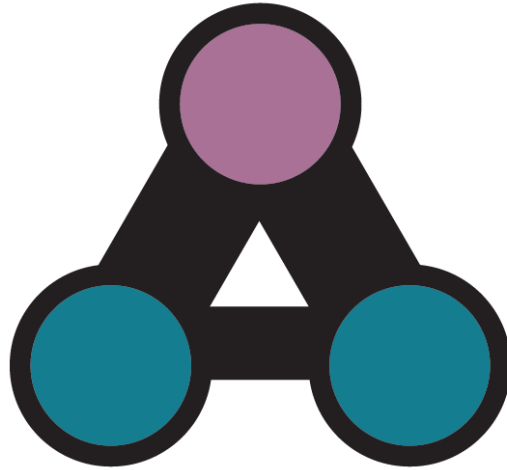


NOTTINGHAM  
TRENT UNIVERSITY 



**ASSIST**

**Mansfield District Council's  
Advocacy, Sustainment, Supporting,  
Independence and Safeguarding Team**

**Phase 3**

**Evaluation of the Kings Mill hospital discharge project of  
the 'ASSIST' team at Mansfield District Council**

By

Nottingham Business School, Nottingham Trent University

Professor Peter Murphy, Dr Donald Harradine and Dr Michael Hewitt

## Executive Summary

This is the third independent report in the series of evaluations of the impact of the ASSIST hospital discharge project in Mansfield.

It is a multi-provider appraisal of the wider costs and benefits to the core stakeholders of the ASSIST project which are in Health Services, Social Care, Housing Services, Welfare Services and the Criminal Justice Services

**The first report** evaluated the establishment and pilot phase of the scheme from September 2014 to April 2015. Although it evaluated robust data for only a two month period, the annualised savings from the scheme, (£379,800), based on an annualised cost of £284,300 and based on a monthly rate of 31 interventions (delivering savings) delivered a return on investment of 134%. However the report indicated considerable potential to increase activity and savings of up to £802,900 with a potential return on investment, at that stage of at least 271%.

**Phase 2** was a more detailed review that included more robust data and recording systems; the use of the most appropriate and updated NHS tariffs, and a 10 month period that allowed for seasonal variations in demand or supply for services. The annualised savings were calculated at £1,371,060. The annualised costs to Mansfield DC from running the service was £340,000, which was generally consistent with those given in the first report. The return on investment however was calculated at just over 400%, and the 'confidence' that could be taken in this result increased significantly from the previous estimates in Phase 1.

**The third evaluation** is a multi-provider appraisal of the wider costs and benefits to the core stakeholders of Health Services, Social Care, Housing Services, Welfare Services and the Criminal Justice Services within Nottinghamshire. In the event we were only able to attempt an partial appraisal as it proved impossible with the information available to make robust estimates or calculations for the impact on NHS mental health services; for the impact on non-reablement services in Nottinghamshire Social Services; for criminal justice services or for local welfare providers.

**The outcome of this evaluation is not therefore directly comparable to the previous evaluations** because it did not cover the full range of beneficiary stakeholders or services, and the appraisal was confined to the relevant organisations and services within the administrative area of Nottinghamshire. Although the savings reviewed in earlier appraisals appear to be robust based on the review undertaken for this stage.

The evaluation, does allow some general comparisons with the previous studies and may be useful for the Nottinghamshire Health and Social Care 'community of interest' and commissioners of health, social care and housing provision elsewhere in the UK.

**The number of interventions and the general case mix of individuals benefiting from the service have continued to be similar to the previous evaluation** period at approximately 50-55 per month and the aggregate savings of the scheme have generally been comparable to the previous evaluation period. **However the costs of operating the scheme have fallen significantly** to £149,500 (annualised) as a result of multi-skilling staff and improving and expediting systems and processes and better inter-organisational collaborative working.

The scheme continues to have a significant beneficial impact on a considerable cohort of some of the most vulnerable patients/clients as well as significantly reducing direct and indirect costs to the NHS and Social Services.

While the calculations are not exactly comparable it is clear that the financial return on investment achieved by the scheme has increased significantly. **In terms of the Nottinghamshire Health and Social Care system alone the financial return on investment exceeds over 915%** without the calculations of readmission avoidance - which should be added but are extremely speculative and possibly underestimated.

As part of this third evaluation the research team were also asked to investigate some specific benefits to key partners in two areas. We were asked to investigate and calculate:-

- The annualised savings to the Nottinghamshire County Council Reablement Services - which we have calculated as being in the region of approximately £107,000 per year.
- Secondly the annualised savings to Kings Mill hospital resulting from the avoidance of potential readmissions which we calculated, (on a very conservative basis, but consistent with the previously adopted approach) as being £186,323 per annum, representing the equivalent of 6.5 operations per year.

Despite it predating the emerging 'Accountable Care System' the current STP arrangements, and the establishment of the Alliance Partnership, the ASSIST hospital discharge scheme meets a number of the key objectives of the Mid-Nottinghamshire Better Together programme and appears to fit more comfortably with this more holistic or 'population health management' approach.

### **Key Findings: Phase 3.**

The number and mix cases appears to be 50-55 per month or 600-660 per year.
The costs of operating the service have fallen to approximately £150,000 per year.
The financial return on investment to the Nottinghamshire Health and Social Care System is over 900%
The annualised savings to Nottinghamshire CC reablement services is £107,000
The annualised savings to the hospital from avoidance of readmissions is £186,323.
Despite pre-dating the Mid-Nottinghamshire Better Together programme, the project reflects this more holistic or 'population health management' approach

**“If one were to scale up this work it would be massive across the UK. Savings of this magnitude would go a long way towards funding 7-day secondary care”.**

**Dr Mark Holland  
President of the Society of Acute Medicine  
NICE Shared Learning Conference 2017**

<b>Contents</b>	<b>Page</b>
Executive Summary	2
Original and Revised objectives for Phase 3	5
Introduction and Background to Phase 3	6
The revised specification for Phase 3	8
The methodology and methods adopted for Phase 3	11
Findings and Results	12
Conclusions	14
Acknowledgements	14
Appendix A: Key Extracts and appendices from Phase 2 report	15
Appendix B: Qualitative benefits: illustrative samples of testimonials from beneficiaries of the scheme	23
Appendix C: Qualitative benefits: illustrative samples of testimonials from direct and indirect professional acquainted with the scheme.	24
Appendix D: Phase 3 Evaluation Team	25

## Project Title

### **Mansfield District Council: A multi-provider Return on Investment of the 'ASSIST' Project at Kings Mill Hospital and Mansfield DC in Mansfield**

#### **Original Project Objective**

The original intention was to provide an independent Social Return on Investment appraisal of the ASSIST early hospital discharge project in Mansfield. This will be a follow up the appraisals from the Phase1 pilot and the Phase 2 evaluation and assessments of the project.

