Successful Implementation of Early Supported Discharge Services

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Short title: Early Supported Discharge

Acronym: ESD

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SYNOPSIS

Title	Successful Implementation of Early Supported Discharge Services
Acronym	ESD
Short title	Early Supported Discharge (ESD)
Chief Investigator	Professor Marion Walker & Dr Rebecca Fisher
Objectives	**PRIMARY OBJECTIVE:** To provide a definition and description of Early Supported Discharge (ESD), to identify barriers to the implementation of ESD services and activities to address these. We will also measure the effectiveness and cost implications of an ESD service. **SECONDARY OBJECTIVES**: To address the following questions: What effect does ESD (Early Supported Discharge) have on length of stay in hospital, readmission and mortality rates? What impact does ESD have on the mood and well-being of patients or carers? What are the health and cost benefits of the implementation of ESD services into local areas?
Study Configuration	Exploration of factors involved in implementation of an ESD service and its effectiveness and cost implications using qualitative and quantitative methods.
Setting	Acute hospital trusts, PCTs and local authorities. Patients homes.
Sample size estimate	330
Number of participants	330 patients 90 staff
Eligibility criteria	Participants will either be staff involved in providing the ESD service or working in partner health organisations/ local authorities or patients who have been referred to the ESD service and those patients carers. All participants should be over the age of 18 years of age.
Description of interventions	No intervention as such as the study is describing already present ESD services.
Duration of study	Planned start date February 2010. Participant start date April 2010. Planned end date July 2013

Outcome measures	1. Qualitative analysis of staff and patient interviews. 2. Quantitative analysis of routinely collected patient data (including admission and discharge dates, mortality, readmission, place of residence, discharge destination). 3. From patients: Demographics Questionnaire, Barthel score, SF-36, GHQ-28, EuroQoL, Nottingham Extended ADL, Satisfaction 4. From carers: SF-36, GHQ-28, Satisfaction 5. From medical and social care records: Service resource data about patient use of social services, GP contact, Outpatient visits.
Statistical methods	1. The methodology of choice used with the hospital routinely collected anonymised data will be a quasi experimental pre-test / post-test design (Langbein 2006). Regression techniques will be used on pooled cross sections (Wooldridge 2005) to compare data collected prior to the start up of the ESD service with that collected after the ESD service is implemented. 2. Analysis of changes in patient outcome measures within each patient group (ESD or non-ESD) across four time points (baseline, 6 weeks, 6 months and 12 months) will be carried out using repeated measure ANOVA and t-tests.

STUDY OBJECTIVES AND PURPOSE

Purpose: The purpose of this study is to increase knowledge of barriers and facilitators to the setting up and running of a new service, the Early Supported Discharge Service (ESD), for stroke patients.

Primary Objective:

To provide a definition and description of Early Supported Discharge (ESD), to identify barriers to the implementation of ESD services and activities to address these. We will also measure the effectiveness and cost implications of an ESD service.

Secondary Objectives:

To address the following questions:

What effect does ESD (Early Supported Discharge) have on length of stay in hospital, readmission and mortality rates?

What impact does ESD have on the mood and well-being of patients or carers?

What are the health and cost benefits of the implementation of ESD services into local areas?

STUDY DESIGN

SUMMARY OF PROJECT

Defining and describing Early Supported Discharge
Part1: Consensus on the definition of ESD
Part 2: Mapping ESD services: Systems Methodology

Addressing Barriers to the Implementation of ESD services
Part 3: Mapping ESD services: Implementation
Part 4: The Implementation Strategy: Implementation Activities

Measuring the effectiveness of ESD services
Part 5: ESD service evaluation: Pre-ESD / Post-ESD design
Part 6: ESD service evaluation: Cochrane experimental outcome measures

Defining and describing Early Supported Discharge
Part1: Consensus on the definition of ESD

We aim to establish an agreed definition of Early Supported Discharge following stroke. At the present time no such agreed definition exists. An expert consensus will be achieved by making contact with 14 ESD trialists (researchers) who have contributed data to the Cochrane Systematic review (Langhorne 2005). Professor Peter Langhorne has agreed to facilitate this initial interaction. Using a questionnaire approach and a modified Delphi technique (Hasson 2000, Murphy 1998) the Principal Investigator (or nominated co-investigator) and the Head of Service from each study site will be asked to agree the subgroup of patients suitable for referral to the service, the staff complement of the team required, duration of ESD service, describe the content of intervention (focus) and identify key outcomes to assess success. These will inform our approach to the rest of the project.

Part 2: Mapping ESD services: Systems Methodology

We will identify all ESD services within the NDL CLAHRC. This will involve liaison with stroke services commissioned by Primary Care Trusts across 6 geographical areas: Nottingham City, Nottinghamshire County, Bassetlaw, Derby City, Derbyshire County and Lincolnshire.

Authorisation to interview staff, conduct observation, review documentation and access anonymised data will be obtained from the relevant Heads of Service within the partner organisations (Hospital NHS Trusts, Primary Care Trusts, Local Authorities).

