

# **EQUIPPING A HEALTH FACILITY: 5 STEPS TO SUCCESS**



## A FEW DEFINITIONS TO HELP YOU UNDERSTAND THE GUIDE...

**Packaging:** in the transport field, preparation of goods in order to facilitate their identification, protection and conservation.

**Consumable:** in the medical field, this is an essential supply for a medical act, which is normally replaced after use. For example: bandages, compresses, gloves, breathing masks, printing paper, X-Ray film, scan gel, syringes, tubing, etc.

**Agreement:** agreement between two or more people or legal entities who have agreed to do, or not to do, something. Form of contract or treaty in the current legal field.

**Medical Fluids:** all the gaseous molecules used to assist breathing during medical treatment, particularly for anaesthesia or resuscitation. For example: oxygen, nitrous oxide, compressed air, etc.

**Banding:** a transport system whereby several shippers group their loads going to the same destination in order to benefit from a lower rate or to facilitate bureaucracy.

### **Biomedical Engineer/Technician:**

**Biomedical Engineer:** person who designs and creates technical, organisational and managerial methods to manage the equipment and instruments used clinically and for medical diagnoses. They also supervise their installation. They advise hospital administrators regarding scheduling, procurement, use and maintenance of medical devices.

**Biomedical Technician:** is supervised by a biomedical engineer in the biomedical service, they carry out maintenance of the device and monitor all the devices; they train and inform users, participate in the procurement process and the installation of devices as well as analysing any malfunction, etc.

**Maintenance:** all the courses of action and/or results of actions making it possible to maintain a medical equipment in working order. There are several complementary types of maintenance:

**Adaptive Maintenance:** adapting the equipment in order to take account of changes that have no impact on the way it works.

**Preventive Maintenance:** looking after and improving the performance of an appliance.

**Curative Maintenance:** general repairs, breakdown repairs or correcting faults on the appliance.

**Medical/Biomedical Device:** term used to designate all hospital devices and equipment: furniture, consultations, operating theatres, laboratories, lighting, diagnosis, treatment, instruction, sterilisation, hygiene, physiotherapy, surveillance, disinfection, protection, care, etc.

**International Aid Organisation:** a non-profit making association which is independent from any government, whose sole activity, or the major part of it, is devoted to humanitarian work in Southern or Eastern countries, and more generally with disadvantaged people all over the world.

**Stock of Medical Devices / Equipment:** all the devices and equipment that an establishment possesses, in this case a health facility.

**Partnership:** relationship between one or several organisations for the implementation of a long or short-term project, based on cooperation, which respects the equal authority of the entities and is based on exchanges, trust, respect of commitments, transparency and reciprocity. It is a dynamic long-term process, based on specific skills and a shared vision of the aims of international solidarity.

**Project holder:** a person or legal entity which leads and represents a particular project.

**Biomedical Service:** service which manages equipment and provides technical maintenance in a medical setting, managing, as a team, the design, operation and control of the investment policy as well as maintaining the biomedical equipment.

# INTRODUCTION

## Why a practical guide on medical devices for healthcare projects is necessary?

Associations, local authorities, students, private individuals, we are an increasing number of people involved in healthcare projects seeking to improve the quality of healthcare in developing countries.

In view of the desire to do something, our reflex is often to send a medical device: a concrete response, practical and seemingly easy, in the face of a request for help or a difficult situation which has moved us.

However, it is far from straightforward ... since we have noticed that most of the medical devices transferred in the context of international aid are useless, cannot be or are not used. Too often, devices received by health facilities in developing countries are not requested by anyone, are not adapted to the local context and skills and are defective or supplied without instructions, accessories or spare parts.

**The dispatch of devices is neither the beginning nor the end of a project. It is just a way to attain a healthcare objective in partnership with the actors in the South or the East.**

To improve practices, a working group was set up comprising representatives of experienced associations and healthcare workers. The aim of the group is to develop educational and information tools to make project holders aware and to support them, based on the World Health Organisation's Directives regarding donations of medical equipment.\*

This guide is one of the working group's products. It provides step-by-step progress comprising action plans, questions that need to be asked, both of oneself and others, contacts, advice and testimonies that will make it possible to avoid the most frequent pitfalls. It is not a miracle solution, nor the key to the search for funding, but a structured approach that should be adjusted to a particular project.

*\*WHO Guidelines for Health Care Equipment Donations, March 2000*

# LAYING THE FOUNDATIONS OF A PARTNERSHIP

*An international solidarity initiative is not just a free and generous transfer. It absolutely has to be part of a balanced relationship between two parties, a long-term partnership based on trust and respect. Which is why, before taking any action, prior reflection is essential.*

## REGARDING THE DONATION...

“You cannot say ‘no’ to a donation. But is it accepted by the receiver because it is really useful or to please the donor?”