#### **Revised Project Objective**

To provide an independent multi-provider appraisal of the wider costs and benefits of the ASSIST early hospital discharge project in Mansfield to the health and wellbeing services in Nottinghamshire. This will be a follow up appraisal from the Phase1 pilot and the Phase 2 evaluations and assessments of the project.

#### **Reasons for revising the original objective**

There were two principal reasons for revising the original objective

- a) It became increasingly apparent following commencement of the research that the clients had to meet short term deadlines and it became increasingly important (to both them and their commissioners) for them to do so. A full Social Return on Investment would require *inter alia* an assessment of the individual benefits of the outcomes to both patients and clients of the service. This would require extensive data collection from patients and clients and subsequent analysis by the research team. This would also have required the research team to acquire ethical approval from the NHS for such an investigation. It was unclear whether the benefits of calculating patient/client benefit would outweigh the additional costs of data collection but more significantly it became clear that the required ethical approval could not be granted in the time available to the research team.
- b) When considering whether to recommission the service, the commissioners needed to apportion costs to the significant stakeholders rather than to all stakeholders. It became increasingly apparent that while there were a number of stakeholders across Local Authorities, NHS trusts, housing, welfare and criminal justice services; who all, to an extent, undoubtedly benefited from the activity of the service (as well as their patients and clients), the most significant benefits fell to the local NHS, to Adult Social Services, and to the housing authority. Thus a multi-provider costs and benefits assessment of those organisations within the Alliance Sustainable and Transformation Partnership was adopted as the required assessment rather than a full Social Return on Investment.

## **1. Introduction and Background.**

Nottinghamshire CC, Mid Nottinghamshire Clinical Commissioning Group and Mansfield District Council have collectively commissioned NBS to provide three independent appraisals of the business case for the continuation of the 'ASSIST' early discharge from hospital collaborative project in Mansfield. ASSIST is the acronym for the Advocacy, Sustainment, Supporting Independence and Safeguarding Team at Mansfield District Council.

The ASSIST team are engaged in providing a variety of services and other activities both for the council and other stakeholders but for the purpose of this report we will refer to the early discharge project as the ASSIST project. (A full range and definitions of ASSIST services provided by Mansfield DC under the Care Act 2014 as classified under the 'Universal Offer of Housing Services' was provided as part of the background documentation for this report).

The early discharge project is a scheme established to support the early discharge and immediate residential care of patients from the Kings Mill Hospital in Mansfield and receives clients from health, housing and social care partners in central Nottinghamshire as well as occasional ad-hoc referrals.

The ASSIST team has been working directly with Sherwood Forest Hospitals National Health Service Foundation Trust (SFHNHST), the Adult Social Care and Health team at Nottinghamshire CC, and the Mansfield and Ashfield, and Newark and Sherwood NHS Clinical Commissioning teams, well as wider stakeholders and collaborators from the public, private and third sectors in the Mansfield and Ashfield administrative areas.

To date Nottingham Business School have been commissioned to provide three independent appraisals of the work of the project. This is the report of the third commission.

### **a) Phase 1: Evaluation of the Pilot Phase**

The ASSIST project was established at the end of September 2014, and the first evaluation related to the period September 2014 up to April 2015. This is best described as the set up and/or 'pilot' period for the service.

The first evaluation was conducted as a cost benefit analysis that essentially assessed the direct financial returns on investment during the start-up period.

In view of the need to set up new information processing systems and construct new databases, the evaluation report for the pilot period was only able to utilize a relatively robust data set for two complete months of the pilot period as systems and information sources were becoming established. The final report, including some illustrative case studies of the pilot phase was presented to the commissioners in July 2015. It was accepted that assumptions and estimates within the study had consistently applied the most conservative assumptions and estimates of the ranges available and included some one-off establishment costs.

In summary, the net annualised savings from the scheme, to the NHS at that stage, was £379,800. This was calculated on a monthly rate of interventions (resulting in saved in-patient days) of 31 interventions per month and the financial return on investment was 134%. However the report indicated that if interventions rose to 50 per month (which

appeared practical) this could result in annualised savings of £802,900 with a potential return on investment of 271%.

**b) Phase 2: Evaluation of the project as established over 10 months extrapolated to assess a full year of operation July 2015- April 2016.**

The first phase evaluation looked at the costs and benefits of the initial establishment of the scheme, and the hospital based interventions by the team, in the period from September 2014 to April 2015.

Although this appraisal showed significant excess benefits over costs in the start-up period, in reality robust and reliable data on which to make the first reports calculations and recommendations was both limited and partial.

The commissioners therefore requested a more detailed review that included data from improved and more robust data and recording systems (the NHS provided access to their information systems in addition to Mansfield DCs developing systems); the use of the most appropriate and updated NHS tariffs, and a longer evaluation period that allowed an appreciation of any seasonal variations in demand or supply for services.

As with Phase 1 of the project, the commissioners required a formal evaluation of the financial return on investment of the ASSIST scheme to record and demonstrate activity and outcomes, and to assess actual and potential savings.

An opinion was also requested as to whether development and/or continuation of the scheme was considered to be justified in Mansfield and whether it is applicable, scalable or portable to other locations.

There were also demonstrable savings and benefits that flowed from the scheme for local social services provision, for housing service provision and for potentially wider welfare benefits allocation and distribution. These benefits, although acknowledged, were not assessed in the first evaluation of Phase 1 and they did not form part of the specification for the second evaluation. The final report, of the second phase was presented to the commissioners in July 2016.

