Five keys to improving research costing and pricing in low- and middle-income countries

ESSENCE Good practice document series
The Five Keys offer research institutions and funders pointers and guidance on the processes involved in calculating, managing and recovering research costs. It is particularly useful for:

- Institutional leaders, including chief executive officers and other executives, deputy vice-chancellors for research.
- Program directors and program officers, including research directors and funder program leaders.
- Research managers, including grants managers, finance managers/officers, project accountants, project coordinators, learning and development managers/officers.
- Researchers, including principal investigators, mid-career and emerging researchers.
Five keys to improving research costing and pricing in low- and middle-income countries

2020

ESSENCE Good practice document series
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Preface

ESSENCE (Enhancing Support for Strengthening the Effectiveness of National Capacity Efforts) on Health Research is an initiative by funding organizations to improve the coordination and harmonization of research capacity investments. ESSENCE members embrace the principles of donor harmonization and country alignment expressed in the 2005 Paris Declaration on Aid Effectiveness and in the 2008 Accra Agenda for Action. According to these principles, donors align and harmonize their activities and procedures with the priorities of the countries in which they work. To achieve this goal, ESSENCE members agreed to jointly develop and produce good practice documents that would incorporate current knowledge and best practices on health research and development issues. The first of these, *Planning, monitoring and evaluation framework for capacity strengthening in health research*, was published in 2011 and updated in 2016. The second, *Five keys to improving research costing in low- and middle-income countries*, was published in 2012. This document is a revision of the 2012 edition. Two other good-practice documents, *Seven principles for strengthening research capacity in low- and middle-income countries: Simple ideas in a complex world* and *Six practices to strengthen evaluation of research for development*, were published in 2014 and 2016 respectively. In addition, a good-practice document on implementation research will be published in 2020.

Acknowledgements

ESSENCE thanks all the institutions, organizations and individuals who responded to surveys, participated in focus groups and consultation sessions, and willingly dedicated time to follow-up discussions and the sharing of case studies that all helped to shape the content of this publication. Karin Dyason, Gerard Ralphs, Garry Aslanyan and Kemi Oladapo provided invaluable support in finalizing the document at its various stages. ESSENCE particularly thanks the African Academy of Sciences (AAS), the Research Management Programme in Africa (ReMPro Africa), the Canadian International Development Research Centre (IDRC) and the Special Program for Research and Training in Tropical Diseases (TDR) at the World Health Organization (WHO) for funding various aspects of this project. We acknowledge ESSENCE members for their participation in and support for the project, and thank members of ESSENCE’s Steering Committee, particularly the members of the Research Management Working Group, for their leadership and dedication.
Introduction

Research institutions and funding agencies have a shared interest in high-quality research outcomes that effectively address global challenges. This kind of research requires a range of infrastructure and resources that institutions can develop and sustain if they have access to sufficient funding. Unfortunately, many research institutions in low- and middle-income countries (LMICs) face at least four broad challenges when it comes to securing research funding.

**Minimal government and local investment** Although many national governments have made commitments to invest in research, public institutions in many LMICs face declining subsidies and escalating economic pressure. As a result, institutions are compelled to seek other funding to support their research agendas. In regions such as Asia, the Middle East and North Africa, commercial funding opportunities contribute significantly to supporting research. However, in many other LMICs, commercial opportunities are rare. Institutions therefore access most of their funding from international sources where budgets are largely funder-driven and thus not necessarily aligned with local research needs. The scarcity of funding for longitudinal research programs is another challenge to the sustainability of research in LMICs.

**Constrained research systems** Many institutions struggle with meagre facilities, outdated equipment and infrastructure, poor procurement practices, ineffective research strategies and policies, complex bureaucratic obstacles, and limited professional support for research. In some instances, political instability and/or overwhelming teaching loads limit researchers’ time and enthusiasm for research activities. These systemic factors make it difficult for institutions to attract sufficient funding and retain skilled research staff.

