We would greatly appreciate if you could answer all the relevant questions to assist us with this study in the preferred format that has been given.

1. **Does your organisation employ or utilise the use of logistical robots, or advanced equipment that can assist in operational tasks in a healthcare setting?**
   - *Please select all box(es) that apply. If nothing applies, please proceed to Question 5.*
   - *In the case the robot is multifunctional, please select one that best suits its primary purpose.*
   - *In the case of multiple models and manufacturers under one application, please use the extra page given at the end of this form.*
   - *For the purpose of this study, we are looking at logistical and supporting robots, with the exclusion of surgical and clinical robots (C-Arm, phlebotomy robots, exoskeleton/therapy robots, etc.). The term 'robot' used in this study refers to an advanced equipment or hardware that has an autonomous capability and can operate with minimal to no human intervention.*

   ☐ **Delivery or transportation robots (delivering inpatient meals, empty food trays, medicines, samples/specimens, linen, etc.)**
   If yes, could you please give a general specification of the product/s:
   Main delivery item   : Food / Medicine / Specimen / Linen / Other
   If Other   :
   Manufacturer   :
   Model   :
   Year of installation   :
   Generation   : First/ Second/ Third/ Others
   Other functions?   :

   ☐ **Customer service/helper/care robot (greeting and assisting visitors in wayfinding and digital check-in, choosing inpatient meal options, etc.)**
   If yes, could you please give a general specification of the product/s:
   Manufacturer   :
   Model   :
   Year of installation   :
   Generation   : First/ Second/ Third/ Others
   Other functions?   :

   ☐ **Waste management robot (transporting waste, sorting waste, recycling, etc.)**
   If yes, could you please give a general specification of the product/s:
   Manufacturer   :
   Model   :
   Year of installation   :
   Generation   : First/ Second/ Third/ Others
   Other functions?   :

   ☐ **Cleaning or disinfecting robot (vacuuming, mopping, scrubbing, UV disinfecting, etc.)**
   If yes, could you please give a general specification of the product/s:
   Manufacturer   :
   Model   :
   Year of installation   :
   Generation   : First/ Second/ Third/ Others
   Other functions?   :

   ☒ **Pharmacy robots (sorting, storing, dispensing, etc.)**
   If yes, could you please give a general specification of the product/s:
   Manufacturer   : BD ROWA

Model   : VMAX
Year of installation   :2018
Generation   : First/ Second/ Third/ Others- no answer
Other functions?   :   **No other functions other than sorting, storing, dispensing**

☐**Manual handling robots (goods reception, sorting, storing, etc.)**
If yes, could you please give a general specification of the product/s:
Manufacturer   :
Model   :
Year of installation   :
Generation   : First/ Second/ Third/ Others
Other functions?   :

☐**CSSD robots (sterile instrument automatic storing, packaging, delivering, etc.)**
If yes, could you please give a general specification of the product/s:
Manufacturer   :
Model   :
Year of installation   :
Generation   : First/ Second/ Third/ Others
Other functions?   :

☐**Other logistical robots**
Application/purposes   :
Manufacturer   :
Model   :
Year of installation   :
Generation   : First/ Second/ Third/ Others

2. **Was the installation of the robot(s) part of the hospital's development (as a new build, refurbishment, department enhancement, renovation, etc.) or a dedicated retrofit?**

Type of Robot	Planned	Retrofit
Pharmacy fitted as part of planned departmental enhancement		

3. **When planning the use of robots, could you please tell us of any design decision(s) or adjustment(s) needed, if any, that was made to the hospital infrastructure and building design to enable their use?** (E.g. installation of automatic doors, dedicated FM routes, adjustment to lifts etc.)

Reconfiguration of stores and Dispensary (no structural changes). Construction of conveyor belt and installation of Robot required alteration of ceiling heights

4. **What were the main intentions behind the decision to implement the robot(s)? What evidence-based factors supported the decision to implement the robot(s) i.e., savings projection?**

Type of Robot	Purpose of Use
	Choose all that apply ☒ Easing staff physical workload ☒ Increasing efficiency of task ☒ Repurposing staff time for patient-centric tasks ☒ Reducing human error ☒ Maximising working hours ☒ Others, please explain below_____ improved stock control Robot has served its purpose with regards benefits realised, labour saving and efficiency. No serious issues with reliability and maintenance. Temperature control in the Robot has been managed by installation of an air conditioning unit that is integral to the Robot.
	Choose all that apply ☐ Easing staff physical workload ☐ Increasing efficiency of task ☐ Repurposing staff time for patient-centric tasks ☐ Reducing human error ☐ Maximising working hours ☐ Others, please explain below_____

Have the robot(s) delivered the benefits envisaged when first considering using them? Please could you outline the positive and negative impacts of the robot(s) to the staff, patients, visitors, the hospital environment, and other stakeholders in the hospital:

Type of Robot	Impacts
	How does it serve its purpose? Are benefits realised in time and labour saving and operational efficiency? *Is the system reliable? Is there a high uptime and is maintenance manageable?* *How does it affect its surrounding?* *How do the staff and patient interact with it?* *Are you considering the continuity or increased use of this type of robot?*

5. Please only answer these questions if you are unable to answer Question 1-4
a. **Has the organisation considered implementing logistical robots?**
☐ Yes
☐ No

b. If yes, is the organisation going to implement logistical robots in the next 5 years?
☐Yes
☐No

If yes, what kind of logistical robot(s) and what is its intended purpose(s)?
Choose all that apply
☐ Delivery or transportation robots
(Delivering inpatient meals, empty food trays, medicines, specimens, linen, etc.)
☐ Customer service/helper/care robot
(Greeting and assisting visitors in wayfinding and digital check-in, choosing inpatient meal options, etc.)
☐ Waste management robot *(transporting waste, sorting waste, recycling, etc.)*
☐ Cleaning or disinfecting robot *(vacuuming, mopping, scrubbing, UV disinfecting, etc.)*
☐ Pharmacy robots *(sorting, storing, dispensing, etc.)*
☐ Manual handling robots *(goods reception, sorting, storing, etc.)*
☐ CSSD robots *(sterile instrument automatic storing, packaging, delivering, etc.)*
☐ Other, please explain_____

c. If No, please share some of the reasons why you are not going to consider implementing logistical robots or decided not to proceed:
Choose all that apply
☐Cost of the robot(s)
☐Limited funding / higher priorities towards other areas of improvement
☐Lack of evidence supporting the effectiveness and functionalities of the robot(s)
☐Lack of requirement due to ease of recruitment for human personnel/manpower
☐Complexity in implementation (lengthy business case, etc.)
☐Requirement for staff training
☐Existing infrastructure preventing the installation of enabling works (guide routes, automatic doors, wide corridors, sufficient vertical access, etc.)
☐Staff uncertainty/unease towards new technologies and possible replacement of staff
☐Satisfactory solution already exists, i.e., pneumatic tube, cage tug, contracted out food/linen service
☐Others, please explain_____