In summary the real and annualised savings (at £1,142,550 and £1,371,060 respectively) were well in excess of the anticipated savings in the previous report. The annualised costs to Mansfield DC from running the service was £340,000, which was generally consistent with those given in the first report. The return on investment to the NHS was therefore calculated at just over 400%, and the 'confidence' that could be taken in this result increased significantly from the previous estimates in Phase 1.

The key parts of the Phase 2 evaluation report; consisting of the

- methodology and methods adopted for the phase 2 evaluation;
- the key findings from the Phase 2 evaluation;
- comments on the projects context and critical success factors; and
- appendices indicating systems savings on reduced acute bed days (Appendix 1 in original report) and illustrative case studies Appendix 2 in original report);

These have been included as Appendix A to his report. This is to facilitate comparison, help understand differences in scope and methodology and to illustrate the types of more complex cases the team are involved with.

## **2. The revised specification for the current Phase 3 service evaluation.**

Although both the clients and the research team recognised the desirability of producing a full Social Return on Investment appraisal, it quickly became apparent that this could not reasonably be completed in the time, information and resources available to the research team. It was decided that in accordance with the commissioners instructions to produce a multi-provider assessment of where savings were being made within the local health and social care system. In order to provide a multi-provider appraisal, (as opposed to a Social Return on Investment of the wider costs and benefits of the early discharge project the research team), the research team needed to determine which providers/commissioners fell within the scope of the assessment, and, in the circumstances, which organisations or services was it feasible, practical and proportionate to appraise within the time and information constraints of the project. The health and social care system is not, has not been, and can never be, a 'hermetically sealed' system with clear finite boundaries.

Excluding the patients/clients for the practical reasons given above, the five general service areas to be considered were determined as Health Services, Social Care, Housing Services, Welfare Services and the Criminal Justice Services.

Although other sectors and services outside of these services may also have interests in the impact of the project, these areas were identified as the ones likely to be the most interdependent services or sectors. However, even within these sectors, there was a need to differentiate between services or organisations that have a significant or substantial interest and others where the interests are more marginal or insubstantial.

With the relatively short project period and a constrained budget, the researchers needed to ensure that efforts were deployed in the most economic, efficient and effective way.

### **a) Health Services.**

It was clear from the previous evaluations that in addition to the Clinical Commissioning Groups (Mansfield & Ashfield and Newark & Sherwood) that Sherwood Forest Hospitals Trust had the most significant interest in the operation of the project but the ASSIST team also work with some of the local GP practices, and there are a number of patients/clients with various mental health issues of variable severity that the service helped as part of its normal business.

It was agreed, by the commissioners and the research team that for the purposes of this evaluation that the work that the ASSIST team are involved with local GPs was still too early, too undeveloped and relatively insubstantial to be included within the scope of the current evaluation. We note that the Better Together are intending in the near future to develop a clinical navigation system for 'out of hospital care' with which the ASSIST scheme can usefully will link, but at this stage it is too early for this evaluation.

In terms of the impact on mental health services, although the service have had numerous patient/client cases where mental health issues have clearly been part of the patients/clients circumstances there have been relatively few cases where mental health services are the only issues for the patient/client. The relatively few cases also possibly reflects the nature of the referrals to the service to date, which primarily come from Kings Mill hospital. However, there have not been a sufficient numbers of case studies that demonstrably involve the direct diversion of costs and benefits from mental health services (alone) within the NHS for



the research team to be able to form a clear evaluation.<sup>1</sup> The mental health clients/patients within this scheme have also proven to exhibit a common evaluation conundrum i.e. they are long-term complex issues that are not amenable to short term/small scale evaluation.

We have therefore been unable to identify sufficient cases from the current case load made available to the team that would allow us to make a reliable estimate of cost diversions from mental health services. From our inspection of cases reviewed to-date, we anticipate that the cost diversion from mental health services (where mental health issues are the sole or primary issue) have involved a relatively small number of cases that the service has dealt with.

It can however be assumed that the costs and benefits are significantly lower than the figures for acute hospital services and equivalent figures for Clinical Commissioning Groups.

#### b) Social Care Services

When examining the cost and benefits relationship with social care it was agreed that the evaluation should be limited to an appraisal of the implications for Social Services at Nottinghamshire County Council, and not include Derbyshire, Sheffield, Lincolnshire or Nottingham City Social Services as the former were considered to have (for the purposes of this study), a significant or substantial interest while the latter were more marginal or insubstantial.

Within Nottinghamshire Social Services, a similar situation pertained and, following initial appraisals of early evidence, it was agreed that, although a number of services could potentially have an interest in the ASSIST project (safeguarding, mental health, health and wellbeing etc.) it was Adult Social Care (ASC) and in particular the Reablement Services within ASC that had the substantial and significant interests and interdependence with the ASSIST project and that Reablement Services should form the focus of the evaluation.

There also appears to be some ongoing confusion or overlap between the NHS and the local authority social services in one specific area. Namely which service or organisation is responsible for some patients /clients at the time that they are clinically capable of discharge but are waiting to leave or are leaving hospital. The precise boundaries and consequential costs and benefits attributable to these patients have been difficult to determine, and in practice, there appears to have been some 'mission creep' which needs to be resolved between the partners – for the purposes of this research we have attributed these diverted costs to the hospital/NHS rather than to social services or housing services.

Finally, there are some services and/or activity, that are in a minority but nonetheless in significant numbers, that are often provided by the ASSIST service that appear to be no one services' formal responsibility – some examples of which are essential food shopping or the contacting of friends and relatives immediately on discharge.

---

<sup>1</sup> Other research evidence does show that housing is an important setting for the elderly to maintain and improve their mental health. For example, support for older people from housing associations and other organisations can help improve cognitive function and reduce depression and anxiety. This helps to reduce overall NHS costs, particularly for GP care and planned hospital care. One study found that this type of support contributed to a reduction of almost 38 per cent in NHS costs compared to control participants (Holland et al 2015).

