18.2: Budgeting

The trial budget should be prepared as part of the trial planning process and be used throughout the trial as a monitoring tool. Usually, the budget will need to be prepared as part of the grant application. The potential funder will usually have specific instructions for presentation of the budget, but the norm is to have a detailed budget and a budget justification as an annex to the application. In some cases, a summary budget may also be required within the main body of the application.

The costing of research is often an aspect of proposal development that gives inexperienced investigators considerable difficulty, and getting it wrong can have serious consequences. Overestimating the required budget will be viewed poorly by the reviewers and the funding agency and may lead to the proposal being rejected, while under-budgeting may result in resources being exhausted before the study is completed. Some funding agencies may be sympathetic to requests for supplementary funding if there are good reasons, for example, greater than expected inflation or unexpected currency devaluation, but are less sympathetic when investigators have not properly anticipated costs while preparing the original proposal.

It is difficult to give firm guidelines of what may or may not be included in the trial budget. Funding agencies often give specific guidelines. The important points to bear in mind are first that all costs should be justified, in terms of project needs, and second, if it is not asked for, it is unlikely to be given! The essential characteristics of budgets are that they should be:

- **reasonable.** The costs shown should be appropriate for the purposes for which they will be used
- **well-researched.** Actual costs in the past provide a good guide for anticipating future costs for the same or similar equipment or procedures. Several independent quotations (three is the usual minimum) should be obtained for major items of equipment to ensure that the costs quoted represent the best value for money
- **detailed.** All significant costs should be given in detail. ‘Fuel and servicing of vehicles $10 000’ is inadequate! Even if the funding agency does not require the detail, the appropriate calculations should be done, in order to be able to
arrive at an accurate final figure

- well-justified and explained. The necessity for each cost should be given. A good general rule is to justify all costs!

Most sponsors of research have specific forms for the budget, and they will usually specify what kinds of costs they will and will not cover. For example, some funders expect the institution in which the applicants are based to cover local telephone and postage costs and office accommodation and supplies, or to get the funds for these from the project’s indirect costs (also called overheads) (see Section 2.2.7), while others are happy for these to be included in the direct costs. If it is not ruled out by the funder’s guidelines, it is best to include as much as possible in the direct costs.

A common approach to categorizing costs is to separate them into capital and recurrent costs (Box 18.2).

Budgets for recurrent costs are usually done each year, whereas planning and budgeting for buildings, vehicles, and large equipment are often done for a 3- or 5-year period. It is critically important, however, to plan for the recurrent costs that will be required to maintain and use buildings, vehicles, and equipment. Generally, capital costs are discounted over the expected lifespan of the equipment or building and depreciated with use over time.

2.1 Capital costs

The purchase, construction, alteration, or renovation of a building is rarely needed for a single field trial, but, if this is required, the amount required would be included as a capital cost in the budget.

List each item of equipment required separately, and justify the need for each item. Sometimes, it might be possible to share equipment with another project in the same institution or a neighbouring institution, especially if the equipment is very expensive such as vehicles or major items of laboratory equipment. Estimates for the cost of equipment should be obtained from manufacturers or suppliers and should include shipping and associated insurance costs. Maintenance agreement costs should be included under ‘other expenses’. Depreciation of equipment must be allowed for, but there are wide variations in what is allowed by funders. Purchase of vehicles is often one of the major equipment costs in a large field trial. If a new vehicle is requested, reasons should be given why any existing vehicles cannot be used. In some places, it may be possible to rent a vehicle commercially, so the costs of rental should be compared with the costs of purchase, and any proposals for purchase should be justified on this basis. Even with a new vehicle, there will be costs to add for fuel, lubricants, servicing, and maintenance, with the maintenance costs increasing with vehicle age. These should be budgeted under recurrent costs.

Box 18.2 Division of costs into capital and recurrent

**Capital costs**—relate to investments in items that last for more than a year such as:

- buildings
- vehicles
- equipment
- basic training
- land.

**Recurrent costs**—relate to those used up in the course of a year and needing regular replenishment such as:
2.2 Recurrent costs

2.2.1 Personnel

Give details of the names (where known), positions, and roles of personnel to be engaged on the project. Indicate the proportion of time that each person, including the PI, will devote to the project, and calculate the salary cost on a pro rata basis. Estimates should be made separately for each year of the study and should include provision for annual increases in salary, where appropriate. Some grant agencies will not contribute to the salary of the PI but will still expect to know what proportion of their time will be spent on the project. Appropriate amounts should be added to cover staff benefits such as the employer’s pension contributions, staff health insurance, cost of living allowances, and housing and leave allowances. Internationally recruited staff usually receive specific additional benefits such as travel costs from their normal country of residence to the project site and back for themselves and their dependants. Staff benefits and allowances may be a considerable proportion (often 25%, sometimes more) of the total gross salary costs to the project. If staff will need to be recruited, or might need to be replaced if they leave before the end of the trial, make an allowance for their recruitment costs.

