1.0 Introduction

A strategic planning document called a pre-consultation business case (PCBC) has been developed for the National Rehabilitation Centre (NRC) and outlines the case, in preparation for engagement, for a regional clinical facility which is one part of the National Centre. The PCBC is an initial stage in an extended programme of work that includes building a new facility.

The NRC is a proposal for a new rehabilitation facility that sits alongside the Defence Medical Rehabilitation Centre, at Stanford Hall Rehabilitation Estate (SHRE) near Loughborough and is planned to open Spring 2023. The NRC is a catalyst for the transformation of rehabilitation services across the whole pathway.

The NHS proposal has been made possible through a donation of land and approval from the Government for capital funding for the clinical facility. The NRC will have state of the art facilities including 63 clinical beds, a research and innovation hub and training and education centre. It is expected that the NRC will help to address a current gap in rehabilitation by increasing capacity in the East Midlands including treating a wider cohort of patient conditions.

Other than for capital, there is no additional funding for the NRC and therefore, one of the aims of the programme is that it must be affordable to both the commissioners and providers, taking account of current funding flows. The finance case indicates that this requires transferring beds from Nottingham University Hospitals NHS Trust (City and QMC campuses), releasing acute beds currently occupied by medically fit rehabilitation patients, and transferring patients directly to rehab instead of repatriating them back to an acute bed and overall shorter lengths of stay. Opportunities will be further refined within the context of reviewing and transformation across the whole pathway.

The NRC is an opportunity to create a high-quality centre of rehabilitation excellence in the East Midlands. The provision of more intensive rehabilitation across a wider cohort of patients will improve patient outcomes. There is a deficit in rehabilitation capacity across the East Midlands and the NRC is an opportunity to start to address this and improve access to services.

Focussed patient engagement has been carried out and this will be expanded on as the clinical model and financial case are further developed. It is also planned that ongoing developments will be supported through co-designing rehabilitation services with patients, citizens, service users and carers alongside clinicians and specialists. The Health Scrutiny Committee is asked to consider the nature and extent of further engagement and consultation required with the public in relation to this service change.

Background

The Defence Medical Rehabilitation Centre (DMRC) opened in 2018. The Stanford Hall Rehabilitation Estate was conceived from the outset as a facility where serving defence personnel and NHS patients could all benefit from a bespoke state of the art environment for rehabilitation where facilities and expertise could be shared. The Duke of Westminster purchased the Stanford Hall estate solely for this intention and has passed the site into the ownership of a charitable trust, Black Stork Charity. The vision for the National Rehabilitation Centre for NHS patients is in three parts:

- a regional clinical unit and national centre of excellence
- a national training and education centre
- a national research and innovation hub.

Co-location with the defence centre would mean that NHS patients would benefit from access to facilities and equipment at the DMRC which are not available anywhere else in the UK.

In October 2018 the Government announced the allocation of £70m capital funding on the basis that it is spent to create an NHS facility at Stanford Hall. In November 2018 planning consent was received for the NRC.

With respect to identifying the opportunity this could offer, a series of reports in recent years have assessed the level of services for patients who have a rehabilitation need and outcomes from rehabilitation and these have established the following:

- the UK and particularly the East Midlands are underprovided for in relation to current need – in the East Midlands rehabilitation bed provision is at 33% of the level recommended by the British Society of Rehabilitation Medicine (BSRM)
- there is wide unwarranted variation in how rehabilitation is provided across the country and that rehabilitation is often uncoordinated
- owing to the under provision and lack of a coordinated pathway, patients endure long waits for access to rehabilitation and often need to be repatriated' to their local district general hospitals or Trauma Units from a Major Trauma Centre, to wait for a specialist rehabilitation bed to become available
- there is a substantial body of trial-based evidence and other research to support both the effectiveness and cost-effectiveness of specialist rehabilitation.[1]
- early transfer to specialist centres and more intense rehabilitation programmes are cost-effective[2,3], particularly in the small group of people who have high care costs due to very severe brain injury[4,5,6].
- despite their longer length of stay, the cost of providing early specialist rehabilitation for patients with complex needs is rapidly offset by longer term savings in the cost of community care, making this a highly cost-efficient intervention[7].
- for those patients who did receive specialist rehabilitation there was evidence of functional improvement in the vast majority (94%)
- that rehabilitation has been demonstrated to be very cost effective within a healthcare system. With a mean length of stay of 65 days, at a cost of £39,398 and reduced ongoing healthcare cost per patient of £536 per week, the cost of rehabilitation was found to be recouped within 17 months, with savings on ongoing healthcare costs of just over £500,000 per patient over their lifetime.