Holland C, Carter M, Cooke R, Leask G, Powell R, Shaw R, West K, Clarkesmith D, Collins J, Hagger B, Kay A, Lambie J, Lidell L, Wallis S, Boukouvalas A (2015). Collaborative research between Aston Research Centre for Healthy Ageing (ARCHA) and the ExtraCare Charitable Trust.

These costs are currently falling directly to the ASSIST scheme, and there is currently no provision for them to be reallocated. Because we have had no information as to how commissioners of this evaluation would like these to be treated as part of the current study, we have assumed that these remain to fall with the Housing/ASSIST team as part of our calculations.

Although this is a matter requiring resolution between commissioners and providers, and we accept that it is beyond our remit, we note that, where these circumstances occur elsewhere, the practice in most cases is for these to be provided as part of the hospital discharge arrangements.

#### Changes in the provision of Reablement Services by Social Services

One significant issue that became apparent during the current phase of the research, and that needs to be taken into account, was that the nature and extent of reablement services provided by Nottinghamshire County Council has changed. This appears to have changed over the period of the project both because of changes to national policy and because of changes to local policy and prioritisation, the latter as a result of changing national policy and as a result of local financial constraints.

Central Government restrictions on local council revenue generation and reductions in financial support from central government have meant that, in effect, a service that was previously delivering statutory services plus a limited range of discretionary services to older people (at contemporary benchmarks and standards) was, by the time of the latest evaluation, only able to provide statutory services at 2017 benchmarks and standards.

This is because in previous years NCC was able to provide a greater range of services, to a higher standard than it does at present, with the majority of its services being statutory services with some additional discretionary services.

At the start of the project, it was this level and cost of service that savings from ASSIST would have been measured against (had we been asked to undertake an equivalent evaluation at that point). In the current evaluation any cost savings to NCC have to be calculated against the current levels of provision and this now equates to essentially the current statutory minimum levels of reablement services.

#### c) Housing Services.

The previous two evaluations indicated the extent of the numbers and the area to which all patients/clients normally domiciled outside of Mansfield DC's administrative area are referred to by the service. Although individual clients have been referred to places as far afield as Scotland and South-East England, the vast majority of patients/clients normally reside or are domiciled in Nottinghamshire and in particular the housing authority areas of Ashfield DC, Mansfield DC, Newark and Sherwood DC and Bassetlaw DC.

As with Social Services in this evaluation we have looked only to patients/clients normally domiciled to these areas of Nottinghamshire as part of the current phase of the research.

#### d) Criminal Justice Services

While there have been individual complex cases which involve patients/clients who had previously been recently detained in the Criminal Justice System and who have clearly benefitted significantly from expedited housing or rehousing; the numbers of beneficiaries were so small as to render any calculations statistically unreliable in a study such as this. Similarly, it is impossible, in a study such as this, to ascertain and quantify whether or not the

ASSIST service may have helped or resulted in the prevention or delay of a custodial readmission or recall, when the causal reasons for re-offending are multiple, complex and difficult to isolate.

In both cases a much larger longitudinal study over a greater number of cases would be required to provide robust calculations. This was clearly beyond the capacity, scope and time available for the current study.

In the circumstances, and for the purpose of this evaluation, it was agreed to exclude the costs and benefits of ASSIST on the Criminal Justice System.

#### e) Welfare Services

While there is an intermittent and relatively regular call on the welfare services – we found that these calls were very variable, included relatively small-scale short term costs and were predominantly made to charities (other than income support) and they seldom, if ever involved, reductions in costs to the welfare services provided. Other than the statutory benefits services, these services are now predominantly provided by voluntary agencies and charities.

Following further exploration since we issued our interim report we have had to exclude these costs and benefits from the current study.

### **3. The methodology and methods adopted for the evaluation.**

The overall return on investment of the scheme and the cost, benefits, impacts and/or implications of its various parts involved extrapolations from the earlier phases of the ASSIST evaluation.

The approach to the analysis, review and evaluation of the savings associated with the main stakeholders of the hospital discharge scheme has been via the analysis of case studies provided by Mansfield District Council. These (anonymised) case studies have been written by those involved with the hospital discharge scheme and in a proportion of the cases reviewed with the assistance of senior staff from the Adult Social Care team in Nottinghamshire.

### **4. Findings and calculations of activity in the twelve-month period ending September 2017.**

There have been 754 people offered a service, an average 63 per month; and 654 persons accepted a service (an average 54 per month). These levels are comparable to the levels of service evaluated in Phase 2, and the extrapolation used in Phase 1 (extrapolated to 50 clients/patients per month).

There have been 386 who have received the lifeline service (average 32 per month) and 327 who have received handyperson services (average 27 per month).

The detailed analysis of the case studies was used to determine the savings to stakeholders on a per case basis. Initial analysis indicated that three generic case types account for approximately 80% of the work undertaken. Therefore, we anticipated that generalisations on the savings calculated would have a degree of 'population validity'.

The information from the case studies have been used to enable generalisations of cases into a schema of types, which will be used to determine an estimated contribution the scheme is achieving in terms of savings for each of the stakeholder organisations, based on the overall configuration of recorded cases.

### Hospital Readmissions

For this (third) phase of the evaluation the team were asked to investigate the potential savings on Kings Mill hospital readmissions as a result of the scheme.

We have investigated whether there has been any directly comparable research in other parts of the country, but to-date have not found any in the time available.

We have therefore looked at studies of the reduction in the risks of falls that result from home safety interventions and the number of falls in older adults serious enough to result in hospital readmission (compared to a control group). This latter results in a range of between 20-30%.

These studies we consider to have a degree of reliability, although we have used the lower end of this latter range (20%) for our calculations, reflecting the conservative or cautious approach to estimates and assumptions that we have adopted in all our reports on the ASSIST scheme.

We have then used two studies (one in the UK and one in the Netherlands) that estimated the average cost of a fractured hip (unfortunately not all fractures but fractured hips are one of the most numerous categories); and finally a study that used an assumption that 10% of repairs and adaptations led to a hospital discharge or avoidance of an A&E admission.

