66%)	1. ADL Assessment (45.74%) 2. Physical Environment (18.69%)	1. ADL Assessment (50.35%) 2. Risk (18.74%)	1. ADL Assessment (43.28%) 2. Physical Environment (29.07%)
Intervention (6.83%)	1. ADL Rehabilitation (58.92%) 2. Remedial Rehabilitation (26.59%)	1. Remedial Rehabilitation (38.41%) 2. ADL Rehabilitation (24.94%)	1. Physical Equipment Provision (45.82%) 2. Physical Adaptation Provision (34.98%)
Documentation (24.73%)	1. Progress Notes (41%) 2. Statistical Forms (15.02%)	1. Progress Notes (41.95%) 2. Statistical Form (11.28%)	1. Progress Notes (45.94%) 2. General Assessment Form (18.68%)
Travel (15.39%)	1. Workplace (73.55%) 2. Patient/Service User Home (23.49%)	1. Patient Service User Home (48.19%) 2. Workplace (45.27%)	1. Patient Service User Home (52.03%) 2. Workplace (39.40%)
Meetings (18.96%)	1. Meetings (32.86%) 2. Peer Consultation (28.77%)	1. Meetings (48.25%) 2. Peer Consultation (19.54%)	1. Meetings (.34.27%) 2. Peer Consultation (21.66%)
Communication (16.86%)	1. Other Acute Professionals (16.26%) 2. Carers (13.57%)	1. Other PC Professionals (11.40%) 2. Other LA Professionals (9.43%)	1. Patient/Service User (27.55%) 2. Other LA Professionals (23.95%)

Table 3 demonstrates that the two top activities for the discrete service areas are regularly shared in focus across Acute, Primary Care and Local Authority. This is despite the data gathering tool having multiple variables within each activity category, generated through the service mapping exercises.

In summary, the key time and motion findings illustrate that the

- Assessment focus within Acute, Primary Care and Local Authority was unreservedly on ADL, with a similar proportion of dedicated time across all services
- Intervention activity within Acute and Primary Care shared a common focus on ADL and remedial rehabilitation; whilst their Local Authority counterpart's focused on equipment and adaptations
- Documentation activity across Acute, Primary Care and Local Authority was predominantly related to progress notes
- Travel activity again tended to reflect similar destinations, with Acute expending significant amounts of time travelling between wards in the workplace
- Meeting activities are shared across all O.T. services in terms of nature and rating
- Communication activity reflected that all O.T. services dedicated significant proportions of time to communicating with other professionals (other than O.T), especially within their own organisational structures.

2.7 Summary of Baseline Evidence

In conclusion, the analysis of the baseline data highlights a range of positive service attributes and service issues from an organisational, OT personnel and patient/service user perspective.

The key positive service attributes related to:

- Patients/service users and carers universally regarding OT therapeutic rapport as being a positive aspect of service delivery
- Patients/service users and carers reporting the importance of supported transitions from hospital to the community e.g. Early Supported Discharge Teams
- Patients /service users and carers reporting the value of equipment provision and ADL rehabilitation to facilitate confidence and independence with daily tasks
- OT personnel reporting joint working arrangements as being a positive aspect of current service arrangements

The key issues related to:

- Services being fragmented, inaccessible and difficult to navigate for patient/service users
- Communication within and across services as being a challenge experienced by professionals and service users/patients and carers
- Organisational structures being driven by organisational priorities and operating within silo constructs
- A high incidence of transition of care episodes occurring within and across organisations, resulting in service duplication for patients/service users and O.T personnel
- Service activity being dominated by indirect activity, such as documentation, travel and meetings, with limited opportunity for direct activity e.g. rehabilitation
- Professional practice being primarily based on 'custom and practice', as opposed to evidence based practice
- An absence of an whole system OT performance management infrastructure to evaluate the OT service performance and outcomes for patients/ service users

3. Service Redesign Planning: Methodology

3.1 Methodology

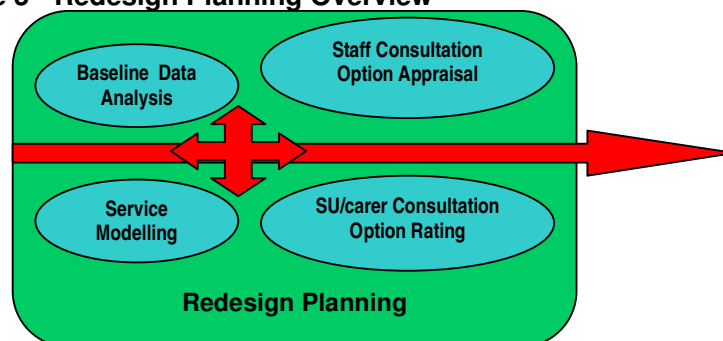
The redesign planning phase of the project aimed to distil and utilise the comprehensive baseline data to develop service redesign options that were within resources, person centred, evidence based and measurable.

