University Hospitals Sussex
NHS Foundation Trust

Agenda Item:		Meeting:	3T's Steering Group	Meeting Date:	25 January 2022
Report Title:	**Helideck Operational Provision and Costs**				
Sponsoring Executive Director:	Karen Geoghegan				
Author(s):	[redacted]				
Report previously considered by and date:	N/A				
Purpose of the report:					
Information	✓		Assurance	✓	
Review and Discussion	✓		Approval / Agreement	☐	
Reason for submission to Trust Board in Private only (where relevant):					
Commercial confidentiality	☐		Staff confidentiality	☐	
Patient confidentiality	☐		Other exceptional circumstances	☐	
Link to Trust Strategic Themes:					
Patient Care	✓		Sustainability	✓	
Our People	✓		Quality	✓	
Systems and Partnerships	✓				
Any implications for:					
Quality	There are clear and direct links to the quality of patient care with faster transfer of the patient to a place of definitive care and treatment.				
Financial	There are significant costs attached for the operation of the Helideck. These will be offset from previous considerations through the use of volunteers.				
Workforce	Volunteers will be recruited to operate the Helideck whilst management will be linked to the new Fire Advisor's Role whilst managerial oversight will be included in the Trust Fire Safety Manager's Role.				
Link to CQC Domains:					
Safe	✓		Effective	✓	
Caring	✓		Responsive	☐	
Well-led	☐		Use of Resources	✓	
Communication and Consultation:					
Yes					

Executive Summary:

This paper discusses the method of operating the Helideck. This follows some discussion on the background of the project allowing an appreciation of the context of operation.

This paper considers that the best method of operating the Helideck is to use staff that would be present to assist with the movement of patients as Helideck staff. This would include resources and training to be provided.

This report then discusses the running costs of the helideck which are potentially £452.1k pa. of which £123.9k relates to potential staff costs.

There will also be set up cost of £57.1k of which £46.5k will be capital costs.

Work with the clinical teams has identified that the additional tariff income will be offset by additional clinical costs (primarily blood products).

In addition NHSEI have previously confirmed that the cost of operating a helipad is not included in the MTC or critical care tariffs.

The additional costs would therefore not be offset by potential additional tariff income.

The helideck would therefore create cost pressure for the Trust of £452.1k pa.

Key Recommendation(s):

Board is asked to:

1. Note the contents of this paper.
2. Note the model of operating and staffing the Helideck.
3. Note the costs associated with the Helideck.

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1.0 Introduction

1.1 The purpose of this paper is to provide the Programme Board with information relevant to the operation,cost and management of the Thomas Kemp Tower Helideck at the RSCH site.

1.2 To promote the timely transition of patients that have been involved in serious incidents, to a place of definitive care, the RSCH site has constructed a Helideck. The transport of patients to the hospital by helicopter is expected to have a significant impact on the survival rate of those that are suffering from life-threatening conditions/injuries.

1.3 In order to ensure that the Helideck is capable of being operated in a competent and effective manner the Trust is required to follow guidance from the Civil Aviation Authority. This makes specific recommendations around policies procedures and crewing of the Helideck in the event of a helicopter being required to bring patients to the hospital.

1.4 Whilst many crewing options have been reviewed previously this paper proposes a single crewing option and provides costs against this option. The method proposed in the Helideck is currently in use at other hospitals and has been considered with the Queen Alexandra Hospital in Portsmouth and on the advice of a technical authority in the aviation industry that provides assistance to the Civil Aviation Authority as an industry regulator.

2.0 Background

2.1 The RSCH Brighton Helideck was initially constructed in 2018 and has been delayed repetedly for reasons that have been shared in previous papers with notable assurance that the deck will be brought into operational use in June 2019. As of July 2021, the Helideck is still not operational.

2.2 A Helideck Steering Group was formed previously that visited other Helidecks and noted other hospital Helidecks to review methods of operation and staffing models. Previously, inbound flights were quoted as being up to 57 flights per year. Income is achieved from the number of patients received in conjunction with the extent of care required.

2.3 A paper was written and provided to the 3Ts Oversight and Assurance Board in January 2019. This quoted that the figure of 57 patients would realistically be 23 patients. This was following review of data from the Trauma Network and the Air Ambulance Kent Surrey Sussex Trust. These figures are still considered relevant.
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2.4 To operate an elevated hospital Helideck there is a document written as guidance for undertaking Helideck operations. This document is written by the Civil Aviation Authority (CAP 1264) as the Reguator.