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[1] Turner-Stokes L, Disler PB, Nair A, Wade DT. Multi-disciplinary rehabilitation for acquired brain injury in adults of working age. Cochrane Database of Systematic Reviews July 2005, 20(3): Cd004170. Updated 2015.

2 Andelic N, Bautz-Holter E, Ronning P, Olafsen K, Sigurdardottir S, Schanke AK, Sveen U, Tornas S, Sandhaug M, Roe C: Does an early onset and continuous chain of rehabilitation improve the long-term functional outcome of patients with severe traumatic brain injury? Journal of Neurotrauma 2012, 29: 66–74.

3 Bai Y, Hu Y, Wu Y, Zhu Y, He Q, Jiang C, Sun L, Fan W: A prospective, randomized, single-blinded trial on the effect of early rehabilitation on daily activities and motor function of patients with hemorrhagic stroke. Journal of Clinical Neuroscience 2012, 19: 1376–1379.

[4] Turner-Stokes L, Paul S, Williams H: Efficiency of specialist rehabilitation in reducing dependency and costs of continuing care for adults with complex acquired brain injuries. Journal of Neurology, Neurosurgery and Psychiatry 2006, 77: 634–639.

[5] Turner-Stokes L: Cost-efficiency of longer-stay rehabilitation programmes: can they provide value for money? Brain Injury 2007, 21: 1015–1021.

[6] Oddy M, da Silva Ramos S: The clinical and cost-benefits of investing in neurobehavioural rehabilitation: a multi-centre study. Brain Injury 2013, 27: 1500–1507.

[7] Turner-Stokes L, Williams H, Bill A, Bassett P, Sephton K: Cost-efficiency of specialist inpatient rehabilitation for working-aged adults with complex neurological disabilities: a multicentre cohort analysis of a national clinical data set. BMJ Open 2016, 6 :e010238

- the UK lags behind many other countries, with 50%-60% of people returning to work after a major injury after 6 months in Europe and the USA, while in the UK the figure is just 37%.
- there is also a disparity in performance between UK defence personnel performance and overall performance with 85% of military patients returning to military duties, against the overall, average UK figure of 37% at 6 months post-injury.
- the findings from several studies in the past few years, and the defence model such as that provided at the DMRC, all support early intervention and ensuring that patients are in the right setting for the appropriate stage in their recovery, particularly in the realm of return to work. Integrated service models have proved the most efficient, especially if associated with some degree of flexibility.
- this data indicates that there is an opportunity to dramatically improve outcomes for patients, including return to work rates. The benefits of a high-quality rehabilitation service with the capacity to provide early interventions, focused on work outcomes for people with ill health are significant:

    - reductions in sick leave and lost work productivity by more than 50%
    - savings in healthcare costs by two thirds
    - savings in disability benefits by 80%
    - reductions in permanent work disability and job loss by 50%
    - societal benefits by supporting people optimize functional capacity.

The overall provision of rehabilitation in the East Midlands is currently 85 beds. This is entirely provided for neurological patients. There is currently no provision for complex orthopaedic injuries and minimal provision for patients with amputations. The British Society of Rehabilitation Medicine (BSRM) recommends rehabilitation provision of between 45 and 65 beds per million people, or 60 per million excluding stroke services. With a population of 4.6million people and taking a mid-point of 55 beds per million, this would indicate an overall requirement for 253 beds, indicating a shortfall of 168 rehabilitation beds across the region or, put another way, only 33% of the recommended level of provision is currently being provided in the region with the busiest Major Trauma Network.

The Facilities

The proposed NHS facility at the NRC would contain 63 beds, comprising 40 neurological and major trauma rehabilitation beds (a net increase of 16), 18 new complex MSK rehabilitation beds and 5 new rehabilitation beds for other patients. This represents a net increase of 39 rehabilitation beds for the region. It is expected that the NRC would treat circa 800 patients per year.