A selection of health economic methodologies were adopted, complemented by a process of consultation with patients/service users, carers and OT service personnel. These focused on:

- Service modelling exercises to provide an understanding of the resource implications of any service redesign option on existing services
- A consultation and option appraisal format to provide a structured approach to facilitate OT service personnel engagement in understanding and using baseline evidence; to facilitate a collaborative decision making process
- A consultation and option rating format to provide a structured and supportive approach to facilitate patients/service users and carers involvement in the redesign, in order to elicit rated preferences of the service redesign options

The following outlines the discrete service modelling methodologies and findings to understand the service redesign implications in terms of capacity and resources. Additionally, consultation and decision-making structures are outlined and the results are presented. Figure 5 below illustrates the methodology adopted to complete the redesign planning phase of the project.

Figure 5 - Redesign Planning Overview



3.2 Service Modelling

A health economic modelling structure¹⁸ was employed to predict the impact of the service redesign planning options within a capacity resource framework. One of the main parameters of the project was that the service redesign would be undertaken within existing resources. Therefore, creating capacity for service development through service redesign was a priority. In addition, the redesign options were required to meet the existing organisational and policy priorities e.g. delayed discharge, 28 day service standard. The analysis and application of the quantitative 'time and motion' data, served to simulate the impact of the service redesign options, in terms of capacity/resources. This enabled an understanding of the resource implications and service impact of the redesign options in efforts to maximise efficiencies whilst delivering service delivery improvements.

¹⁸ Health economic modelling is defined as the statistical formulation and testing of hypothesised service redesign scenarios on service systems and delivery (Drummond et al 2005)

The identified areas for service redesign modelling were generated from the baseline data evidence and in consultation with the representatives from the OT service personnel.

The service redesign options were:

- Systems to minimise transitions of care
- The implementation of an evidence based assessment and outcome measure
- The introduction of a shared information technology system

3.2.1 Service Modelling: Systems to Minimise Transitions of Care

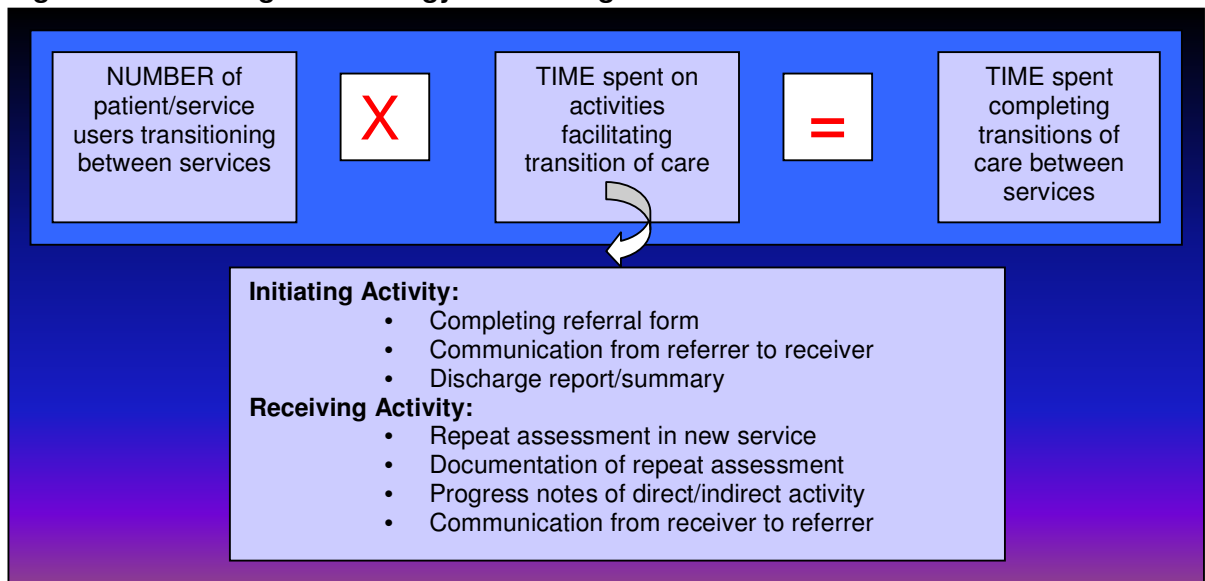
Modelling Principle

The modelling principle was to reduce the number of OT's involved within a patient/ service user whole system care pathway, from 3 plus OT personnel to 1; minimising the incidence of duplicate activity for both OT personnel and patients/service users.