### WHICH IS WHY IT IS WORTH THINKING ABOUT:

- Leaving the receiver of the donation to choose how to balance the relationship.
- The right place for the donation: does putting the donation at the centre of the relationship run the risk of missing out on human relationships around this exchange, since the donation is just one part of the overall effort to implement a successful project?
- The history of relationships between your future partner and other donor organisations: this is to avoid reproducing unequal, disappointing or contentious situations.

For more information “Aider c’est pas donné” published by the GRAD.

## A PARTNERSHIP... IN PRINCIPLE!

- The project should be initiated **locally**, from the foreign partner!
- The partner must be clearly **identified and motivated**.
- It must be easy to **communicate** with them (emails, telephone, fax, post).
- Building a partnership is being ready together to go beyond a donor-receiver relationship and to commit to a real relationship of exchange **over the long-term**.

“Partnership is a new idea: in Southern countries, people will tend to go along with you in order to avoid offending you and to grab every opportunity.

In Northern countries, we tend to want to control everything, to “manage” rather than support... We both need to adapt our practices.”



### A project...

- should be set up by a number of people, even if it often rests on the shoulders of just one person!
- should be managed in the context of an organised structure (a registered charity, the law, a local authority, hospital, etc.).
- will have slower periods and periods of acceleration.
- can be run for several years...

## ESSENTIAL QUESTIONS TO ASK ONESELF

- Do we have sufficient skills to support a health project as well as sending medical devices?
- If not, are we ready to call upon external actors who will bring their skills, as well as a critical eye to the project?
- Are we in a position to commit long-term and to monitor our activity?
- Are we able to call upon and invest the financial resources necessary to implement the project?
- Are we capable of reacting rapidly to changes that could occur on site?

In summary, are we a trustworthy partner?



### Behaviour to avoid!

- Turning ourselves into a project holder because we have devices “to get rid of”;
- Thinking in terms of the number of containers or tonnes of devices dispatched;
- Justifying sending anything and everything on the basis that “they need everything over there”;
- Sending anything without prior agreement from the local partner;
- Undertaking a “big” project which requires specific skills and then complaining at the slightest problem: “we are volunteers, not pros!”...



# STEP 1

## MAKING ENQUIRIES TO DECIDE WHETHER TO GO (OR NOT...)

### FINDING OUT ABOUT THE HEALTH FACILITY AND ITS REQUEST

#### TOGO

“We wanted to contribute to access to healthcare for the community’s underprivileged, but we did a u-turn when we discovered that it was really a network of second-hand dealers.”

#### WHICH IS WHY IT IS WORTH FINDING OUT IN ADVANCE ABOUT:

- The motivation and position in the project of the person making the request.
- The size of the health facility in the local health system (regional hospital, dispensary, clinic, healthcare centre, association, etc.)

#### BUT ALSO ABOUT:

- The health issue that the partner wishes to address and local epidemiological data: absence of a health facility or a specialist facility, pathologies that are treated/not treated, etc.
- What has already been done locally.
- The services and specialties available at the health facility: namely, are there technical or biomedical services?
- The beneficiaries of the healthcare.
- The origins of the health facility: state, foundation, religious institution, etc.
- How it is managed: are there activity reports, balance sheets, a “maintenance” budget, a “consumables” budget?
- Those responsible for the administrative management of the local health facility.
- Local skills: medical, paramedical and technical.
- Devices that are already on site: ask for a list of what is there and an initial list of needs which will subsequently be validated together.

*It is essential to take the time to collect, at a distance, as much information as possible so as to know the partner well and the local context of the request before deciding to commit together.*

### FINDING OUT ABOUT THE HEALTH SITUATION

#### COLOMBIA

“At the last minute we discovered that the device had overrun the age limit set by Colombian law on some donations of second-hand appliances, and could not enter the country. So we had to cancel everything! Had we consulted the local authorities earlier we would have saved ourselves a lot of energy.”

#### WHICH IS WHY IT IS WORTH FINDING OUT IN ADVANCE ABOUT:

- Current policies and regulations in the health field (regarding the creation of health facilities, medical equipment, donations, etc.).

#### BUT ALSO ABOUT:

- Public health national data.
- Health facilities nearby, the types of relationship that exist between establishments.
- Companies in the health/biomedical sector who could be contacted if necessary (for a maintenance contract, to carry out repairs, to purchase devices, to supply consumables, etc.).
- International aid organisations, or local organisations running healthcare projects in the same area, or even the same field (for possible partnerships, etc.).



### Private health facilities: partnerships to consider...

Private health facilities have funds and are therefore able to maintain their devices in the long-term. We can help them to acquire devices in exchange for giving those on a low income access to healthcare.

### Manufacture or local purchasing: alternatives to sending devices do exist!

Getting local workmen to make beds, hospital room furniture, treatment trolleys, baby measuring rods, etc. can be cheaper than transporting them from our Northern countries. You will certainly be able to find a local distributor who can supply small devices and medical consumables. And this provides a stimulus for the local economy!