With line manager permission, 1.5 hour interviews will be conducted with participants across the Nottinghamshire, Derbyshire and Lincolnshire region. We will conduct up to 25 interviews with staff within each of the two Nottinghamshire PCT areas (Nottingham City and Nottinghamshire County), and up to 10 interviews in each of Lincolnshire and Derby City & Derbyshire County South, Bassetlaw and Derbyshire County North. This will be up to 90 interviews in total. The actual number will depend on the size of the organisation, number of appropriate and willing participants. All interviews with staff participants will take place in a suitable setting (i.e. private room) at their workplace, during normal working hours.

Patients and carers who might be interested in participating in our research will be identified for us by their ESD team. We will conduct face-to-face 1 hour interviews with 40 patients in their homes across the Nottinghamshire, Derbyshire and Lincolnshire region.

Addressing Barriers to the Implementation of ESD services

Part 3: Mapping ESD services: Implementation

In this part of the project we aim to establish what success has been achieved and explore what challenges are faced. We aim to identify what the quality markers of an operating ESD service might be. Implementation analysis will be only carried out within Nottingham City PCT and Nottinghamshire County PCT areas (including associate acute hospital trusts).

We will conduct 1 hour follow-up interviews with participants from within the two Nottinghamshire PCT areas identified in part 2 (up to 30 participants in total). In order to provide an idea of such strategies it is necessary to think about *potential* issues that *might* be associated with implementation of the ESD service. These may fall within one of four areas: characteristics of the socio-political context, the organisation, the individual or the innovation itself (Fleuren et al 2004). Interviews and subsequent data analysis will be framed around these themes.

Part 4: The Implementation Strategy: Implementation Activities

Implementation Discussions

Information collated in parts 2 and 3 will be fed back to participants so that planning about the type of interventions appropriate for the organisation or individuals involved can take place. This will be carried out in 30 minute discussions with 20 key stakeholders and service providers in Nottinghamshire (participants identified from part 3). These individuals will also be asked to participate in a follow-up 30 minute interview after implementation activities have been carried out to obtain feedback about the activities' usefulness and effectiveness. Visual analogue scales and short surveys will be used to gauge opinion and measure satisfaction with regard elements of the implementation strategy.

Summary of possible Implementation Activities – actual plans will be guided by research carried out in parts 2 and 3.

These activities will be tailored to the stakeholders needs and requirements and will build on evidence collected in earlier parts 2 and 3 of the study. Implementation activities will be run both inside and outside of the stakeholders usual place of work. Permission for stakeholders to attend such events will be obtained from their line managers.

1. Locally run meetings involving all levels of ESD staff: clarification of the aims of the ESD team, promotion of knowledge transfer, clarification of roles, discussion of issues and training needs.
2. Network ESD meetings: sharing experiences of implementing ESD services throughout the CLAHRC NDL region.
3. Educational events: Workshop events in Nottingham covering topics such as opportunity recognition, solution generation and evaluation, convergent and divergent thinking. Exploration of areas of implementation such as establishing clinical unity in practice and collaboration. These will present an excellent training and networking opportunity.
4. Tailor-made one-to-one development: exploration of behaviour change, opportunity to participate in workplace exchange schemes.

Measuring the effectiveness of ESD services

The aim of this phase of the programme is to evaluate the functioning of ESD services operating in Nottinghamshire.

Part 5: ESD service evaluation: Pre-ESD / Post-ESD design

We aim to evaluate ESD services to test our (null) hypothesis that:

1. The average length of initial stay in hospital prior to the implementation of EDS does not differ compared with that after ESD.

2. Observed mortality does not differ prior to and after the ESD.

3. Observed re-admission to hospital does not differ prior to and after the implementation of the ESD.

Rejection of the above-mentioned hypotheses, on statistical grounds, will mean that the establishment of ESD has had an effect (positive or negative).

Analyses will be carried out using anonymised raw data from cohorts of patients who were admitted to the NUH stroke unit between defined study start and end points.

Our methodology of choice will be a quasi experimental pre-test / post-test design (Langbein 2006). Regression techniques will be used on pooled cross sections (Wooldridge 2005) to compare data collected prior to the start up of the ESD service with that collected after the ESD service is implemented.

Part 6: ESD Service Evaluation: Cochrane experimental outcome measures

Self-administered Outcome Measures

Patients and carers will be evaluated over 4 time points using experimental outcome measures. A baseline measurement will be taken when patients are first identified as being eligible for ESD (whether or not they are admitted to an ESD service), and further measures will be taken at 6 weeks, 6 months and 12 months following this date. All outcome measure questionnaires will be used with patients during a visit to hospital

or home for patients who require help with the forms. Telephone contact will also be made with patients who require support with forms.

PUBLICATION AND DISSEMINATION POLICY

Study results will be published and disseminated in a variety of ways. A report of the study will be produced, including an executive summary which will be distributed to participants and other interested parties, who may also request a copy of the full report. Peer-reviewed publications in academic outlets will be pursued, as will outputs in practitioner-oriented publications.

Findings will be presented at academic and clinical conferences and meetings.

Within the CLAHRC, the findings from the study will contribute to the development of further research on implementation-related issues in clinical studies, and will form the basis for various educational and dissemination events and programmes, including 'road shows' for practitioners in the Nottinghamshire, Derbyshire and Lincolnshire region, workshops, and ultimately, the development of a Masters-level qualification in innovation in healthcare.

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