Modelling Methodology

The formula to simulate the impact of 'minimising transitions of care' is detailed in figure 6.

Figure 6 – Modelling Methodology: Minimising Transitions of Care



The service modelling exercise required the calculation of time allocated to initiating activity (average 13 minutes) and receiving activity (average 126 minutes) as denoted above. The formula was applied to all discrete service areas to determine the resource implications at service specific levels and within the O.T care pathway in its totality. Both initiating and receiving activities were considered to be duplicate activities within the care pathway and could be minimised to create capacity.

Modelling Findings

The potential capacity created by minimising transitions of care is detailed in table 4.

Table 4 - Capacity Created by Minimising Transitions of Care

Acute	Primary Care	Local Authority
Initiates 1,604 transitions of care	Initiates 1,404 transitions of care	Initiates 0 transitions of care
474 hours per year (Initiating transitions of care)	5,427 hours per year (Initiating/receiving transitions of care)	1, 621 hours (Receiving transitions of care)
5, 901 hours per annum created (Through minimising transitions of care)		1,621 hours per annum created (Through minimising transitions of care)
Creates whole systems capacity of 7,522 hours, which equates to 4.6WTE		

OT personnel comments:

<i>"I don't really see any need to have community teams as separate things, why couldn't we just have one that works together and have the same OT?..."</i> (OT , NHSL)
<i>"At the moment I think it's quite difficult for a service user to actually negotiate their way around all the different parts of the service, so they might have a rapid response OT, then get admitted and have a hospital OT, then they might get an early supported discharge OT and finally, they might get a community OT from social work....."</i> (OT, SLC)

In conclusion, minimising transitions of care is an essential strand of the service redesign as it facilitates person centred service developments and creates capacity to accommodate additional service improvements.

3.2.2 Service Modelling: Implementation of an Evidence Based Assessment and Outcome Measure

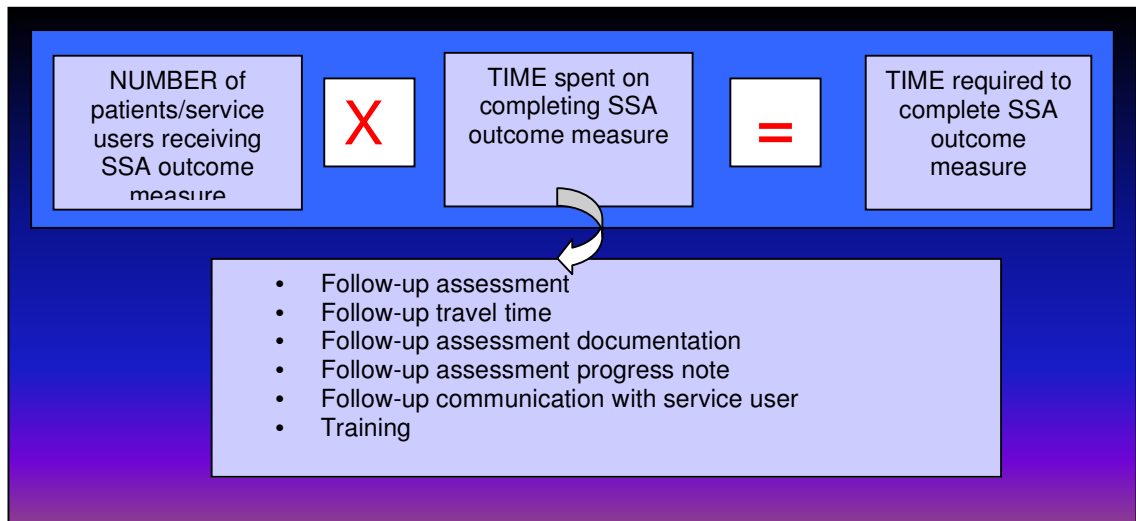
Modelling Principle

The modelling principle was to account for the time differential between the current assessment arrangements and the implementation of an evidence based assessment and outcome measure structure.