**Limited professional support for research** A lack of professional support leaves researchers with limited information about funding modes and opportunities. Similarly, a lack of experience in writing high-quality grant applications leaves institutions at a disadvantage in an increasingly competitive funding environment. In addition, funders’ varying requirements related to financial due diligence create heavy administrative burdens for institutions. Systems and processes that should support proposal development, project budgeting (including indirect costs), grants management and financial reporting are inadequate. While professional support for research is increasingly seen as essential, positions for full-time staff are limited and retaining staff after projects end is difficult. The gradual professionalization of the field means that institutions still struggle to recruit experienced staff and have to invest in developing staff skills and capacities. This, in turn, requires institutional commitment and funding, neither of which are guaranteed.

**Difficulties recovering the full cost of research** In many LMICs, declining government subsidies means that research institutions have limited or no access to unrestricted or other core funding. In this context, the constraints and restrictions on the reimbursement of indirect costs is a major concern. Requirements for co-funding, and caps on budget items that misalign with institutional needs, add to this challenge. In addition, the risk related to exchange-rate fluctuations is often carried by research institutions rather than funders, and this can pose another major challenge to the recovery of research costs. On the other hand, institutions, particularly in the university sector, have yet to create transparent indirect cost recovery policies or mechanisms to manage recovered indirect costs. This limits their ability to engage with funders on the reimbursement of research costs.
Clarifying the ‘what’, ‘why’ and ‘how’ of research costing and pricing

As the requirements for access to research funding increase, the competitiveness and compliance of research organizations has to improve. In this booklet, we aim to provide clear guidelines and practical tips on improving research costing and pricing.

Based on feedback obtained from users of the first edition, we have changed the order of the keys, cited some new references and added some ‘notes from the field’. These notes are drawn from responses to a survey as well as a series of consultations and focus-group meetings we conducted. In particular, this edition:

- Addresses funder–institution relationships (Key 1), clarifies the terminology related to research costing and pricing (Key 2), and offers guidance on the development and implementation of a research costing and pricing policy (Keys 3 and 4) as well as on enhancing the support for research, specifically the grants management function (Keys 3 and 5).
- Focuses on indirect costs as a component of research costing and pricing, while acknowledging that many other factors impact on research costing.
- Anchors research costing and pricing within institutional systems, thus addressing issues beyond the purely functional calculation of indirect costs.
- Offers guidance, case studies and examples to help readers consider their options and adopt strategies that are appropriate to their own contexts. Besides the examples included in this booklet, a set of case studies is available at https://www.who.int/trd/partnerships/essence/en/.

What?

The full cost of research includes direct and indirect costs.

Research institutions have to be able to create transparent and appropriate project budgets that include both direct and indirect costs. This allows them to assess the extent to which funds raised will cover their costs and decide how to address any shortfall. Without this, institutions risk underestimating the costs of their research, running projects at a loss and being unable to sustain their research work.

Why?

Research costing, pricing and the effective recovery of research costs ensures:

- **Sustainability** – full research costing ensures wider awareness of the real costs of research and this helps institutions to acquire enough funding to secure their financial sustainability. As such, research costing is a strategic management tool that can help institutional decisionmakers decide whether or not to invest in a research project, thus allowing for robust management of the internal resources needed to support research in the longer term.
- **Transparency** – being clear about all the costs involved in a research project allows for accountability and provides a solid basis from which to engage with funders on what they will cover.
- **Efficiency** – knowing the full research costs helps institutions to budget effectively and streamline systems.

How?

Moving towards full research costing and pricing requires institutions to:

- **Choose a methodology** to accurately calculate their institutional indirect cost recovery rate.
- Develop and **implement a policy** to recover their indirect costs from research grants in a transparent and consistent way.
- **Manage recovered indirect costs** strategically to ensure institutional sustainability.
- Identify or recruit **capable staff** and strengthen their skills.
This, in turn, requires:

- **Institutional leadership** who recognize the value of accurate research costing and pricing to institutional sustainability and commit to supporting the implementation of the necessary processes, systems, skills and capacity.

- **Funder rules** which accept that institutions have to recover indirect costs and reimburse these at an appropriate level.

Accordingly, research costing and pricing requires that both institutions and funders acknowledge both the size and impact of indirect costs related to research.

In the Five Keys that follow, we focus specifically on research costing and pricing for research institutions in LMICs and their funders. We outline some of the challenges involved in research costing and offer recommendations for addressing these.