These two estimates we believe are less reliable, but clearly give some guidance to our study. Nevertheless, we have used 10% as our assumption for readmissions, again reflecting a conservative or cautious approach to estimates and assumptions previously adopted.

### Health Services

On the basis of the figures and analysis in the current study, it appears that the majority of savings will still fall within the NHS and in particular hospital provided services and by the clinical commissioning groups as was determined in the previous phases.

The multiple-agency aggregate savings and the subsequent Return on Investment from the scheme is not calculated on the same basis as that in Phases 1 and 2 of the scheme (the current phase of our evaluation did not calculate or include any 'out-of-Nottinghamshire' savings).

We have not completed an assessment of the impact on mental health services within the NHS. Notwithstanding the reservations about the evaluation detailed above, we anticipate that any evaluation for the mental health services is likely to result in relatively small number of cases. At this stage we can clearly anticipate that the costs and benefits are likely to be significantly lower than the equivalent figures for acute hospital services and equivalent figures for Clinical Commissioning Groups, but cannot realistically ascribe a precise or a robust figure.

In terms of aggregate savings we didn't expect this to rise significantly as the majority of savings in our Phase 2 research fell to hospital provided services and to the clinical commissioning groups as shown in the previous phases. However we expected the return on investment to be clearly in excess of the 400%. In our presentation to the NICE Shared

Learning Conference in Liverpool in May 2017, we advised that we were already sure the rate of return would be calculated at over 600%.

In terms of the specific request to estimate potential hospital readmission savings; assuming that 10% of relevant interventions resulted in avoidance of admissions (20% of these readmissions would be serious injuries) then approximately 6.5 injuries requiring an operation are saved per year as a result of the ASSIST scheme. If we use a cost of £28,665 (the previous study used 2007 prices), for an average operation then the cost per year saved from avoided readmissions is approximately £186,323 per annum.

These figures need to be treated with due caution and should come with appropriate with appropriate caveats. In keeping with the approach adopted in previous evaluations they are 'conservative' estimates. For example if had we used a 5% assumption, the savings fall to £93,162. If we had used 25% (the mid-point of the 20-30% range), rather than 20%, the figure would rise to £235,053; if we use 30% the savings would rise to £281,203.

### Social Services

From work undertaken as part of this phase it is clear that, there are significant savings that have been made to Social Services provision, primarily to the reablement services. Utilizing agreed criteria and costs from managers in Social Services we have calculated that the annual savings to reablement services was in the region of £107,000 annualised.

Ironically the withdrawal of previously provided 'discretionary services' and the reductions in standards and benchmarks for statutory services, means that less of the costs saved can be attributed to diversions from Social Services than would have been the case when a greater range of social services was being provided to the community.

Despite the close working between the county, district and NHS services involved in the ASSIST project, there are still clearly some 'boundary' issues to resolve before a final detail attribution of savings can be made.

### Housing Services

It is apparent that, as the ASSIST service has developed, the range of housing services provided by the host local authority (Mansfield) has expanded, both as a result of changes in the hospital discharge arrangements and changes in the range and nature of services provided by Social Services. These costs have however generally been contained and met from efficiencies in the operation of the service.

### Criminal Justice

Within the parameters, of time and sampling constraints of this study, we have not been able to assess the impact of the ASSIST project on patients/clients of the Criminal Justice System. This proved to be beyond the capacity, scope and time available for the current study. In the circumstances, and for the purpose of this evaluation, we have excluded the costs and benefits of the ASSIST project to the Criminal Justice System.

### Qualitative Benefits

Whilst this impact is not part of our study or our calculations, it is clear that the service has made considerable qualitative benefits to the lives of beneficiaries of the service and that this is greatly valued, by the beneficiaries, their families, friends and carers. Although it can be illustrative only, Appendix B attached provides a small sample of testimonials from beneficiaries and/or those close to them.

It is also clear that those involved directly and indirectly in the provision of services have similarly identified considerable benefits in terms of patient care, and Appendix C attached provides a small sample of these testimonials.

## **5. Conclusions**

Despite it predating the emerging 'Accountable Care System' the current STP arrangements, and the establishment of the Alliance Partnership, the ASSIST hospital discharge scheme meets a number of the key objectives of the Mid-Nottinghamshire Better Together programme and appears to have direct potential synergies with some emerging initiatives such as the new Integrated Discharge System within Kings Mill Hospital and the clinical navigating system for out of hospital care in primary and community health. The scheme clearly produces

- Better patient outcomes
- It promotes independence and care closer to home
- It reduces the length of stay in hospital settings which clinical evidence has shown is beneficial to patients particularly the elderly and
- It significantly reduces costs and is helping to create a financially sustainable health and social care system

While the calculations are not exactly comparable it is clear that the financial return on investment achieved by the scheme has increased significantly. In terms of the Nottinghamshire Health and Social Care system alone, the financial return on investment exceeds over 915% without the calculations of savings to reablement services or avoidance of readmission costs. These latter savings are in the region of approximately £107,000 and £186,323 per annum, (representing the equivalent of 6.5 operations per year) respectively. The latter in particular must however be treated with some caution.

The scheme also appears to fit more comfortably into a Mid-Nottinghamshire health and social care environment which appears to be moving from a transactional, contracting system to developing an Accountable Care system, with a more holistic or population health management approach.

## **Acknowledgements**

The authors would like to place on record their thanks to all who have given their time for this review and particularly Michelle Turton, Christine Fisher and Kathleen Moore from the Communities Directorate who greatly assisted the review by providing information, background briefing, organising interviews etc. They also responded efficiently and effectively to any and all requests for documents or information required to complete our investigation.

## Appendix A: Key Extracts from the Evaluation Report for Phase 2

### Phase 2 methodology and methods adopted for the evaluation.

This section identifies the methods used for both the initial study and how it was developed during the second phase to identify the potential financial consequences of the Mansfield DC hospital discharge scheme that has been operational at the King's Mill site of the SFHNHSFT. The research strategy had five distinct phases.