## ENQUIRING ABOUT THE LOCAL SITUATION

### VIETNAM

"The heat rendered the ECG paper we sent with the electrocardiograph unusable."

#### WHICH IS WHY IT IS WORTH FINDING OUT ABOUT IN ADVANCE:

- The climate.

#### BUT ALSO ABOUT:

- The geography: land-locked area or easily accessible.
- The cultural environment: history, languages, customs, religions.
- The political and administrative situation: political regime, conflicts, territorial organisation.
- The economic situation: currency, purchasing power, economic fabric.

#### *At the end of this step...*

*You will have an overall view of the situation and will be able to decide whether to retract or to pursue the project.*



#### Where to get all this information:

- ask you local partner;
- contact the country's Embassy, in your own country;
- by consulting resource centres (regional support networks for international aid, specialist associations; in France: RITIMO centres );
- by asking the Ministry of Foreign Affairs, as well as international organisations (WHO, etc.),
- without forgetting to browse the Internet!



## STEP 2

# GO ON SITE TO STRUCTURE THE PROJECT



*Carrying out an exploratory site visit is essential to confirm and complete the information collected at a distance and to define a viable and coherent project. Ideally, you should be accompanied by a doctor and a technician or a biomedical engineer.*

*Once you are on site, answer all the unresolved questions from the previous step...*

*... and commit together.*



### What if your project consists of repairing devices on site?

#### COMORES

"We were told that the lighting in the operating theatre was out of order. In fact, the light bulb just needed changing, but it couldn't be bought locally."

### ESTABLISH A RELIABLE NETWORK OF RELATIONSHIPS

#### WITHIN THE HEALTH FACILITY:

- Who can you count on on site to revitalize the project and who, on the contrary, is likely to slow it down?

#### MAKE YOURSELF KNOWN TO OTHER ACTORS:

- Your own country's Embassy: the technical assistant responsible for health (they will probably help you save time and, who knows, even offer you funding).
- Local and regional health and administrative authorities.
- Local NGOs and foreign associations operating in the area.
- Biomedical service providers (training establishments, maintenance service providers, distributors).

All the people you meet will give you a different view of the reality that you are discovering, and which does not always tally with the idea you had of it.



## 🔍 TAKING STOCK OF THE SITUATION

- In what state is the infrastructure (buildings, water, electricity, medical fluids, etc.)?  
Does work need to be carried out?
- In what state are the devices on site (age, generation)?  
Being aware of these aspects will give you an idea of the local partner's ability to manage medical equipment.
- What is access to the health facility like? Will it be easy to transport devices to it?

## 🔍 LOOK FOR SOLUTIONS AND DEFINE EACH PERSON'S COMMITMENT

### TOGETHER DEFINE THE HEALTH OBJECTIVES...

- Set attainable objectives in the short, medium and long-term to improve the health situation with regard to the stated request.
- Decide on how to attain the different objectives (dispatch of spare parts, repair of a device, local manufacture/purchase of devices, dispatch of devices, renovation of a service, building a new facility, etc.).

### IF DEVICES ARE NECESSARY

- Together draw up a detailed and quantified list of devices that are appropriate in the local circumstances and the way you want to use them based on the initial list of needs you were given.
- Which solutions should be applied for obtaining the devices (dispatch of donations, local purchases, etc.)? Who will undertake to supply them and in what timeframe?
- If renovation work is necessary, who will do it?
- If training (medical, paramedical or technical) is necessary, who will provide it?
- Who is going to be in charge of maintenance of the devices (the health facility, a local biomedical service provider, your organisation in the context of ad-hoc technical site visits)?
- Who is going to fund the purchase of consumables required for the devices to operate?

## 🔍 ASSESS THE FINANCIAL IMPACT OF THE DECISIONS

### ON THE HEALTH FACILITY'S BUDGET:

- Assess the project's impact on expenses (cost of work, expenses relating to the maintenance contract, cost of consumables, etc.) but also income (will the improvement in the quality of medical services have a positive impact on the number of patients cared for and therefore on the number of admissions?).

### ON THE PROJECT'S BUDGET:

- Establish a provisional project\* budget detailing the expenses (for example, cost of making the devices available, transport costs, cost of technical site visits or training, etc.) and income (subsidies, your own organisation's resources, etc.).

If it appears that financing will be required, it is now that you must seek additional funding\* from local donors, be they from your own country or not.

## GEORGIA

"Our partners took a while to realise that it was in their best interest to be precise about their requirement for laboratory devices. At the beginning, they would say: "it doesn't matter what sort of centrifuge" whereas, in fact, they needed a specific device to carry out the biological analyses that were wanted."