2.5 This guidance details the provisions that should be in place prior to the Helideck accepting flights. This includes the provision of a trained crew that assist with the

preparation of the Helideck for landing and take off, as well as the initial response in the event of an incident on the Helideck. It is for this reason that staff trained in basic firefighting and rescue techniques as well as helicopter awareness and operations need to be present at each landing. These crew are called the Helicopter Landing Assistants (HLA).This provision also includes a supervisor, known as a Helicopter Landing Officer (HLO). This role supervises the landing and in the event of an incident acts as the initial Incident Commander prior to the arrival of the Fire and Rescue Service.

2.6 On landing on the Helideck the helicopter crew will be assisted by hospital staff that will assist in the transport of the patient into the hospital. At the present time it is considered only necessary to operate the Helideck during daylight hours. This provision may only offer 8 hours of use in the winter months but up to 16.5 hours of use in the summer months.

2.7 Various types of crewing provision have previously been considered. These include outsourcing the provision of the HLO and HLAs to professional Fire-fighting crews or just outsourcing the HLO role to a professional Incident Commander experienced in Helideck operations. Previous staffing models also considered recruiting staff, specifically as Helideckcrew. This paper considers that none of the above are viable options given the potential infrequecy use that the Helideck may achieve of only 23 inbound flights per year. Even at the higher suggested figure of 57 flights per year such provisions would not be deemed viable.

2.8 Such staffing provisions are normally reserved for Helidecks at which the helicopter is permanently stationed. This report has considered the provision of staffing carried out in the Queen Alexandra Hospital in Portsmouth which has been operating a Helideck since 2007 using trained internal staff to act as patient handlers and fire fighters. This has included providing the staff with appropriate personal protective equipment (PPE) and respiratory protective equipment (RPE) to deal with an incident should one occur.

2.9 In considering this staffing models and resources, the UHS Trust has discussed this with the Queen Alexandra Hospital in terms of its operational issues. The Trust has also sought the professional advice of a Helideck specialist in Greendeck Operations Ltd. This company is an international consultant for Helideck provision and has significant experience in UK hospital Helidecks as well as offshore provision. Greendeck Operations Ltd also act as a technical consultant to the CAA, specialises in commissioning Helidecks and writes CAA guidance, policies and procedures.

2.10 The Trust has appointed Greendeck Operations Ltd to act as Technical Authority (TA) for the Trust. This term used widely in the aviation industry is essentially an Authorising Engineer position for the Helideck. Simon Jones the proprietor of Greendeck Operations Ltd has been providing competent technical advice for the Trust in this capacity. This will include not just the provision of ongoing technical advice but also the provision of the Trust's own guidance, policy and procedures. Greendeck Operations Ltd are also experienced in the provision of training to staff undertaking the above roles. This includes

staff from private super yachts, oil installations, military installations and hospitals. This has been initially offered to the Trust and also on an ongoing basis.

3.0 Proposal

3.1 It is proposed that the role of Helideck crew to assist in patient movement and initial incident response is undertaken by staff who are trained in the above and are capable of acting appropriately in the event of an incident.

3.2 This role would include the hospital staff who would normally be involved in the transport of the patient from the helicopter to the respective place of care or treatment being trained in a number of different areas to ensure they are competent and effective if faced with an incident.

3.3 It would be anticipated that the staff, as volunteers, will be trained in helicopter familiarisation, Helideck operations, first response firefighting, basic extrication methods, securing the helicopter to the deck, basic first-aid and trauma care, dynamic risk assessment, incident response and operation of the Helideck firefighting systems.

3.4 Whilst it is assumed the staff will be volunteers the cost of staffing (of £123k pa) has prudentally been included in the costs in case they cannot be recruited.

3.5 It would be anticipated that a number of staff on site on any particular day would be trained for this role and normally work within the Thomas Kemp Tower. The staff would be from different departments and would be recruited on the basis of volunteers who wished to assist with the Helideck operations to benefit patient care. Where this has been the case in other organisations, such a role is seen as an exciting change from everyday tasks with the benefit of additional training which may enhance life skills.

3.6 Such staff would be placed on pagers that when activated would act as an instruction to the staff to attend the Helideck. Similar to the process used at some fire stations, each role on the team will be provided with a tally. With the potential provision of a Helicopter Landing Officer to supervise the landing and three additional Helicopter Landing Assistants to attend the landing. This would mean that the first four tallies would be provided to the first four attending members of the crew. This enables the earliest preparation of the Helideck in the event of an inbound flight carrying a patient.