The Five Keys have the potential to play a strong catalytic role in:

- Deepening awareness of the importance of making provision for indirect costs.
- Steering research institutions and funders towards more accurate costings.
- Improving policy on grants management and systems of accountability.

The ability of institutions to accurately determine research costs has much do with the technicalities of accounting systems. However, capacity building must focus first on developing the strategic and the operational skills that pre- and post-award grants managers require – that is, ensuring widely held and real comprehension of the value of indirect costs and the necessity of recovering these.

For funders, the need to harmonize policies and practices on the reimbursement of indirect rates remains relevant. This applies to the grant-application process in general, where the standardization of templates, reporting procedures and financial requirements could substantially decrease the time and effort required of institutional administrators.

Ultimately the focus must be on enhancing the coordination and impact of research. Ongoing dialogue between institutions and funders will be vital in clarifying costing issues and finding ways to unlock the barriers to greater efficiency and impact.

We hope that this publication will serve as a useful and inspiring resource for institutions and funders who wish to ensure that these issues feature frequently on the agendas of meetings within and between their organizations.

Figure 1 provides an overview of each key. For each key, lists of recommended reading are included at the end of the booklet.
### Key 1: Improving relations between funders and research institutions
Narrowing the gaps in understanding between institutions and funders, and promoting relationships based on shared interests.

### Key 2: Defining terms and clarifying values
Defining the key concepts and values in research costing and pricing and clarifying those that can cause confusion in grants or contracts.

### Key 3: Enabling transparent research costing and pricing
Affirming the importance of transparency, as well as institutional policy and support in enabling research costing and pricing.

### Key 4: Optimizing the recovery of indirect costs
Exploring cost categories and securing support for the recovery and distribution of indirect costs from funders and research institutions to support sustainability.

### Key 5: Strengthening capacities for grant management
Highlighting the importance of skills and capacity at individual and institutional level and how these can be supported by institutions and funders.

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**Figure 1:** An overview of the Five Keys

[Diagram of keys with text]
Key 1: Improving relations between funders and research institutions

Every year a substantial proportion of public and private investment goes into supporting research on problems facing human populations worldwide. From fighting disease to enhancing human health or protecting other species and the environment, many organizations – funders, universities, think tanks, businesses and governments – play vital roles in the ever-evolving global research system.

A persistent barrier to better cooperation between these institutions is a perceived misalignment of their interests. Challenges between grantmakers and grantees tend to arise if they differ on policies and practices related to financial and program management.

Encouraging these organizations to deepen their understandings of each other and their different mandates can help bridge this barrier. However, bringing about a closer alignment of their interests can be both a risk and an opportunity for development. Developing cooperative policies and programs can help these organizations to have more impact. Conversely, however, if narrow public or private interests prevail, systemic change can be limited or delayed.

The focus of Key 1 is therefore to enhance mutual understanding and encourage win-win negotiations by:
- Outlining factors that influence research funding.
- Clarifying the different types of research funders and different kinds of research institutions.
- Comparing the mandates of research funders and research institutions.
- Explaining the basis of win-win or interest-based negotiations.

Factors that influence research funding

The urgency of global challenges
Contemporary global challenges cut across all kinds of borders and, as national priorities shift and new technologies emerge, innovative research agendas are needed. Indeed, the limited resources accessible to most governments to address the global challenges we all face has considerably increased the demand for research that can drive positive change.

Although they tend to represent diverse constituencies from shareholders to citizens, or marginalized social groups, funders and grantees all play critical roles in helping to identify and support impactful research, using specific criteria, decision-making, and program-evaluation strategies. Among the key criteria that are used in many evaluation strategies are accountability and value for money (see Key 2).

Limited funds for research
Many countries promote science, technology and innovation in their national policies. Many governments are committed, in principle at least, to investing in research and strengthening the systems it relies on.1 Similarly, in the high-growth Asian economies, as well as some economies in the Middle East and North Africa, private companies are driving research investments to meet the fast-changing human and technological needs of their populations. However, in many LMICs, stark socioeconomic and developmental challenges mean that few resources are available for research. Indeed, in sub-Saharan Africa for example, declining national funding is making many research institutions increasingly dependent on international funders.