Modelling Method

The formula to simulate the impact of implementing an 'Evidence Based Assessment and Outcome measure' is detailed in figure 7

Figure 7 Modelling Methodology: Implementing Evidence Based Assessment and Outcome Measure (Facilitating Single Shared Assessment practices)



The evidence based assessment activity was modelled to be resource neutral, as existing assessment practices were comparable in terms of time to the implementation of evidence based practice. The service modelling exercise required the calculation of the time required to complete a follow-up assessment to measure the outcome of OT service input for every 1 in 10 patients/ service users¹⁹. The formula was applied to all discrete service areas to determine the resource implications at service specific levels and within the O.T care pathway in its totality.

Modelling Findings

The capacity required for the implementation of an evidence based assessment and outcome measure is detailed in Table 5.

Table 5 - Capacity Required to Implement an Evidence Based Assessment and Outcome Measure

Acute	Primary Care	Local Authority
458 hours to implement	438 hours to implement	933 hours to implement
108 hours training	122 hours training	208 hours training
896 hours required to implement		933 hours required to implement
230 hours training		208 hours training
<p>Requires whole system capacity of 2,267 hours (Equates to 1.4 WTE)</p> <p>Requires whole systems recurring capacity of 1,829 hours (Equates to 1.1 WTE)</p> <p>Requires whole system non-recurring capacity of 438 hours (Equates to 0.3 WTE)</p>		

¹⁹ 1 in 10 patients/service users provides a systematic random sample, which is a generalisable representation of the Lanarkshire OT older adult and stroke service.

OT personnel comments:

“At the end of the day if you are not actually measuring what you do, you don’t have any evidence” (OT, NHSL)

“One of the frustrations...is that we don’t get the opportunity to use outcome measures” (OT, SLC)

In conclusion, the service modelling hypothesised that the implementation of an evidence based assessment and outcome measure requires recurring and non-recurring capacity. However, this investment supports the development of evidence based practitioners, providing the foundation for effective joint working.

3.2.3 Service Modelling: Introduction of a Shared Information Technology System

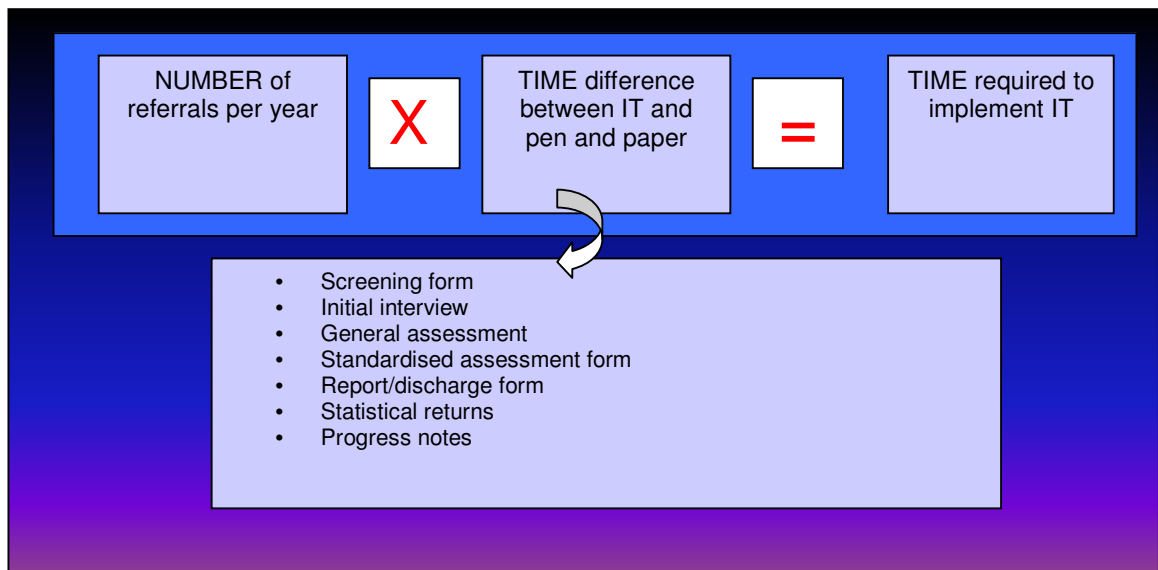
Modelling Principle

The modelling principle was to calculate the actual time required to implement an IT system to replace the existing pen and paper documentation within and across services. The objective was to facilitate information sharing in line with the Single Shared Assessment agenda and the National Community Care Outcomes²⁰.

Modelling Methodology

The formula to simulate the impact of implementing a ‘Shared Information Technology System’ is detailed in figure 8.