- a) Firstly, there was the initial fact finding phase. This involved examining the parameters of the scheme via interviews and meetings with senior staff at Mansfield DC.
- b) The second stage of the project was the determining the mechanics of the system so that an appropriate appraisal could be identified and designed. The methods involved in this stage included shadowing of the Homeless Prevention Officer, whilst undertaking her duties at the King's Mill site. This illuminated the issues and the methodologies she used to achieve solutions for patients who needed housing assistance and who fell within the parameters of the scheme. During the course of this phase contact was made with various stakeholders and opportunities were taken for interviews to take place.
- c) During the third stage further interviews and focus groups were undertaken with staff involved in the project from Mansfield DC. In total 16 members of staff from Mansfield DC and 12 from King's Mill Hospital took part in the study. Although the qualitative benefits are not the focus of the study it was necessary to verify this aspect and corroborate the case studies produced by Mansfield DC staff to ensure validity of the interventions made.

The study participants included:

- managers from the two main stakeholder organisations;
  - those involved in delivering the scheme;
  - health and social care professionals; and
  - finance staff from both organisations.
- d) The fourth stage of the research involved the examination of records of interventions made. This examination was undertaken by staff from Mansfield DC and the research team. Judgements were made based upon evidence of the effectiveness of interventions as to the potential benefits to the discharge process. All interventions were examined from the start of the scheme until mid-May 2015 (the conclusion of the study), and, the two most representative and appropriate months (March and April, 2015) were scrutinised in detail. These months were those where, it was determined from data gathered in the earlier phases of the research, the scheme was working effectively and was after the initial set-up period of the scheme. These particular months were also those which had the most detailed and reliable data.
  - e) The fifth stage of the project was that of this evaluation report. Data recording and reliability was improved following lessons learned in the initial pilot and the period for examination was established as running from July 2015 to April 2016. The aim was to provide a more meaningful data set to be representative of the activity of the scheme than that provided in the initial evaluation. A Monitoring Group was

established, chaired by a representative of the Clinical Commissioning Group and comprised: representatives from the hospital site; officers from MDC; officers from Nottinghamshire Adult Social Care; and academic support from Nottingham Business School. The objective of the group was to review the activity of the scheme and agree protocols for agreeing and determining the savings in terms of bed days achieved by the scheme. The group successfully agreed upon the savings used in the financial calculations identified at Appendix 1.

The financial calculations are based upon the current CCG charge rates as appropriate for the cases in the study. These calculations have been undertaken by representative of the CCG and agreed by members of the Nottingham Business School Evaluation Team.

The costs of the scheme to Mansfield DC have been provided and ratified by members of the Council's finance function, which are, of course, subject to appropriate internal and external auditing.

All savings and costs have been calculated on the most prudent options, therefore, all savings are believed, by the investigators to be 'conservative'. There are likely to be further savings at SFHNHSFT owing to staff time being saved by the activities of this intervention, however, these have not been quantified during this study. As mentioned, in section 3 all none NHS benefits have also been excluded from the evaluation.

There are a small number of illustrative case studies provided in Appendix 2 to this report. These were actual cases assessed during the evaluation and are provided to illustrate the nature of the clients and the range of cases dealt with. Not all of these cases resulted in direct savings to the NHS or calculated as part of the evaluation.

## **Project Appraisal key findings from the Phase 2**

- a) There was clear evidence from observation and interviews that the scheme benefits the efficiency of hospital discharge and reduces the burden on hospital and social services staff. The availability of the service, the staffs' understanding of housing issues and the ability to action solutions and mitigations clearly assists in expediting the discharge process.
- b) The current scheme savings in terms of bed days amount to approximately £1,142,550, for the pilot period. This is the saving to the NHS system as a whole. This is likely to rise on a full year basis to £1,371,060.
- c) The current annualised costs of running the scheme at the current level of activity is £340,000 per year for Mansfield District Council.
- d) The costs of providing the service are relatively fixed, therefore there is a high level of gearing in terms of net savings if there is a potential increase in activity. These costs may achieve a step change at some point, however, there is not sufficient data to determine at what level of activity this will occur.
- e) Many of the interventions are relatively low in terms of marginal cost, but significant in the ability to enable a hospital discharge. At this stage the long-term mix of cases is not able to be determined. This is relevant to a long-term investment decision; however, the margins are such the main findings from this study are not undermined.



- f) The research identified that the time taken to rehouse clients from outside of the Mansfield District was consistently in excess of the time taken to rehouse clients within the District.

### **Comments on the projects context and critical success factors**

The NAO report and the continuing changes in wider economic and social circumstances, including the ageing population, the public expenditure restrictions and the restricted supply of affordable housing, suggest that the demand for the service will continue, and in all likelihood increase, in the short medium and foreseeable long terms.

The real and annualised savings (at £1,142,550, and £1,371,060 respectively) calculated for this report, are in excess of the anticipated savings in our previous report. This might have been expected, as the previous report was demonstrably and deliberately, based upon assumptions and tariffs that were at the most cautious end of the potential spectrum, wherever assumptions or judgements were required. For this report, fewer assumptions and judgements have been required, but for those that have been required we have again adopted a cautious rather than an ambitious approach.

The annual cost to Mansfield DC from running the service was £340,000. This is generally consistent with the cost estimates given in the previous report.

The ASSIST team have advised us of a number of areas, both systemic and ad hoc, where economies efficiencies or effectiveness could be improved although the level of cost is unlikely to significantly reduce. Examples included computer and systems access, as well as the generic challenges of medication and transport.

The return on investment calculated for this study is approximately 400%. This is clearly significant but must be weighed against other expenditure priorities and the rates of return on alternative investments.

The finding that the time taken to rehouse clients from outside of the Mansfield District was consistently in excess of the time taken within the District, might also have been expected from our comments in section 5 of our initial report. This identified a number of factors, critical to the potential success of the scheme in Mansfield, that are not universally available in all housing authorities.

The optimal effectiveness of the scheme is heavily dependent upon the mutually respectful, reciprocal and mature working relationships developed and maintained at both individual and organisational levels between all the principal public services commissioners and providers contributing. This has been critical to its development and success of the scheme to-date.