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Funder collaborations

Funders are increasingly choosing to work collaboratively to improve the applicability of their research and/or increase the impact of their investments. Values such as aid effectiveness and impact are important here, although they are not the only factors driving funder partnerships. Funders are also interested in sharing risks, costs, and benefits with partners, in order to advance new research agendas.

Several high level coordinating initiatives have been established. Two useful ones to know about are:

- The **Global Research Council** (GRC) is a virtual organization, comprised of heads of science and engineering funding agencies from the Americas, Asia-Pacific, Europe, Middle East and North Africa (MENA) and sub-Saharan Africa. See [http://www.globalresearchcouncil.org/](http://www.globalresearchcouncil.org/)

- **ESSENCE on Health Research** is a global initiative that allows donors/funders to identify synergies, establish coherence and increase the value of resources and action for health research, especially in LMICs. See [http://www.who.int/tdr/partnerships/essence/en/](http://www.who.int/tdr/partnerships/essence/en/)

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**NOTES FROM THE FIELD**

On funding sources

Many grantees reported that foreign governments and international non-profit organizations (NPOs) are still their primary sources of research funding. Although national research funding agencies have been established in some LMICs, their budgets and funding priorities tend to be limited. For researchers, this means an increasing reliance on foreign funding and being subject to organizational pressure to diversify their sources of income.

Funders reported that researchers in LMICs now have more opportunities to apply for funds, particularly through collaborative international research programs. However, ensuring that the interests of different partners are equitably balanced is critical to the success of these programs.
Different types of funders

Research funders or grantmakers are a diverse group of organizations with varying mandates and goals. Some, such as foundations, are private philanthropic entities while others are state-funded agencies that rely on national budgets and respond to shifts in foreign policy. A third category are intermediaries that collect funds from one or more entities and direct these to grantees. The character of research funding is changing rapidly as the boundaries between traditional competitive and non-competitive grants become increasingly blurred.

In addition, some funders, such as Canada’s International Development Research Centre (IDRC) derive their mandates from their government. Others, like the Bill & Melinda Gates Foundation, take their lead from their founders. Based on their mandates, these entities set goals that align with the requirements of their constituencies.

Given this variety, grantmaking policies and practices differ widely and this can make accessing research funding quite complex. That is, the range of activities and infrastructure that different grantmakers are willing to fund is wide and the mechanisms they use to allocate funds can be very different. For example:

- **Single funder calls** are issued by a single organization in a given programming cycle. Funded items can vary widely, from travel grants to multi-year project grants.

- **Funder partnerships** occur when two or more funders pool their funds to increase the scale of response to a particular issue. The negotiation of funder partnerships can be intricate, as different policies and goals must be observed in the management and disbursement of funds.

- **Bilateral funding** refers to transfers of funds from one country to another for specific projects.

- **Multilateral funding** is provided by a collective of sovereign institutional actors. A good example is the European Union’s (EU’s) Framework Programme for Research and Innovation.

- **Institutional funding** is sometimes called ‘core funding’ and is provided to research institutions for their general operations as well as specific research programs.

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**NOTES FROM THE FIELD**

**Examples of funder mandates and constituencies**

The IDRC was established in 1970 by an Act of the Canadian parliament. The Act mandates the organization to ‘initiate, encourage, support and conduct research into the problems of the developing regions of the world and into the means for applying and adapting scientific technical and other knowledge to the economic and social advancement of those regions’. The IDRC’s constituencies are Canadian citizens/taxpayers, its board and its grantees.

The United Kingdom (UK) based Wellcome Trust is a politically and financially independent foundation founded by Sir Henry Wellcome. The Trust has two main purposes, according to its constitution: ‘to protect, preserve and advance all or any aspects of the health and welfare of humankind and to advance and promote knowledge and education’. The trust’s constituencies are its board and its grantees.

The National Institutes of Health (NIH) is over a hundred years old and now forms part of the United States (US) Department of Health and Human Services. Its mission is to ‘seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability’. Its constituency is American citizens.