Patients and clinicians at the NRC will have full access to the Stanford Hall Rehabilitation Estate which has been designed to optimise rehabilitation with recreational facilities, hand cycle tracks and trim trails. The NHS will also have access to state of the art equipment including Computer Aided Rehabilitation Environment (CAREN - The CAREN system enables patients with a disability to practice real-life situations in a safe and controlled environment, leading to improved physical stamina, better cognitive skills, dual tasking and improved confidence), Gait Lab, Prosthetics Lab, x-ray, MRI, Hydrotherapy Pool. It is expected that the facilities will facilitate the sharing of knowledge and expertise across the defence medical service and the NHS, driving forward rehabilitation practices.

Recognising the importance of friends and family in a patient's recovery, the plans include overnight accommodation for visitors.

2.0 Proposed Clinical Model

2.1 Overview

The National Rehabilitation Centre will be able to provide rehabilitation for a wider group of patients than at present through criteria that are no longer based on specific clinical conditions. Therefore, this supports the need to consider the clinical model in the context of the full pathway and patient journeys for rehabilitation.

The proposed criteria for admission to the NRC are the following:

- patients who have a rehabilitation need and potential
- patients who are able to cope with an intensive rehabilitation programme
- patients who could potentially benefit from occupational and vocational rehabilitation

Patients will be assessed for rehabilitation services at the NRC through a single point of referral staffed by Consultants from Trusts across the East Midlands Trauma Network. By having the single point of referral, individuals can be considered for other units where they may not benefit from rehabilitation at the NRC which will ensure that all patients are treated in the most appropriate unit relative to their needs. This will help to manage activity efficiently and ensure that patients' are receiving the right care, right time, right place.

Patients will benefit from a comprehensive range of rehabilitation services provided by a multidisciplinary team of specialists. Services will be provided for the following conditions:

- Major trauma
- Neurosciences
- Neurological
- Complex MSK
- Traumatic amputees
- Severely deconditioned patients

The NRC's rehabilitation programme will enable patients to benefit from a more intensive treatment regime delivered six days per week and including a mixture of group and 1:1 sessions. Patients will benefit from out of hours access to two gyms that will allow patients to continue their own rehabilitation outside formal sessions, supported by a non-clinical member of staff. The grounds and other shared DMRC facilities will also contribute to patients' efforts to rehabilitate.

Patients will also benefit from an increase in speciality care. Clinicians in the NRC will be fully focused on rehabilitation and they will benefit from the knowledge sharing with other, equally focused, clinicians from both the NRC and the DMRC.

A new staffing model has been developed with an increased emphasis on use of rehabilitation assistants and exercise therapists. The model for other staff is broadly consistent with existing staffing levels but the way those staff are used will be changed in line with the group work set out above. Another change is the introduction of the trusted assessor. This principle has been introduced to ensure that an assessment made in one unit is accepted by the next.

Whilst it is intended to provide NHS patients with access to facilities in the DMRC not available within NHS services, it is not envisaged that patients in the defence and NHS facilities would ever receive treatment in the same place at the same time. NHS staff would treat NHS patients and be responsible for them whilst on DMRC premises.

Early planning for discharge and return to life and work will be offered at the NRC, enabling the transition from inpatient rehabilitation to home and community based services, if required, to be timely and smooth.

2.2 Clinical Senate Recommendations

Within the NHS, Clinical Senates have been established as a source of independent and objective clinical advice and guidance to local health and care systems, to assist them to make the best decisions about healthcare for the populations they represent.

On the 29th July a Clinical Senate Panel was held to review the proposal and in particular, the clinical model for the NRC. The Senate highlighted that the NRC represents a tremendous opportunity and asset for the region which has the potential to address a significant rehabilitation gap.

The Clinical Senate have provided four recommendations will be taken forward to further develop the service specification and clinical model.

Recommendation 1 - It was recommended that an objective tool for assessment of patients (referral criteria) should be developed and underpinned by clinical policies to ensure there is equity both across clinical conditions and different patient groups.

Recommendation 2 - It was recommended that a clear workforce plan should be developed detailing the staffing required and subsequent training, which should focus on a greater need for a rehabilitation workforce and alternative roles. This should include scientific staff and how specialties such as neuropsychiatry would be accessed.

Recommendation 3 - It was recommended that a detailed discharge planning process is developed with a secure and clear exit pathway, which ensures there is a smooth interface with community provision and ongoing rehabilitation.