In the previous report, we identified critical success factors, both in terms of physical and human assets, that are available to the team in Mansfield. These can help identify where other areas may have the potential to create or develop a similar scheme. One area of particular interest, not least because of the creation of the new Hospitals Trust, is the City of Nottingham. The aims and objectives of the parallel project in Nottingham, while not identical to those of ASSIST, clearly align in that they addressed inappropriately housed citizens who's health and wellbeing is being adversely affected by their housing circumstances, and as a consequence reduce admissions and re-admissions to hospital and care institutions. We believe that the ASSIST project should continue to liaise and share learning with the team in the city, which we believe would be mutually beneficial to both projects.

Appendix 1 (of Phase 2 report)

System Saving based on reduced acute bed days

July 2015 to April 2016

Locality	Admissions	Number of Bed Days Saved	Avg Cost of Bed Day in Trust	Bed Day Savings July 15 - Apr 16	Full Year Effect	
Ashfield North	229	1113	£225	£250,425	£300,510	
Ashfield South	142	641	£225	£144,225	£173,070	
Mansfield North	319	1120	£225	£252,000	£302,400	
Mansfield South	309	1249	£225	£281,025	£337,230	
Newark & Sherwood North	60	342	£225	£76,950	£92,340	
Newark & Sherwood West	48	335	£225	£75,375	£90,450	
Newark & Trent	20	278	£225	£62,550	£75,060	
<b>Grand Total</b>	<b>1127</b>	<b>5078</b>	<b>£225</b>	<b>£1,142,550</b>	<b>£1,371,060</b>	<b>System Saving</b>

4.5 Avg bed days saved per admission

£936 Avg bed days cost saving per admission

## Commissioner Saving from reduced Excess Bed Days

July 2015 to April  
2016

Locality	Admissions	Reduced number of Excess Bed Days	Reduced Spend on Excess Bed Days	Excess Bed Day Saving July 15 - Apr 16	Full Year Effect	
Ashfield North	16	121	£24,247	£24,247	£29,096	
Ashfield South	12	30	£4,173	£4,173	£5,008	
Mansfield North	27	168	£27,642	£27,642	£33,170	
Mansfield South	25	117	£11,592	£11,592	£13,910	
Newark & Sherwood North	6	7	£762	£762	£914	
Newark & Sherwood West	5	70	£13,840	£13,840	£16,608	
Newark & Trent	3	63	£5,550	£5,550	£6,660	
<b>Grand Total</b>	<b>94</b>	<b>576</b>	<b>£87,806</b>	<b>£87,806</b>	<b>£105,367</b>	<b>Excess bed day saving</b>

## Appendix 2 (of Phase 2 report). Illustrative Case Studies

### Case Study - Mr A

Mr A is a 57 year old male and was in hospital when initially seen by ASSIST Hospital Discharge Team (AHDT). He had not been taking his medication for depression and diabetes for many months and had been living on his settee. He was admitted to hospital for surgery to amputate part of his foot.



He owned his property but it was under a repossession order and in a very poor state of repair. AHDT liaised with Mr A and his son to register him on 'Homefinder' and ensure medical assessment forms were completed. Mr A was able to secure suitable ground floor sheltered accommodation ready for discharge from hospital. However, he had no furniture that could be transferred to his new accommodation. ASSIST staff submitted a furniture project referral and obtained the necessary furniture to enable a safe discharge. Mr A was also provided with emergency clothing and a food parcel until he could access his money.

### Case Study - Miss B

A referral to the Assist team was made to supply and fit a lifeline, key safe, grab rails and a monitored smoke alarm and support with light domestic tasks and shopping after a fall at home which caused head injuries.

An assessment also concluded that Miss B required encouragement to complete daily tasks and rehabilitation due to the injury she had sustained to her head. Safe and well checks were also required three times a week to ensure that Miss B was coping at home. A referral was made to the furniture project for a new sofa as the leather sofa she had was no longer suitable due to her slipping off it. A fabric one was ordered.

At the very start of the 4 weeks support the staff identified tasks Miss B she was unable to do this due to her impairment, however as the weeks went by Miss B gained back her strength and stamina and was able to complete the tasks herself or with the guidance from staff that visited.

### Case Study - Mr C

Mr C is a frail elderly gentleman 78 years of age who has no family and was living alone in his own home which had recently been broken into. Working in the garden he fell from a ladder and was admitted to hospital.

His property lacked basic facilities. There was no central heating just coal fires and no hot water to the accommodation. The toilet facilities were at the bottom of the garden and there were no facilities inside the property. The roof was leaking and daylight could be seen through the tiles. The joists to the first floor were rotten, there were no floorboards, and the lath and plaster ceilings had all come down. The electrics were in contact with water.

Mr C was confined to the downstairs rooms of the accommodation

Once Mr C was medically fit for discharge there was a concern about him returning to accommodation that appeared to be unfit for habitation.

He was very reluctant to look at other types of housing but eventually agreed to go into a respite unit. Whilst in the respite unit Mr C looked at an alternative to returning home whilst work and renovation was undertaken to his home. He was registered on Homefinder and given priority for re-housing. When a suitable property became available, Mr C accepted the accommodation which was near to his home and he could oversee any works being done.

### **Case Study - Mr D**

Mr D is a veteran suffering with Post Traumatic Stress Disorder which has brought on a severe dependency on alcohol and was a frequent admission to hospital. He was admitted to hospital following a fall resulting in a double haematoma.

Whilst in hospital, Mr D was unable to get access to alcohol. During his stay, he was assessed by the CRI team. They determined that on discharge he would need intensive support and intervention from them to ensure that he remained alcohol free. Mr D's property underwent a deep clean whilst he was in hospital as it was not safe or fit for him to return to. ASSIST contacted the British Legion and were able to secure funding to provide furniture, and white goods, fit carpets and pay off some of his debts.

On his discharge from hospital, the team liaised with the DWP to ensure that his benefits were in payment and that he was receiving the correct amount. ASSIST also helped him to claim Housing Benefit and a backdate of Housing Benefit to clear his arrears. They helped Mr D to go through his finances and devise a workable budget. He was assisted to set up payment plans for his heating and water and the Housing Officer arranged for his heating payments to be taken directly from his benefit. Mr D attended an assessment for rehab and he went into rehab in April 2016.