### At the end of this step...

*Write a partnership agreement detailing each person's role as well as a presentation\* of the project!*

\* In your area there are specialist support organisations that will advise you on how to structure your project and will help to guide your search for funding (for example in France: RESACCOOP in the Rhône-Alpes region, and Cap Solidarités in the North of France).

## STEP 3

# ASSEMBLING, PREPARING AND DISPATCHING DEVICES

*In order to send devices that meet expectations and are appropriate to the local environment in the right conditions, skill, rigour and a systematic approach are essential.*

*You need to have the funding when you launch this step!*

### ASSEMBLING AND PREPARING THE DEVICES

- Find a warehouse in which to store centrally all the devices provided prior to dispatch.
- Obtain the devices that exactly match the list drawn up with the local partners.
- Organise collection of the devices: either by your organisation or by a transporter.
- Remember to have a donation certificate drawn up and signed by the donor.
- Find out why the device is being donated, its state and the date of its last service. If necessary, **test its performance and/or renovate it** to be sure to send only devices that are reliable, operational and complete (cables, plugs, accessories). Be careful not to collect devices the use of which has been banned in France (or your own country)!
- Include all the available instruction documents relating to the device (user manual, technical instructions, service manual, etc.) in a language that the local actors will understand (ask the manufacturer if necessary).

You can contact specialist associative platforms for your supplies of devices. For example, in France: Entraide Biomédicale, Biologie Sans Frontières, Humatem, etc.

Look for organisations in your own country that could provide assistance.

### PREPARING AND DISPATCHING THE DEVICES

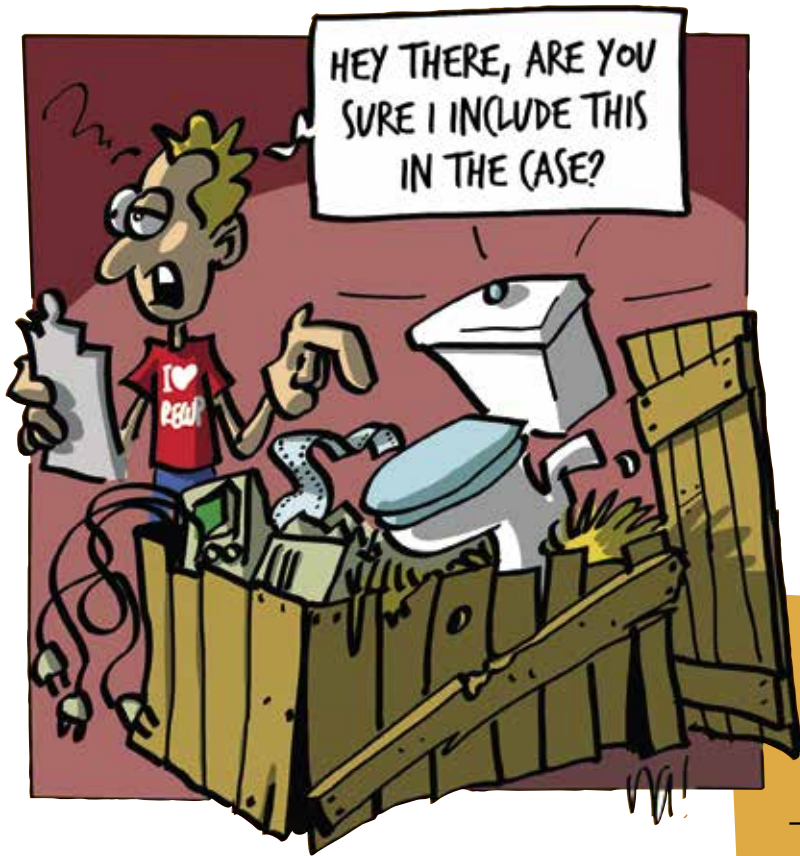
- Wrap fragile devices carefully. Some particularly sensitive equipment, such as scanners, requires special packaging. Ask a biomedical technician for advice, because a badly packaged device can be unusable on arrival.
- Complete the transport documents for export\* (bill of lading, pro forma invoice) and find out about the importation procedures in the receiving country. Be careful, you will be required to provide some documents in English!
- Select an international mode of transport\* appropriate for the volume, type of device, destination and available budget. Possibly envisage a banding shipment to share the costs with other project holders.
- Preferably send the device with one or more designated people who are involved in the project.
- Clearly identify all the intermediaries who will be in contact with the device (forwarding agent, Customs and Excise). Inform them of the procedures for monitoring the freight.

You can ask specialist support organisations to advise you on logistical and transport aspects\*.

*\* In France, to find out more about transportation, consult the information available on Bioport and Mission Air's web sites and get the transport guide issued by Bioport entitled "Guide pour une expédition réussie".*

### At the end of this step...

*The device is packaged and ready to go. Before sending it, carry out the administrative formalities enabling devices to enter the destination country and check with your local partner that any necessary building work has been carried out.*



### It is sometimes a good thing to refuse a donation!

**MALI** “We were looking for devices for disabled children for our project in Mali. I drove a long way to see if the devices that a specialist centre was offering were “in good condition”. In fact, most of them had rusted or were broken and I preferred to refuse them and leave empty-handed at the risk of offending the donors!”