3.7 Staff undertaking this role would be expected to not only carry out the everyday operations of a Helideck, such as preparing a Helideck for landing and take-off and maintaining basic equipment, but also in dealing with an emergency. This would include the Helicopter Landing Officer acting as the initial incident commander prior to the arrival of the fire and rescue service and the Helideck Landing Assistants as an initial firefighting and rescue crew. It would be anticipated that these roles would be handed over on the arrival of the fire and rescue service.

3.8 This incident response role would include extracting any potential crew, casualties and the patient from the helicopter should it impact the deck, in what is known as a “hard landing”. Such an event could include the helicopter making an unplanned impact onto the deck or impacting the Helideck in such a way that places the helicopter on its side. This may lead to the ignition of helicopter fuel or the helicopter itself.

3.9 This would include defensive firefighting. This term involves fighting fires without committing to a position that placed the firefighter at risk. This may include fighting a fire with a hose, but without coming into close proximity to the fire or feeling the effects of heat and smoke. By only undertaking defensive firefighting and ensuring that such operations are carried out from a position that is free of smoke and toxic fumes, the use of traditional breathing apparatus is negated. However, there is the potential for dusts from within the helicopter itself. This includes man-made mineral fibres which pose a significant risk to the respiratory system if inhaled. Recommendations on personal protective equipment and respiratory protective equipment are made below and costed. These recommendations combine the experience of the Trust Fire Safety Manager as an incident commander and operational firefighter alongside the recommendations of Greendeck Operations Ltd.

3.10 This would also include potentially making an entry into the helicopter and freeing any casualties from the structure of the helicopter itself. Basic extrication techniques from helicopters would be taught to the staff crewing the Helideck. This would be provided initially by Greendeck Operations Ltd and then may be complemented by additional training from East Sussex Fire and Rescue Service, particularly in the use of equipment in the Helideck response kit, designed for such purpose. Again the personal protective equipment required for undertaking such tasks has been given due consideration and costed below.

3.11 The competency required to undertake such a role has been considered against the operational requirements of the role and in conjunction with advice sought from other hospitals and Greendeck Operations Ltd. All various crewing methods have been considered and it is not deemed necessary to recruit experienced and qualified firefighters to undertake this role. Such a level of competence will also include dealing with house fires, railway incidents and maritime incidents. The well-rounded competence of a professional firefighter is not required for this role which effectively has an important but very limited application in the event of an incident. It is considered suitable that hospital staff are trained in the above areas by a competent professional and then provided with an ongoing programme of competency and training to enable safe and effective operation of the Helideck and a suitable incident response.

3.12 Personal protective equipment would be sourced from a reputable supplier which offers equipment to accredited standards that is capable of ensuring an adequate level of protection for the Trust staff. Such equipment will be stored in the crew accommodation on the Helideck until such time as it was needed. The equipment will be subject to regular inspections and replacement when required with an anticipated life of three years for clothing used for firefighting, one year for respiratory protection and five years for other operational equipment.

3.13 Transportation of patients will be similar to that for those arriving by ambulance. A member of the trauma team would meet the helicopter on the helideck for a handover from the helicopter paramedic team. They would then ccompany the patient to the Emergency Department and the rest of the team.

3.14 It would be anticipated that the management and resourcing of the Helideck would be integrated into the role of the Trust Fire Safety Manager with certain responsibilities delegated to the Hospital Fire Advisor responsible for the RSCH site. This may include where appropriate, providing a volunteer rota, inspecting the Helideck, inspecting equipment / fire kit and any other duties deemed appropriate.

3.15 A suite of documentation has been developed by the Trust following benchmarking against peers and also confirmation from our AE Air in terms of best practice and regulatory requirements.

- Helideck Standard Operational Procedures
- Crash Rescue, Medivac & Evacuation Plan
- Daily Helideck Opening Checklist
- Daily Helideck Closing Checklist
- Flight Recording Log
- Flight Movement Report Template
- Helideck Team Recruitment Poster.
- Helideck Landing Officer Job Sheet
- Helideck Landing Assistant Job sheet
- Help Desk Job Card
- Security Job Card
- Porters Job Card
- Switchboard Job Card
- Medical standards for Helipad RFFS Operators

3.16 These SOP's, processes and templates all relate to the support of the helideck service by Facilities and Estates, and do not capture the helideck clinical SOP's and processes.

4.0 Costs

4.1 The costs of operating this type of provision can be presented in two forms: these are initial set up costs and ongoing running costs. These are set out in the table below. Initial set up costs include purchasing equipment, radios and training staff. Ongoing costs include maintaining / replacing equipment capital charges and staffing costs.