Recommendation 4 **-** It was recommended that further detailed cost benefit analysis needed to be undertaken, which should include metrics such as Disability Adjusted Life Years (DALY); a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability. It was also recommended that work is undertaken to audit currently occupied rehabilitation beds against those admission criteria.

3.0 Impact Assessments

A travel impact analysis and equality impact assessment have been carried out and the findings from these will be explored further through ongoing engagement. The Impact Assessments are attached.

3.1 Travel Impact Analysis (TIA)

The travel impact analysis was done on the basis of lower super output areas (LSOA) across Nottinghamshire, Derbyshire, Lincolnshire and Leicestershire, with the assumption that patients were treated in the nearest hospital to that LSOA. This showed that patients live on average 10.7 miles from the nearest hospital and this can vary from 3.2 miles on average for Leicester City patients to 39 miles for those from South Lincolnshire.

If all patients were instead treated at the proposed National Rehabilitation Centre, most people would have to travel further to visit patients. Patients would be treated on average just under 25 miles from home – a further 13.9 miles compared to the nearest current hospital. Patients live on average 20 minutes by car from their nearest current site and this would increase to 39 minutes for a single journey to the NRC. It would take two hours and five minutes on average to travel to the NRC by public transport.

The TIA highlights that planning for the National Rehabilitation Centre aims to transfer “patients to a rehabilitation bed in a timely way, reducing the number of patient moves, reducing the overall length of

stay for the cohort of patients and gaining improved outcomes". Reducing patient moves and the overall length of stay should mitigate some of the impact of longer travel times for visitors. There will be three family rooms available at the National Rehabilitation Centre. These facilities will offer the potential for reduced visitor travel, especially if priority is given to those living furthest from the National Rehabilitation Centre.

The Programme Team are considering four areas in planning which will help to mitigate the additional journey times including the following:

1. The design of the facilities includes three family rooms available at the National Rehabilitation Centre. These facilities will offer the potential for reduced visitor travel, especially if priority is given to those living furthest from the National Rehabilitation Centre.
2. There will be ample and free visitor parking on site.
3. There will be high speed broad band to facilitate facetime and skype.
4. Negotiations are underway with the highways agency and bus companies to improve public transport links.

3.2 Equality Impact Assessment (EIA)

The EIA highlighted that there is significant potential to improve clinical outcomes, reduce disability and address geographical inequalities in the East Midlands. Risks to equality were outlined in the EIA and the following recommendations were provided as mitigations. The recommendations have been included in the PCBC.

- Develop explicit referral criteria that state that paid employment is not the only form of vocational and occupational benefit, and that unpaid care, family support, volunteering and social engagement must also be considered.
- Support referring hospitals with training to address unconscious bias so that, on a case by case basis, older adults, people with existing disabilities (physical, sensory and learning) but a high level of motivation and ability to benefit and others who may be vulnerable to being discriminated against (e.g. people who are addicted to drugs) are considered for rehabilitation in a fair and consistent manner.
- Provide ongoing advice and support for referring hospitals on a case by case basis, so that people who may benefit but have a pre existing disability, older adults and other vulnerable people can be discussed.
- Proactively reach out to people with protected characteristics and people in ESD2 inclusion groups during the public consultation for the NRC and take action on their concerns.
- Negotiate public transport access to the site with local public transport providers.
- Use the patient cohort and research expertise at the NRC to identify and address equality issues, such as concerns raised that women are under treated due to unconscious biases around their pain response or need for rehabilitation, and other equality issues raised in the literature or during consultation.
- Ensure that the NRC and referring hospitals seek appropriate translation services when necessary.
- Take steps to address the spiritual needs of patients, where requested, by forming links with local faith communities.

4.0 Engagement

Three focus groups, telephone interviews were carried out and on-line feedback received. A discussion guide was provided on-line and to participants in order to elicit feedback in relation to the following:

- Experiences of current rehabilitation services
- What elements of rehabilitation services are most valued and what could be improved
- Views on the proposed changes as outlined in the Transforming Rehabilitation Services paper
- The potential impact of these changes from a patient perspective and ways of addressing these

The conclusions from the engagement demonstrated that patients really value the rehabilitation services that they have received from the NHS. In particular, the quality of care and attention provided by staff appears to be most appreciated by all patient groups.