**MONGOLIA** “In the context of a bilateral cooperation project, a hospital in Mongolia was sent about twenty new heart monitors without power cables, but also without having asked for them! Had the local staff been consulted, they would most certainly have declined the proposed donation.”



### Make regular contact with your local partner

Find out how things have been going since the exploratory site visit before sending the equipment:  
 Are the staff still there?  
 Has the number of devices evolved? Has the necessary building work been carried out?  
 Be ready to adapt to change!



- Start by sending simple devices like stethoscopes, blood pressure monitors, baby scales, etc. just to test the system!
- When a hospital suggests you dismantle a device on site, go there! At least you will be sure that it is complete, but ask for help from a professional.
- Testing a device isn’t always easy: remember to contact the manufacturer. It is sometimes possible to have the device serviced free of charge, or at least a special rate.
- Be sure the supply of electricity is compatible with the device. If necessary, think of acquiring an adaptor (transformer, adaptor, inverter, etc.).
- Include a few spare parts with the device (light bulbs, etc.) or send some of the more sophisticated devices in duplicate so that one can provide spare parts for the other.
- Identify and label the devices.
- Disconnect the cables and accessories, but pack them with the device to which they belong.

## STEP 4

# TAKE DELIVERY, INSTALL AND START RUNNING THE DEVICE

*Material support doesn't end when the container arrives. To ensure there is no break in the chain of responsibility, the device must be monitored until it gets to its designated area of use. You must be there when it arrives and remain until it has been taken over by the local actors.*

### ORGANISING LOCAL TRANSPORT

- Be sure that someone involved in the project is there to ensure the Customs formalities are carried out (an influential person or someone who is used to dealing with this sort of situation).
- Collect the device as soon as it arrives in order to avoid additional storage charges and to reduce the risk of theft.
- Organise local transport that is appropriate for the device as well as access to the health facility, to transport the device from Customs and Excise to where it is going to be installed.
- Organise unloading equipment (fork-lift, palette truck, etc.).

### BE PRESENT WHEN THE DEVICES ARE BEING INSTALLED

- Along with local employees, install and start to run the devices.
- Test the device in a real life situation to ensure it works correctly.

### TRAIN AND SUPPORT EMPLOYEES

- Provide the planned technical training and information on how to use the device (having brought the appropriate training documents!).
- When training staff, emphasize the importance of using the device correctly, its upkeep and maintenance (quality of treatment, safety of patients and user staff).
- Support and observe the way local staff take charge of the device and how it is integrated with all the other equipment.
- Organise the system and environment in which the device will be used (storage of consumables, traceability, management of expiry dates, handling of waste, etc.).
- Help organise management of the device (setting up a maintenance contract, first order for consumables, balancing costs/provisional budget, etc.).

For the installation, the putting into service of the device and the staff training on it, you could contact the manufacturer or service providers or specialist associations (for example in France: Biologie Sans Frontières, Entraide Biomédicale, etc.).

*At the end of this step...*

*The device should be operational and should remain so. Local staff know how to use and maintain it. They also know they can count on you if necessary.*



Once you are there, surprises, both good and bad, are always possible...

## MADAGASCAR

"In the context of the donation

of a multi-purpose radiology unit we had thought of checking that it would be possible to buy development products and x-ray film locally, but what we had not foreseen was that the distributor would refuse to sell them to us as a French charity. Fortunately everything was sorted out when the Director of the local hospital intervened personally!"

## IVORY COAST

"We used to

have a big ceremony to celebrate the arrival of donations of devices, with the Mayor in his traditional costume, photographs and all the trimmings, but then there was no-one to help us install the devices (which didn't always work anyway). So now we still have a celebration but only once the device has been installed and everything works!"

## DOMINICAN REPUBLIC

"The device arrived without a problem, but the promised electricity

was still on the other side of the road and took 3 years to cross it!"

## BENIN

"They waited to be sure to get the promised devices before committing money for the building work. But then everything went very fast, they worked night and day and completed in 3 days what should have taken a week."



- Check the tools on site. If necessary take your own toolbox!
- The installation of very technical devices can turn out to take a long time and be very complicated (fixtures, connections, calibration, operating tests).
- With local employees, write and display user, upkeep and maintenance procedures which will be daily reference points for them.