Expenditure	**Start-up costs £**	**Annual Costs £**
Revenue costs		
Consultancy	7,000	3,000
Initial Training	3,000	
Annual Training		3,000

Crew accommodation costs		1,500
Patient trolley servicing		1,000
Helideck Team uniform		800
Ground to Air Radio	600	300
Diff system maintenance		11,500
Lift maintenance		4,500
General maintenance (lighting, power etc.)		15,000
Helideck Team PPE		1,000
Helideck Team RPE		1,000
Rescue equipment		1,000
Staff cost contingency		123,860
Additional Insurance Costs		TBC
Rates		85,000
Capital charges		199,599
Total Additional Revenue cost	**10,600**	**452,059**
Helideck Team PPE (3 year life)	27,500	
Rescue equipment	5,000	
Patient Trolley (5 year life)	14,000	
Total Capital costs	**46,500**	
Total	**57,100**	**452,059**

4.2 Using the above proposal as a model of operation and staffing, resourcing the safe operation of the Helideck would reduce the cost of previous proposals significantly. This proposal ensures adequate year-round provision of up to 4 appropriately trained staff and includes the provision of up to 20 volunteers.

4.3 Costs are set out in the table above as can be seen there are set up costs of £57.1 k of which are £10.1k are additional revenue costs and £46.5 are capital costs.

4.4 The running costs of the helideck are potentially £452.1k pa excluding potential additional insurance costs.

4.5 Key drivers to the cost are capital charges of £199.6k and an additional rates charge of £85.0k per annum. Together with a cost of £123.9k for staffing costs if volunteers are not available.

4.6 Whilst the helipad would be operational every day during dayliht hours,the staffing costs assumes that four band 6 staff would be needed for four hours a day 7 days a week. This is an asumption to cover absent volunteer posts rather than full staffing costs

4.7 With regards to insurance costs the helideck it is currently covered as part of the TKT insurance. We are seeking advice from our insurance brokers reharding the potential cost on insurance and also seeking benchmaking costs from foundation trusts with similar helidecks.

4.8 As will be noted from the table there will costs of for equipment replacement in years 3 and 5. Maintenance costs also reflect the fact that the although the helideck was handed over in October 2021 the majority of structural work was completed in 2018.

4.9 Work with the clinical division suggest that there will be increased clinical costs particularly on high value consumables such as blood products and that the tariff income would need to be used to cover these costs. Additionally NHSEI have previously advised that helideck costs are not included in the tariff.

4.10 Further work will need to be undertaken to confirm the additional costs and this may highlight a cost pressure.

4.11 The previous report submitted to the Programme Board in January 2019 provided the figure of a tariff income =of £15,351 per incident for a trauma case and £8,135 for a critical care case. This can be uplifted by 3.4% to reflect tariff growth to current levels (£15872 and £8412 respectively).

4.12 With a projected baseline of 23 anticipated flights, assuming a 50 / 50 split of cases, this equates to an estimated income of circa £279,266. For an estimated 57 flights, the number on which the business case was based on originally, the income is circa

£692,094. Further detailed analysis of the casemix woud need to be undertaken to confirm the figures.

4.13 The additional running costs set out above would therefore create a cost pressure for the trust, together with a potential cost pressure as a result of increased clinical costs.

5.0 Conclusion

5.1 This report has considered the previous reports offered to the Board and the author has considered the benefits and costs of operating the RSCH Helideck. These have detailed a model of staffing that reflects a substantial financial commitment and may not offer the most viable staffing structure. This included outsourcing provision, or outsourcing for just the Helideck manager to an external consultancy.

5.2 There is consideration in the aviation industry that those Helidecks with a DIFF system may be able to reduce staffing levels to a single operator. While this person may be able to activate the system, this will not release any trapped crew or be able to safely make any significant intervention in the event of an incident. It is likely that it will be up to 20 minutes after initial call that the local fire and rescue can begin operations. Therefore it would not be considered practiable for the Trust to await attendance. As such this model of staffing the Helideck using a single person has not been considered viable due to the risks in relation to crew safety and / or Trust reputation.

5.3 Following the resourcing model used at the Queen Alexandra Hospital in Portsmouth and taking the advice of a source of internationally reknowned competence in Greendeck Operations Ltd, this report recommends the use of the staff that would normally assist the patient movement function to volunteer as Helideck crew. Given the correct PPE and competence training to CAA standards, this report contends that this offers a suitable staffing option that attracts fewer outgoings and provides a level of cover that is commensurate with the risks posed and the frequency of operations.

6.0 Recommendations

The Programme Board is asked to:

1. Note the contents of this paper.
2. Note the model of operating and staffing the Helideck
3. Note the costs associated with the Helideck.
4. Agree the operation of the Helideck through this method and propose to submit this to TEC.