Most patients were very receptive to the proposals for a National Rehabilitation Centre as outlined in the Transforming Rehabilitation Services paper. The idea of receiving care "all in one place" was appealing as well as having access to the latest technologies and therapies. The biggest concern for many was losing access to the personal connections they had made with staff who had cared for them. People wanted reassurances that these members of staff would still be in their roles as part of their changes and / or could have access to them. The idea of building new relationships with new teams was a bit daunting for some.

There was some scepticism expressed by a small number of participants who did not think that the plans would be viable in the long-term and that existing services should be invested in instead.

Most people were willing to travel further if necessary to access better services. However, they wanted to make sure that it would also be easy for their families to visit them and affordable for them. This was a particularly important issue for younger patients.

The small number of people who felt they would not travel further to access services at the proposed National Rehabilitation Centre cited convenience and familiarity with the services they received by people they trusted as the main reasons for not doing so.

Many participants recognised the opportunities that having one centre with access to the latest research and expertise provided by a national education centre presented particularly in terms of improving their health outcomes more quickly.

Some people, while supportive of the proposals, still felt that "it sounded too good to be true". It was felt that more information was needed about: The types of services patients could access; Clarity about what would happen to existing services; The costs to the patients and their families / visitors; How the Centre would be financed in the long-term not just the short-term.

The full report is attached.

5.0 Finance Case

The Finance Case describes the impact of the 63 bed facility and the corresponding proposed activity model. The capital required for the research and innovation hub and education and training centre will be considered as part of the Strategic Outline Case. Revenue options for these elements of the facility have not been incorporated in the finance case at this stage.

The finance case has been developed to understand the likely impact from the provision of a net increase of 39 specialist rehab beds across the East Midlands and associated transfers of agreed activity and beds from the system.

It has taken into account the known capital and revenue consequences at this stage from the increase in specialist rehab provision and decrease in acute beds.

The basis of the proposal and the financial case has been made on the following assumptions:

- The current activity and resources from the 24 beds at Linden Lodge will transfer to the NRC from the current site at City Hospital. Linden Lodge is in need of considerable repair and backlog maintenance liabilities of £673k have been identified.
- The current activity and resources from 34 Trauma/MSK/Neuro inpatient beds at NUH will transfer to NRC.
- The remaining 5 beds of activity will be filled from other sources across the system and most likely to be: referrals from other acute providers, repatriation from NHS funded private sector activity or step down from other level 1 or 2a specialist rehab units.

Further work will be carried out on the financial case as there remains a revenue pressure and therefore a gap in funding. This will be done in the context of a review of the whole pathway for rehabilitation. In order to ensure that the NRC is affordable additional direct cash releasing benefits will need to be identified to offset either provider or commissioner costs to fund the preferred option.

6.0 Conclusion

The NRC proposal will deliver a step change in the provision of rehabilitation services in the East Midlands, including as a catalyst for the transformation of rehabilitation services and in providing the opportunity for a regional centre of excellence with best practice and advances being rolled out nationally. The NRC will have the capability to achieve the following benefits:

- creating a high-quality centre of rehabilitation excellence
- addressing a clear deficit in rehabilitation capacity
- improving access to services
- improving outcomes and the patient experience through a new clinical model
- be future ready, able to respond to changes in future service needs and models
- reducing pressures on the acute bed base
- reducing pressures on primary and community health services
- reducing system financial pressures and provide a saving to the health and social care system and wider economy by:
    - reducing waits in acute beds
    - reducing the overall length of inpatient stay
    - delivering better outcomes will reduce the need for ongoing health and social care costs
    - returning more people back to work will contribute significantly to the economy through taxes and increased spend of individuals
    - reducing the burden on family members to be main carers
- returning people to work and active lives
- helping patients benefit from clinical, education and training and research and innovation synergies
- improving recruitment, retention, education, training and skills for clinical staff
- improving research and innovation

The proposal has been more fully defined through the Pre-Consultation Business Case and work continues to take the finance case and clinical model through the next phase in preparation for the decision making business case. As a result there are further, more detailed decisions to be made and ongoing involvement will be carried out, in addition to the engagement and/or consultation on the Pre-Consultation Business Case. It is important that the next phase of engagement includes co-designing rehabilitation with patients, citizens, service users and carers alongside clinicians and specialists.

Next Steps

The Health Scrutiny Committees are requested to consider the proposal on its stated merits and give consideration of requirements at this stage with regard to the CCG's statutory duties for involvement of patients in implementing major service change.