## STEP 5

# SETTING UP A MONITORING SYSTEM AND AN EVALUATION

*Once the device has been installed, it is important to plan regular monitoring if one wants it to last a long time, as well as evaluating the whole activity to measure the impact on health.*

### BEFORE RETURNING FROM THE SITE VISIT

- Leave those in charge locally with monitoring and evaluation tools so that the device's activity can be quantified and the benefits measured: monitoring logs, dashboards, etc.
- Confirm the commitments made by both partners to ensure the long-term use of the devices: who will purchase the consumables? Who will carry out the preventive/curative maintenance of the devices? Who will supply the spare parts?
- Offer to organise regular and timely visits: updating training, technical maintenance or repair site visit.
- Together plan an evaluation site visit to ensure the health objective has been met.

### ONCE YOU HAVE RETURNED FROM THE SITE VISIT

- Write a site visit report: highlight the successes and failures, suggest improvements.
- Give the site visit report to the partners: local, financial, logistical, etc.
- Obtain concrete feedback on how the devices are working.
- Tell members of your organisation about the activity: this is essential for the cohesion of an association.

#### *At the end of this step...*

- *Try to work in continuity by envisaging other initiatives: prevention campaigns, making people aware of hospital hygiene, acquiring more devices, providing organisational support to the creation of a biomedical service, etc.*
- *Operate in a network: envisage collaboration with another association (or even handing over to them) in order to pursue and strengthen the project you have just completed.*



## CUBA

"Today, thanks to Internet, we are in constant contact with our partners. More than partners, they have become real friends! They keep us informed of the problems encountered with the devices and we sometimes even carry out repairs on line! We also know when everything is going well! And then, of course, we go out every 6 months, amongst other things to take out spare parts that cannot be found there."



### The local point of view:

In order to create best practices, ask your local partner to give you their own objective evaluation report and critical appraisal of the project. Their point of view will undoubtedly be different to yours, and therefore very worthwhile.

## PERU

"Some time after asking the local doctor for an evaluation report we received a thank you letter from the Mayor of the district. We had to fight for 3 months to get a really objective appraisal of our work rather than just a short note telling us that they found us pleasant!"





# EXAMPLE OF DEVICES AND THEIR CONSTRAINTS

## Laboratory devices

**Analytical scales:** very fragile device which needs special procedures and packaging for its transportation. Namely, the weights must be blocked before it is transported.

**Microscopes and spectrophotometers:** It is sometimes difficult to find replacement lamps for older generation models.

**Immuno-analysis devices:** they require very expensive reactivities.

**Biological automatic analysers:** as a general rule they can only be operated using the device manufacturer's reactivities. Be careful about the expiry dates of the reactivities and respect of the cold chain.

## Small medical devices for single use

**Gloves and surgical masks, syringes, catheters, etc.**

These small devices are sterile and therefore have expiry dates which must be respected. Allow a sufficient lapse of time so that the device can be used in the right conditions. Sending small amounts is not always appropriate: be careful not to create new needs. Like medication, these devices are the responsibility of the chemists. It is often possible to purchase them locally.

## Operating theatre devices

**Surgical shadowless lighting (ceiling):** installing shadowless lighting often requires special fixtures that are specific to each model and in certain cases the ceiling needs to be strengthened. Remember to include spare light bulbs.

**Operating tables:** It is better to choose manual models rather than electrical ones where the maintenance is more complicated.

## Monitoring devices

**Cardioscopes, electrocardiographs, defibrillators, pulse oximeters, syringe pumps, etc.:** small appliances that are easy to send because they are not bulky, but they must be packed up well (fragile electronic devices) and sent complete (cables, sensors) with instruction manuals. Skill is required in their use and maintenance. Some of these appliances need special testing devices to ensure they work properly.

## Anaesthesia and Resuscitation devices

**Anaesthesia ventilator and intensive care ventilator:** the operating systems and maintenance of these devices is very complicated. They require a number of consumables and specific spare parts (filters, cables, joints, etc.). Ideally, they should be kept for hospitals that already have sophisticated equipment. There is an alternative which is much less complicated to install and maintain, and which can prove to be more than sufficient in a number of local health facilities: **manual insufflator**.

## Orthopaedic devices and technical aids for disabled people

**Artificial limbs, orthotics and orthopaedic shoes:** be careful, these are often devices for one single patient, so collecting and sending them is only of interest in the context of projects where the dismantling of devices for selective recovery of parts is planned, with the aim of reconstituting tailor-made devices.

**Wheel chairs:** they must be adapted to the type of disability, which implies recommendations by a specialist. Be careful, electric wheelchairs are fragile, need rigorous maintenance and their batteries, which are sometime difficult to acquire, have a limited life span.

## Small devices for examination and treatment

**Stethoscopes, baby scales (manual models preferred), pulse rate monitors, specula, otoscopes, etc.:** are in great demand, are light and not cumbersome, but are also not all that expensive. Enquire about them: some of these devices may be available on the local market.

## Imaging equipment

Considerable skill are required for installing, using, maintaining and interpreting the images! It is important to find out exactly which device is required so that it is a good match for the medical needs (for example: an electrocardiograph with an ultrasound heart probe will not be able to carry out an obstetric echograph; it will not be possible to carry out specialized radiology examinations in a bone-lung x-ray room).