Figure 8 Modelling Methodology: Shared Information Technology System



The service modelling exercise required the calculation of the time differential between the completion of documentation activities on IT rather than pen and paper. The use of IT takes 1 minute longer in South Lanarkshire Council and 2 minutes longer in NHS Lanarkshire than equivalent tasks on pen and paper. The formula was again applied to all discrete service areas to determine the resource implications at service specific levels and within the O.T care pathway in its totality.

²⁰ The National Community Care Outcomes refers to the new service performance measures linked to the Single Outcome Agreement

Modelling Findings

The resource capacity required to implement a shared information technology system is detailed in table 6.

Table 6 - Capacity Required to Implement a Shared Information Technology System

Acute	Primary Care	Local Authority
4734 hours to implement		701 hours to implement
168 hours training		158 hours training
4,734 hours to implement 168 hours training		701 hours to implement 158 hours training
<p style="text-align: center;">Requires whole systems capacity of 5,761 hours (Equates to 3.6WTE)</p> <p style="text-align: center;">Requires whole systems recurring capacity of 5,435 hours (Equates to 3.4 WTE)</p> <p style="text-align: center;">Requires whole system non-recurring capacity of 326 hours (Equates to 0.2 WTE)</p>		

OT personnel comments:

"It (IT) would not save time, just be done in a different way" (OT, SLC)

In conclusion, although the introduction of a shared I.T. system is projected to require a significant investment in recurring capacity (with an element of non-recurring capacity for training), it was considered to underpin the development of a whole system Single Shared Assessment approach to service delivery, monitoring and evaluation.

The service modelling results were synthesised and presented to stakeholders to facilitate collaborative consultation and evidence based decision making on service redesign options through option appraisal and option rating structures.

3.3 OT Service Personnel Consultation and Option Appraisal

3.3.1 OT Service Personnel Consultation

Thirteen consultation workshops were completed with OT service personnel representatives (n=25) to analyse the baseline evidence and review the service modelling data. The OT service personnel representatives included:

- NHS Lanarkshire Head OT's,
- South Lanarkshire Council Team Leader: Physical Disability,
- Team Leaders of Early Supported Discharge Team services and
- SWITCH Lead Practitioners (²¹).

These sessions were focused on OT service personnel engaging with the baseline evidence and modelling data to come to a consensus on service redesign options. The staff consultation utilised an action research approach to facilitate collaborative participation of the OT personnel representatives within the service redesign process. The process of staff consultation was completed using a rapid planning framework where OT service personnel were provided with a structure of *why* change, *what* to change and *how* to change. The central focus of the consultation sessions was on improving the patient/service user pathway experience. Mixed NHS Lanarkshire and South Lanarkshire Council staff sub groups were provided with baseline evidence sources and facilitation materials to support discussion, reflection and service redesign decision making.

3.3.2 Option Appraisal

The option appraisal workshop concluded the OT service personnel consultation sessions. The option appraisal session was undertaken to evaluate the merits of each of the different service redesign options. A multi-criterion decision making analysis approach was completed using the Visual Interactive Sensitivity Analysis (VISA) computer software²². The mixed OT service personnel representative groups were asked to weight a set of criteria relevant to their priority for change. The set of criteria used is outlined below:

- Does option create or need time
- Does option need financial resource
- Does option develop community focused services
- Does option increase direct contact time and reduce indirect contact time
- Does option increase patient/service user access to services (rehabilitation)
- Does option increase cohesion of services
- Does option improve information sharing between professionals
- Does option improve information sharing with patients/service users and carers
- Does option implement a unified evidence based OT approach
- Does option increase shared learning

This process of weighting provided *criteria weightings*. The OT service personnel representatives were then provided with a summary of the baseline evidence and service modelling findings and asked to rate each service redesign option against the set criteria. This provided *option ratings*. The *criteria weightings* and *option ratings* were then correlated through the VISA software to provide an evaluation of the service redesign options to determine the most efficacious choice.

