

Workshop on medical equipment partnerships CASE STUDY: SCENARIO AND GROUP DISCUSSION QUESTIONS

1. SCENARIO

You are a clinical engineer working an NHS Trust hospital. Two paediatric nurses at your hospital have just returned from a training visit to your partner hospital in Sierra Leone. They contact you because they encountered significant problems with the medical equipment on the paediatric ward; only two incubators were working out of eight, and the nurses were borrowing a single oxygen concentrator from the adult female ward.

A post-visit meeting is arranged and you attend. The partnership coordinator at your hospital says that there is a modest amount of money in the partnership budget for equipment provision. You are asked to provide technical input on the provision of equipment.

Additionally, there is funding for you to travel to your partner hospital to perform a one-week needs assessment to determine the hospital's capacity for maintaining and managing its medical equipment. Working alongside your counterpart who heads up the equipment maintenance department, your needs assessment determines the following:

- There is no central inventory of medical equipment, but the asset register suggests that there are approximately 1500 pieces of equipment at the hospital
- Equipment planning at the hospital is done on an ad hoc basis and generally led by senior medical staff
- There is no standardisation of medical equipment (i.e. same manufacturer, same model) and much of the equipment at the hospital was donated
- There are no written maintenance records, but a quick tour of the maintenance workshop and wards suggests one third of the equipment is out of service
- There are three maintenance personnel; two of whom have a 3 year diploma in electrical technology and 5-10 years of work experience, the third has a 2 year electronics instrumentation certificate and is a new hire
- There are some user and service manuals in the workshop but many are missing
- There are some generic spare parts in the workshop (fuses, bulbs, etc.) but few overall
- There is no functional test equipment in the workshop; there are basic toolkits
- The budget for maintenance is determined by the hospital administrator and is only ever spent on emergency spare parts orders
- Some of the operating theatre and radiology equipment in the hospital is supported by a service contract from a donor-funded initiative
- The maintenance team work hard with few resources; they often source spare parts at an internet café outside of work hours and are unofficially 'on call'
- There is a good repore between the maintenance staff and the medical staff
- Many people ask you to repair equipment on your one-week visit!

Based on the results of the needs assessment, you are eligible for a larger grant to support equipment training at your partner hospital and some of your clinical engineering colleagues are keen to visit your partner hospital and assist with equipment maintenance. You lead up the team that writes the grant proposal for a training partnership between your clinical engineering department and the medical equipment maintenance department at your partner hospital.



Workshop on medical equipment partnerships
CASE STUDY: SCENARIO AND GROUP DISCUSSION QUESTIONS

2. DISCUSSION QUESTIONS

2.1 EQUIPMENT PROVISION (recommended time: 20 minutes)

Discuss with your group what technical advice you offer during the equipment provision exercise. What planning should be done, and how would you source and ship equipment? What factors should you consider when the equipment arrives at your partner hospital and when it is put into service?

2.1.1 Planning

- How do you decide which equipment to provide?
- What factors do you consider when deciding?
- Who at your partner hospital do you consult, and for what input?
- Who at your own hospital do you consult, and for what input?
- Which guidelines do you consult when planning the provision?

2.1.2 Sourcing

- What possible sources of equipment do you consider (i.e. new, refurbished, donated)?
- Which organisations do you contact in the UK?
- Who may be involved at your own hospital, depending on your source of equipment?
- What are some of the considerations you make while sourcing?

Workshop on medical equipment partnerships
CASE STUDY: SCENARIO AND GROUP DISCUSSION QUESTIONS

2.1.3 Sending

- What items do you include with the equipment, if it is sent from the UK?
- What training materials do you include?
- How do you coordinate the shipping logistics?
- What guidelines must you follow for export from the UK?
- What paperwork is required for import into Sierra Leone?
- What challenges do you foresee with the shipping process? How can you mitigate these?

2.1.4 Putting into service

- What activities are required to ensure the equipment is put into service properly?
- What type of training is required for equipment operators?
- What type of training is required for maintenance staff?
- What level of training is required for each group of trainees?
- Who is a suitable trainer for each group? How is the training arranged?

Workshop on medical equipment partnerships
CASE STUDY: SCENARIO AND GROUP DISCUSSION QUESTIONS

2.1.5 Operating and maintenance support

- What type of maintenance schedule is ideal for the equipment (i.e. repair as needed, periodic inspection, periodic preventive maintenance)?
- Is a service contract with an external provider necessary?
- Who will the users and maintenance staff contact for ongoing support?
- Where will the operating budget come from?
- How will the maintenance staff source spare parts and other necessary materials?

Workshop on medical equipment partnerships
CASE STUDY: SCENARIO AND GROUP DISCUSSION QUESTIONS

2.2 TRAINING PARTNERSHIP (recommended time: 30 minutes)

Based on your needs assessment, you lead up a team comprised of clinical engineering and medical personnel from both hospitals that develops a proposal for funding to strengthen the equipment maintenance and management capacity at your partner hospital. You are proposing an initial 12-month training partnership that you hope to build off of for a longer partnership.

Determine with your group what the overarching goals, outcomes, outputs and activities of the proposal are.

2.2.1 Goals

2.2.2 Outcomes

2.2.3 Outputs

2.2.4 Activities