**Ultrasound:** ultrasound probes are extremely expensive and relatively fragile accessories.

**X-ray machines and scanners:** there are transportation constraints due to the fragility of the equipment. Organise special packaging "on springs".

**Radioscopy:** be careful, this technique has not been used in France for many years for safety reasons relating to the protection of patients from radiation.

## Hospital beds, hospital room furniture

Transport is expensive because the devices are bulky. Examine the possibility of local purchase/manufacture. Prefer manual beds rather than electric ones.

**Comment:** hospital beds are often provided without a mattress.

## Sterilisers

Devices in great demand because they are key tools in hospital hygiene. High capacity autoclaves (sterilisers using moist heat) are very cumbersome and therefore the cost of their transportation is very high. It is complicated to install them: building work is usually essential. Be careful, this type of steriliser also requires numerous consumables.

*For more information, you could look at the information factsheets on medical equipment available on [www.humatem.org](http://www.humatem.org) in the heading entitled "Resource Centres".*

## CONTACTS

This methodological guide has been designed by Humatem with the working group entitled “Medical Devices in the Actions of International Cooperation”. Managed by Humatem since 2003, this working group comprises international aid workers, development agencies and health professionals. It aims to optimise donations of medical devices in order to help improve the quality of healthcare in developing countries, or those in crisis situations. Its missions are:

- to carry out research and reflect on donations of medical devices by sharing experience and skills,
- to produce technical, methodological and awareness raising documents for all stakeholders,
- to share and produce the tools developed, as well as the conclusions expressed.

This working group provides a platform for open exchange and participatory work between those wishing to make progress. The following French organisations participated in the design of this guide:

### AIDE MÉDICALE POUR L'AMÉRIQUE LATINE (AMAL)



AMAL comprises volunteer students or young professionals who collect medical devices and funds for partner healthcare centres in Cuba, Peru, Colombia, Mexico and Brazil. The Peruvian association manages projects in the area, whilst the French association manages public relations and the evaluation of projects.

9 rue Chapon - 75 003 Paris - France  
Email : noel.russo@gmail.com

### AGENCE POUR LA PROMOTION DE L'INGÉNIERIE BIOMÉDICALE ET HOSPITALIÈRE (APIBH)



Started by biomedical technicians, doctors and African economic players, this not-for-profit organisation has tried, right from the start, to encourage, accelerate and support the development of the biomedical and hospital sector in West Africa, based on the example of the Republic of Benin. The concept evolved and APIBH International is now a melting pot of cross-cutting and specific skills. The association comprises multi-disciplinary professionals from all over the world who wish to support and promote healthcare in developing and transitioning countries. It provides quality service in the field of biomedical engineering: information, advice, assistance, training, monitoring, maintenance, carrying out studies, etc.

92 boulevard Debourg - 69 007 Lyon - France  
Tel : +33 (0)6 13 80 96 91  
Email : Jycsa2005@yahoo.fr

### BIOLOGIE SANS FRONTIÈRES



The BSF association helps to develop medical biology by renovating or creating analysis laboratories and by training medical and technical

staff. It comprises volunteer biologists and laboratory technicians and operates in its own sites (Sub-Saharan Africa, Madagascar) or in support of other humanitarian facilities by supplying laboratory devices and by carrying out technical services.

c/o SIBL - 31 rue Mazenod - 69 003 Lyon - France  
Email : courrier@bsf.asso.fr  
Website : www.bsf.asso.fr

### BIOPORT



Bioport is a humanitarian logistical platform with 3 axes of activity:

- providing NGOs and charitable associations with logistical support (advice and services covering transport, storage and packaging)
- providing logistical support to equitable commerce companies
- entry into the professional world via Bioport Insertion.

ZI de la Rize - 34, rue Francine Fromont - 69 120 Vaulx en Velin - France  
Tel. : +33 (0)4 72 37 16 44 - Fax : +33 (0)4 72 37 39 87  
Email : contact@bioport-logistique.com  
Website : www.bioport.asso.fr

### CAP SOLIDARITÉS



Is a not-for-profit association supporting and coordinating international humanitarian causes. The association provides training as well as methodological and technical support to project holders working in the field of international solidarity in France, as well as abroad.

12, rue de Douai - 59 000 Lille - France  
Tel. : +33 (0)3 20 53 20 64 / +33 (0)6 08 98 64 30  
Email : capsolidarites@capsolidarites.asso.fr  
Website : www.capsolidarites.asso.fr

## ENTRAIDE BIOMÉDICALE



Entraide Biomedicale  
Coopération Humanitaire

Entraide Biomedicale offers those working in international medical development their technical expertise in the field of the installation and maintenance of medical equipment. Their experience in the field and their partnerships with industrial, hospital and humanitarian sectors, make it possible for them to operate at all levels in a renovation or preliminary assessment project or the creation of a health facility, from its design ;to its implementation.