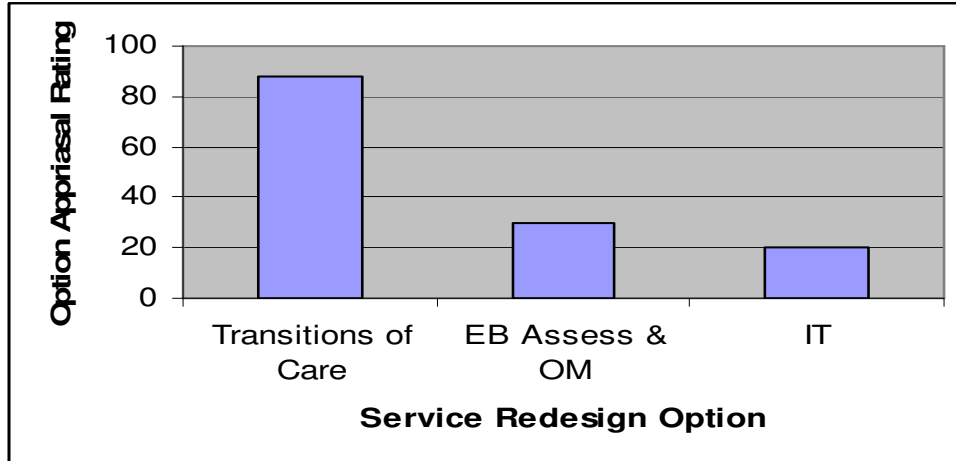
The service redesign options, i.e. minimising transition of care, implementing an evidence based assessment and outcome measure, implementing a shared information technology system were rated independently. These service redesign options were then combined and rated.

²¹ Recruited OT practitioners representing OT workforce across geographies of NHS Lanarkshire and South Lanarkshire Council older adult and stroke OT services

²² VISA software refers to a decision support tool that enables the comparison of alternative options against multiple criteria.

Graphs 1 and 2 highlight the correlation of the criteria weightings and option ratings for each of the modelling options. The results were as follows:-

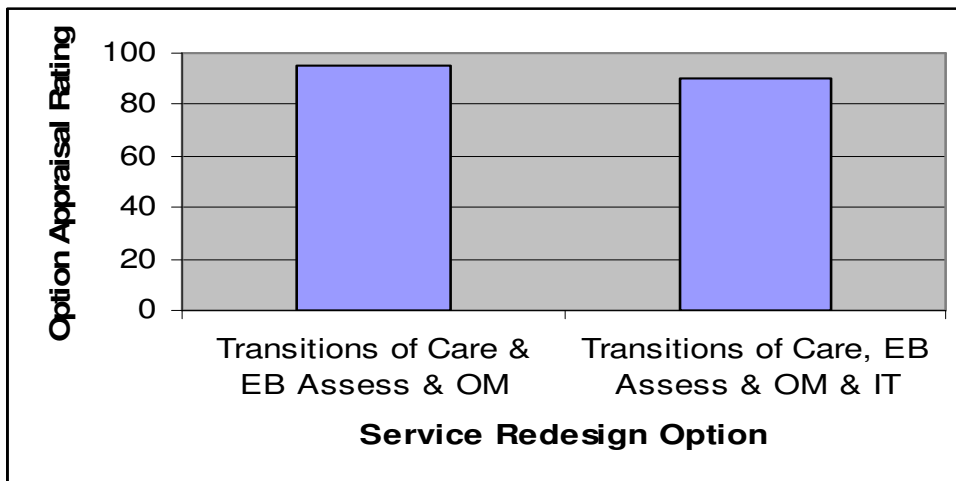
Graph 1 - Option Appraisal Results for Redesign Options



EB reference to Evidence Based
IT refers to information technology

Combined options were rated and the results were as follows:-

Graph 2 - Option Appraisal Results for Combined Redesign Options



EB reference to Evidence Based
IT refers to information technology

The option appraisal results clearly highlight “minimising transitions of care” to be the preferred service redesign option rated against the criteria. When service redesign options were combined, “minimising transitions of care” and “implementation of an evidence based assessment and outcome measure” presented as the preferred option against the set criteria. The marginally inferior rating for the combined transition of care, evidence based