2.2.2 Consultant or technical advisor costs

Sometimes, it is appropriate to buy in the time of a consultant or technical advisor, rather than hiring them as staff. The grant application should specify the number of days that will be spent on the project by each consultant, together with their daily rate of remuneration and any associated costs such as travel and per diems. The funding agency may have guidelines for the rates of remuneration that they are willing to pay for consultants to a project. The specific contribution that any consultant will make to the project must be justified.

2.2.3 Supplies

Supplies should be itemized in separate categories (for example, stationery and office supplies, communications (such as Internet, postage, phone calls), fuel and lubricants, laboratory supplies) and should be justified in terms of the needs of the project (for example, numbers of each laboratory test to be performed). If the trial requires the use of experimental animals, the PI should seek specific advice in advance on whether the funder will allow this and the specific information they will need in the proposal.

2.2.4 Travel and per diems

Specify the destination of each trip, the number of persons, the mode of transport, and the basis for the costs (most
funders will only pay economy air fares). Justification should be given for all travel. Funders have different rules about travel to conferences (some do not allow any, while others allow one or more attendance per year).

Per diem (overnight allowance) costs may be a significant proportion of the budget in field trials, and the rates paid should be based on existing practice of the research institution. These costs should be justified for each member of the project staff to whom they will be paid, in terms of the necessity for spending the specified number of days away from the home institution.

### 2.2.5 Patient care and participant costs

There are often patient care costs that may be incurred in a trial that are not directly related to the trial intervention. A frequent concern in field trials in LMICs is provision of adequate health care to those in the trial and the degree to which the research project should be responsible for these (see also Chapter 6, Section 3.4 concerning medical and other care offered to participants in a trial).

Reimbursement to participants in a trial for travel or loss of earnings should usually be listed under ‘other expenses’, but some funders suggest these are put under patient care costs or in a special section.

### 2.2.6 Other expenses

This section should contain items such as rentals and leases, equipment maintenance (service contracts, repairs), computer charges (if there is not a separate claim for purchase of computers under ‘equipment’), publication costs, fees for services related to the project (for example, library searches), office supplies, postage and telecommunication charges (telephone, telex, fax, e-mail), and possible patient care costs (see Section 2.2.5).

For trials of drugs and vaccines and some other interventions, it is strongly advised to include indemnity insurance costs, i.e. insurance for claims against the sponsor for damage that might be done to participants in a trial through the trial procedures.

Not all costs listed above may be allowed by a funding agency, but, if in doubt, it is better to include them in the application (even though the agency may subsequently disallow them!).

### 2.2.7 Indirect costs (institutional overheads)

There are ‘hidden’ costs associated with all research. Someone must administer the grant, pay salaries, order supplies, supply heat or air conditioning and light to offices, supply the offices themselves, have them cleaned and maintained, provide security, etc. These costs, called indirect costs or ‘institutional overheads’, may be substantial. Such costs may amount to between 20% and 90% or more of the direct costs of the research project, depending on exactly what is included in the direct costs. These indirect costs should be added on to the direct costs of the research when a grant is submitted to a funding agency. Many institutions in LMICs have been lax about claiming such costs, with the result that scarce core institutional budgets have effectively subsidized specific research projects.

Some funding agencies refuse payment of overheads (for example, most United Nations (UN) agencies and charitable foundations), while others will pay them in their own country, but not outside (for example, US Public Health Service).
Often, it is possible to directly budget for many of these items (to be listed in the direct costs as rental of office space, cost of utilities, administrative staff support, cost of library searches, etc.), and it is usually advantageous to do so.

It is common for an investigator to underestimate, rather than overestimate, the final costs of a trial, especially if it lasts several years. Though some funders may accept requests for an additional allocation when increases in costs could not reasonably have been foreseen, even this cannot be guaranteed, let alone if something has been forgotten or underestimated in the costing. Whenever possible, avoid cutting corners on a budget in order to fit it to a pre-specified total amount, as underfunding may result in many stressful months in trying to conduct the trial on an insufficient budget. It may be better either to not apply for the grant or to rethink the trial question and design, rather than knowingly under-budgeting the trial from the start.