9, rue St Lazare - 13 003 Marseille - France  
Tel. : +33 (0)4 91 64 59 08 - Fax: +33 (0)4 91 64 59 08  
Email : [contact@entraide-biomedicale.org](mailto:contact@entraide-biomedicale.org)  
Website : [www.entraide-biomedicale.org](http://www.entraide-biomedicale.org)

## HUMATEM



The association has developed a platform for dialogue and services for those donating medical devices with the aim of improving the quality of transfers to health facilities in developing countries. In order to do this, they manage the bank of medical devices for international aid, a service which makes it possible to structure medical device donations between healthcare donors and requestor project holders. They also run Biomedon, the collaborative biomedical network which offers international humanitarian workers biomedical technical services (dismantling of equipment, performance controls, recalibration and parameter setting, etc.). Finally, Humatem has developed the resource center for medical equipment support which designs and produces technical, methodological and awareness raising tools (information factsheets, methodological guidance, methods of preliminary assessment and evaluation, exhibitions, documentary films, etc.) to support stakeholders.

65, place de la mairie - 74 310 Les Houches - France  
Tel. : +33 (0)4 50 54 68 83 - Fax: +33 (0)4 50 54 68 84  
Email : [contact@humatem.org](mailto:contact@humatem.org)  
Website : [www.humatem.org](http://www.humatem.org)

## MOUVEMENT ASSOCIATIF DE SANTÉ HUMANITAIRE EUROPÉEN (MASH)



This association assembles all those who have taken a D.I.U. [Intra-University Diploma] in humanitarian healthcare or continuous training modules on the subject of humanitarian work and who are likely to be recruited by international solidarity establishments. These people belong to all healthcare, social and administrative categories.

The association also contributes to sharing experience, updating information and constant improvement in international solidarity activities.

2, rue de Verdun - 94 160 Saint Mandé - France  
Tel. : +33 (0)6 74 62 81 91  
Email : [masheurope@orange.fr](mailto:masheurope@orange.fr)

## PLATE-FORME D'INSERTION PAR L'HUMANITAIRE ET LA COOPÉRATION



A training organisation, PIHIC combines necessary insertion activities with those of humanitarian emergencies or cooperation by professionalization. Professionals in partnership with member associations and the authorities provide three types of service: Individual social support, solidarity and citizenship training and pre-qualifications for humanitarian work.

9, rue Camille Desmoulins - 26 100 Romans sur Isère - France  
Tel. : +33 (0)4 75 02 41 01 - Fax: +33 (0)4 75 02 41 05  
Email : [plateforme-h@wanadoo.fr](mailto:plateforme-h@wanadoo.fr)  
Website : [www.plateformehumanitaire.asso.fr](http://www.plateformehumanitaire.asso.fr)

## RESACOOOP



RESACOOOP is an agency providing support to organisations in the Rhône-Alpes region who are, or who would like to be, involved in humanitarian or international solidarity projects. It is aimed at local governments, associations, schools, hospitals, universities, companies, MJC, social and occupational agencies, etc. It carries out a number of missions, two of which are major: organising and distributing information in the field of international aid and supporting organisations in the Rhône-Alpes in the design of their projects and creating a case.

19, rue d'Enghien - 69 002 Lyon - France  
Tel. : +33 (0)4 72 77 87 67 - Fax: +33 (0)4 72 41 99 88  
Email : [mail@resacoop.org](mailto:mail@resacoop.org)  
Website : [www.resacoop.org](http://www.resacoop.org)

*The following also contributed to the production and/or proof reading of this work: Antoine Garcia (Biomedical Technician), le Centre Européen de Santé Humanitaire, Pascal Garel (Director of Pôle Europe and International, Fédération Hospitalière de France), Dany Goett (revisor), Xavier Meunier (Biomedical Technician), Maurice Page (Biomedical Engineer, PGBM74), la Plate-forme Santé Nord-Sud, Radiologie Sans Frontières, et Christophe VADON (activity leader/trainer).*

This practical guide is designed for all those who are already committed to, or who would like to get involved in international aid projects relating to the health sector by dispatching simple or sophisticated medical devices.

The result of collective work based on experience, it provides, in a clear and structured manner, what to do in order to implement a project successfully.

How to set up a partnership.

How to identify and define the request.

How to respond on it.

How to prepare and dispatch a device.

What to do on site and after the site visit.

In addition to responses to these questions, this guide provides advice, personal accounts and useful contacts.

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## HUMATEM

65, place de la mairie - 74310 LES HOUCHES - FRANCE

[contact@humatem.org](mailto:contact@humatem.org)

[www.humatem.org](http://www.humatem.org)

RhôneAlpes <sup>Région</sup>



Direction générale  
de la Coopération Internationale  
et du Développement

**DgCiD**