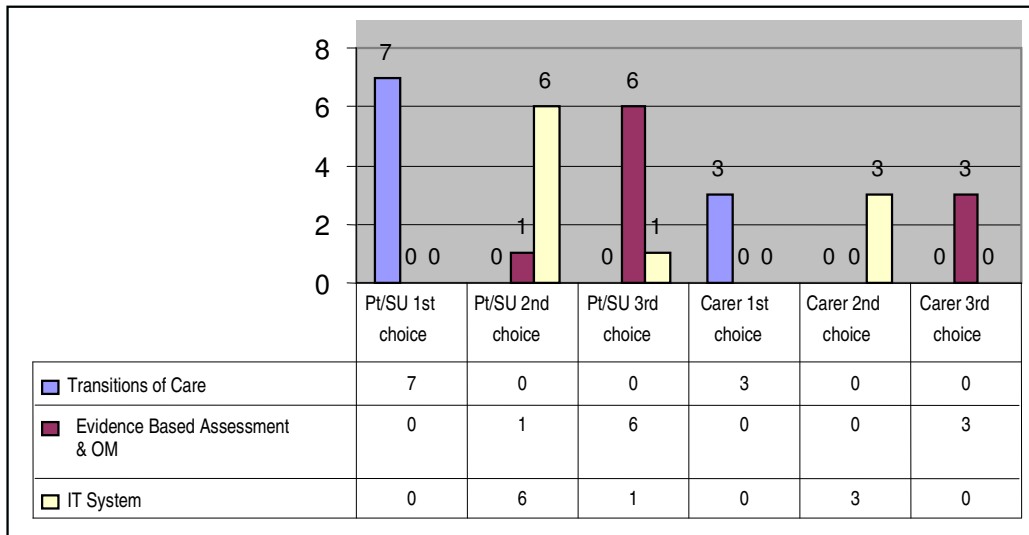
assessment/ outcome measure and IT service redesign option, arose as a result of the IT component requiring additional financial resources.

3.4 Patient/ Service User & Carer Consultation and Option Rating

A consultation process with patients/service users and carers was completed to review service re-design options. Patient/service users and carers were recruited from the previous group involved with interviews.

A face to face session was completed with each participant (n=10). A document was provided of all the baseline data sources and redesign options. The benefits to the patients/service users and carers were outlined. Each patient/service user and carer was asked to prioritise and rate each redesign option from first choice to third choice from their perspective. The results of the option ratings are highlighted in graph 3.

Graph 3 - Patient/ Service User and Carer Option Rating Results



Patient/service users and carers unanimously rated the minimisation of transitions of care as their first choice. They identified having a consistent staff member would support them to transition between services and provide them with an identified point of contact.



“I saw so many different people I forget their names.....having one contact would be much better” (patient, NHSL)

“I like familiarity...that’s (transition of care) the one for me” (Service user, SLC)

The second choice was the implementation of a shared information technology system. They identified that this would reduce the need to repeat personal information and history between services and at each new episode of care.



“If they know a bit about you before they see you it would help, it would save telling them the same thing over and over again” (Service user, SLC)

“It would be good if you didn’t have to repeat things....that would help” (Patient, NHSL)

4. Conclusion

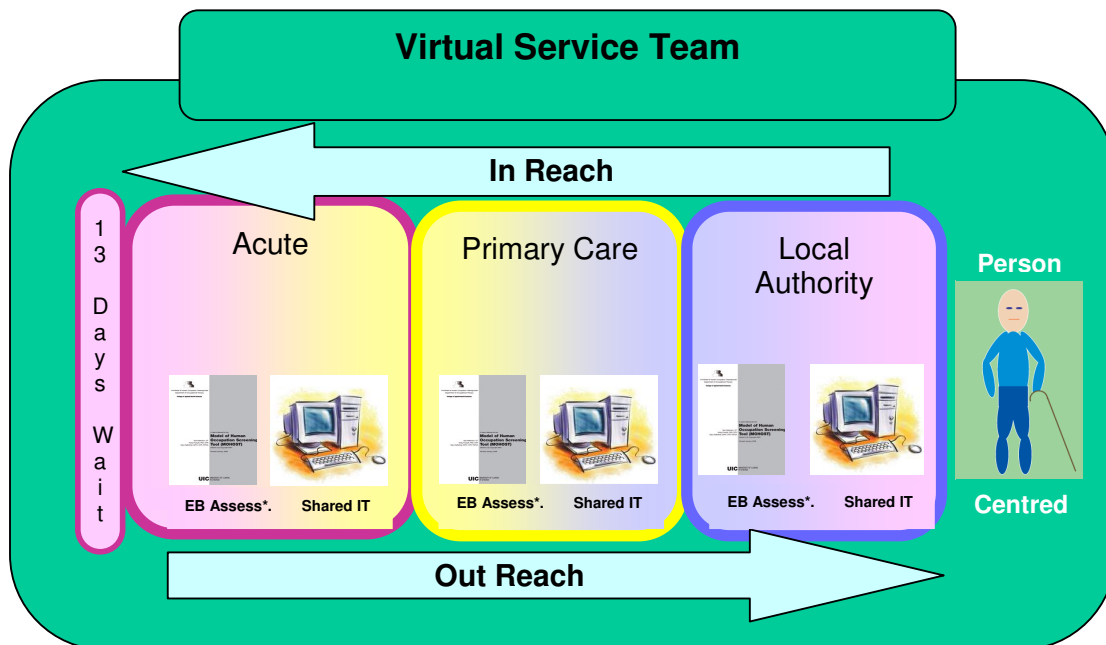
4.1 The SWITCH Partnership Service Redesign Model

On reviewing and analysing the baseline data, the service modelling findings, the option appraisal and option rating results, a service redesign model was developed. The service redesign model aims to address and respond to the key service development agendas identified by the service stakeholders within NHS Lanarkshire and South Lanarkshire Council.