### **Case study - Mrs E**

Mrs E was admitted to hospital after a fall. She was initially referred for support with domestic tasks and shopping.

Support included help with the filling and transport of coal scuttles daily as both Mr and Mrs E were unable to, due to mobility issues. A handyman also fitted grab rails at the back door.

During the weeks of support it was became obvious that Mr and Mrs E would not be able to perform the task of filling and transporting the coal scuttles once support had finished. They discussed the benefits of installing a gas boiler. The following day an Inspector from the repairs team visited to assess converting them to gas and a subsequent date was set to undertake the work a few weeks later. Mr and Mrs E used ASSIST Enhanced to help with the coal scuttles until the work began.

During time of support a referral was made to CISWO as Mr E was an ex miner. CISWO responded quickly, and supported both Mr and Mrs E with a grant for a new electric fire to replace the old coal fire. Mr E had an assessment for welfare benefit (as he had been diagnosed with cancer) to determine if he was accessing all his entitlements.

## Appendix B: Qualitative benefits: illustrative samples of testimonials from beneficiaries of the scheme

Russell, was helped by the scheme after being discharged from hospital following surgery to remove a malignant tumour from his bowel; said: “I arrived (by taxi) at my sanctuary , on arrival I was met by my support worker. She took my few possessions and carried them for me to the flat. I arrived wearing only a pair of pyjamas. She kindly showed me around the flat which was immaculate in every way. Within one week she was bringing me clothes and things I needed. Anything I was worried about, she sorted it out and put my mind at rest. The respite flat is a lifeline for vulnerable people like myself and I feel that without all the help I received I would not be here today.”



Nick a veteran (former RAF Medic) felt he was ‘thrown on the scrap heap ’after he had been a victim of a road side bomb in Iraq resulting in witnessing the death of 3 friends and severe injuries to his leg and subsequent PTSD when he left the forces. Nick became a frequent attendee at A&E including a double haematoma following a fall as a result of his alcohol intake and his continuous dependency on alcohol. After receiving support from the ASSIST Hospital Discharge Team he stated ‘ the ASSIST scheme basically saved my life. Doctors told me if I had carried on the way I was, I would have been dead in six to twelve months’.



## **Appendix C: Qualitative benefits: illustrative samples of testimonials from associates of the scheme**

### **Rachael Nelson - Clinical Assessor, Call for care team, Ashfield heath village**

In my role as clinical assessor we rely on support of other teams to help support safe discharge. The team support with complex cases, home visits regarding inappropriate accommodation and they liaise with the council letting schemes. This could prevent further admission to hospital. They also support with housing advise and homeless advice and the swift installation of key safe and life line ensuring patient safety at home.

Should we need any advice or support they always go the extra mile to help and advice. Such a valuable support to ourselves helping to keep patients at home safely, Without this service patients may be in hospital longer than necessary.

### **Dan Blach – Community Care Officer Nottinghamshire County Council Hospital Assessment Team - Kings Mill Hospital**

During my time with the hospital assessment team I have found the support and assistance of the team invaluable whilst working on some very challenging cases. Just a quick call through to them is all that's needed to instigate extra help for some very vulnerable service users, cutting down on the need to fill out lengthy referral forms. They are flexible and quick to react – often visiting service users within the hour. They have a calm and down to earth approach and have an excellent rapport with staff and service users; it's clear to see why they are held in such high regard. Their essential work aids the discharge process; from preventing homelessness, providing lifelines and key safes to offering housing advice, without them many service users would be in hospital for a lot longer.

### **Denise Kelly EDASS**

I work for EDASS (Emergency Discharge Support Service). Our team work in conjunction with ASSIST. Speaking from past and current experiences, the presence of ASSIST is an asset in offering services and advise to our discharges in matters like key safes and life lines along with housing issue advise. Very often when we speak to patients both on the wards and in the Emergency department, it's very satisfying to know that we can pass on patients details to the team and a good outcome is made. They are always friendly and helpful and are very knowledgeable



## Appendix D: Evaluation Team

Professor Peter Murphy (Principal Investigator) BA, MA, FETC, FHEA, MRTPI, CIMPSA, RSA.

Pete Murphy is the Head of Research and Professor of Public Policy and Management at Nottingham Business School within Nottingham Trent University. He is Vice Chair (Research) of the Public Administration Committee of the Joint University's Council and a member of the advisory board of the Centre for Public Scrutiny. He has previously been a non-executive member of the Nottingham PCT, the Nottinghamshire PCT and the Joint Nottingham and Nottinghamshire PCT. He Chaired the Transition Board for Nottingham and Nottinghamshire NHS following the implementation of the 2012 Health and Social Care Act.

Prior to joining the Business School in 2009 he was a Senior Civil Servant in Whitehall for nine years, most recently, as Director of Local Government Practise in the Office of The Deputy Prime Minister (2002-2005) and Director of Local Government (East Midlands) at the Department of Communities and Local Government (2005-2009). Between 1977 and 2000 he was employed in local authorities most recently as the Chief Executive of Melton BC in Leicestershire.

Dr Donald Harradine, FMAAT, ACMA, CGMA, MBA, PG Cert (SSRM) FHEA, PhD.

Don Harradine is Director of the Health and Social Care Finance Research Unit at Nottingham Business School, a principal lecturer; and Research Coordinator for the Division of Accounting and Finance. He has fourteen years' experience of working in the finance discipline within public service organisations: local government and health at a strategic level.

As well as being published in academic journals he has been involved in various reviews of initiatives: the *LinkAge Plus* project; Service Line Reporting and budgeting in the NHS; an examination of strategic financial leadership in the public services; and a study of international financing methods for healthcare. He is a member of the editorial board of the *I Journal of Finance and Management in Public Services*.

Dr Michael Hewitt, BSc, MSc, PhD, MBA, PGCHE

Michael Hewitt is a lecturer in quantitative methods at Nottingham Business School. He is an active researcher with current projects in the NHS investigating sustainable development initiatives and presenteeism. Michael worked in local NHS organisations for 15 years in a research and development capacity.