Figure 9 provides an overview of the proposed “Virtual Service Team” model that encapsulates all 3 service redesign strands of:

- Systems to minimise transitions of care
- The introduction of a shared information technology system
- The implementation of an evidence based assessment and outcome measure

Figure 9 - The Virtual Service Team Model



* Reference to evidence based assessment and outcome measure

The ‘virtual service team’ proposes to maintain the current organisational structures, but reconfigure traditional service and practice parameters to facilitate person centred care. This will be achieved by creating in-reach²³, outreach²⁴ structures to support O.T. personnel to follow and support the individual patient/service user through their care pathway. In addition, the proposed implementation of an evidence based assessment and outcome measure promotes the standardisation of practice. This, combined with a shared I.T system will provide a Single Shared Assessment infrastructure and a whole system performance management framework across Acute, Primary Care and the Local Authority.

(N.B. The implementation of the information technology service redesign can be accommodated within the capacity created from minimising transitions of care. However, an additional organisational financial investment has been secured for the procurement of hardware, software and licences)

23 In-reach refers to community based occupational therapy services delivering services within hospitals

24 Outreach refers to hospital based occupational therapy services delivering services within the community

4.2 SWITCH Partnership Objectives Revisited

The service modelling hypothesises that the introduction of the 'virtual service team' will achieve the SWITCH Partnership objectives in delivering service improvements from an organisational, professional and patient/service user and carer perspective:-

Objective 1: Redesign OT services to create efficiencies within current resources

- Minimising transitions of care creates efficiencies by reducing service duplication across the care pathway, generating a capacity of 7,522 hours (4.6 WTE). This will be reinvested to deliver the implementation of an evidence based assessment and outcome measure within a shared I.T system. This service development will require a total annual recurring capacity of 7,264 hours (4.5 WTE).
- Minimising transitions of care reduces the patient/service user wait times by 25 days across the care pathway.
- Minimising transitions of care rebalances the direct and indirect contacts per patient/service user by increasing the ratio from 1 direct to 2 indirect to 1.7 direct to 2 indirect.

Objective 2: Deliver person centred O.T. services

- Establishing a person centred service approach by introducing in-reach, outreach structures that promotes service continuity in terms of assessment, intervention and communication, supporting the patient/service user through the care pathway.
- A patient/service user focussed evidenced based assessment and outcome measure that engages patients/service users in assessment, goal setting and evaluation.
- A shared information technology system that centralises patient/service user data across services, minimising the need for patients/service users to repeat personal information at each stage in their care pathway.
- The virtual service team model, by increasing the direct/ indirect contact ratio, provides the capacity to reconfigure direct contacts to focus on community based rehabilitation that promotes patient/service user engagement and participation in meaningful daily activities.

Objective 3: Develop evidence based practitioners

- Implementation of an evidence based assessment and outcome measure provides the workforce with a standardised and unified approach to practice, which provides a robust foundation for service development and integrated working arrangements.
- Implementation of the unified evidence based approach promotes the opportunity to extend the qualified staff skill base and expertise across the whole system for intervention through role blurring and shared learning.
- The implementation of an evidence based assessment and outcome measure supports practitioners embrace evidence based decision making and promotes reflective practice.
- The implementation of the evidence based assessment and outcome measure provides the infrastructure for a specialist Single Shared Assessment, which enables electronic information sharing between OT personnel and the extended health and social care workforce.

Objective 4: Develop whole system performance management information infrastructures

- The introduction of a shared evidence based outcome measurement infrastructure provides a systematic approach to measure the impact of the OT service within and across the care pathway.
- The implementation of the electronic evidence based outcome measure introduces quality indicators that reflect person centred service outcomes, to complement the existing input, process and output measures.
- The shared IT system provides a shared electronic structure to gather and evaluate evidence based whole system performance management information within and across services to inform future, sustainable service developments.

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