The Alliance for Accelerating Excellence in Science in Africa (AESA) is an initiative of the African Academy of Sciences (AAS) and the African Union Development Agency (AUDA). The organization is an agenda-setting and funding platform established to address Africa’s health and development challenges. AESA’s mission is to catalyze investments, strategies and programs that promote the brightest minds in Africa, foster scientific excellence, inspire research leadership and accelerate innovation in ways that improve lives and shift the center of gravity for African science to Africa. AESA’s constituencies are its members and funders.
NOTES FROM THE FIELD
On harmonizing funder policies and practices

Funders noted that, while their mandates and constituencies limit their flexibility, they can do more to coordinate with one another to harmonize their policies and practices. Strategies they suggested for this include: developing common funding standards; sharing learning through a knowledge bank; supporting a minimum set of core research management activities; and striking agreements on rules and policies. They also want grantees to communicate early and clearly if research costs are not fully covered.

Grantees agreed that greater coordination and harmonization of funder policies and practices is necessary. Items mentioned include: grant application and reporting systems; costing policies (including terminology, rates, and allowable items, especially salaries); and governance procedures. Grantees also said funders could do more to engage with, and try to understand, institutional needs at the pre-award stage. Ideally, funders should try to facilitate more open negotiation processes, and include organizational training and strengthening in the investments they commit to. As one grantee put it:

"I like harmonization but I am also wary of it. Instead of being enabling and fostering active professional and context-based negotiations, harmonized mechanisms tend to be used to enforce compliance. Funders and grantees require capacity to understand that harmonized policies and practices are actually important to allow for comparability."

- **Public-private partnerships** enable state and corporate funders to share the costs, risks and rewards of funding research.
- **Private R&D contracts** are a way that companies access expertise or research infrastructures in research institutions to try to solve specific problems within their businesses.

**Different kinds of research institutions**

Research institutions in LMICs can be situated on a wide spectrum of institutional development and sustainability – from public universities and government departments to corporate R&D units, not-for-profit organizations, think tanks, and research councils. Public-private partnerships that bring two or more organizations together to work on a common goal are increasingly common.

Funding sources can be local (state and corporate) or foreign (philanthropic, bilateral or multilateral) and the types of research they conduct range from basic to applied.

All research institutions enjoy greater or lesser degrees of connection to national and international systems of research and innovation, with a host of related micro-, meso- and macro-systemic factors impacting on them. However, despite decades of funding, almost all research institutions in LMICs still experience major challenges linked to institutional capacity and sustainability. These challenges can be exacerbated by economic or political ‘shocks’ or by a sudden loss of skilled personnel.

Nevertheless, it is increasingly clear that research institutions in LMICs are better positioned and more likely to conduct research that is relevant to the development problems and trajectories of their own countries or regions. Thus, while the sometimes unstable and fragile nature of research systems in LMICs means that continuous capacity building is essential, funders are beginning to insist that
local knowledge and understandings are seen as important drivers of research investments in LMICs.

Interest-based negotiations and relationship building

The idea behind interest-based or win-win negotiations is that when two parties have different interests, but share a need or wish to cooperate, they can find common ground if they try to understand each other’s goals (rather than thinking mainly about their own position on issues).2

Even those of us who are not professional diplomats know that understanding ‘the space for negotiation’ is essential in any kind of partnership. As organizations with specific mandates and goals, funders typically call for research proposals after a long process of planning and program design. Funders also work within specific budgets that must be allocated within specific timeframes and according to specific financial guidelines. While some flexibility at the contracting stage might be possible, often funders are tightly bound by fixed policies. And, like all organizations, funders are subject to routine financial and other audits. For all these reasons, requests for funders to amend their policies on indirect costs can fall on deaf ears.

By the same token, research institutions can be constrained by a multitude of national policies on public procurement or corporate governance, which require these institutions to enter into contracts in particular ways. In situations where specific institutional requirements are misunderstood or ignored by funders, a promising research program can be derailed.

However, when both funders and research institutions position their expectations within the context of their shared interests, new forms of cooperation often become possible.

Notes from the Field

Key requirements for institutional sustainability

For research organizations, achieving institutional sustainability relies on a combination of factors. The key ones are: strategic leadership and research management; institutional capacity and ongoing capacity development; and resources such as funding, infrastructure, effective research policies and skilled researchers. As one grantee put it:

Institutional research sustainability is about much more than winning grants. No amount of financial support can generate long-term internal growth unless an organization has identified and is aligned with what it wants to grow into.

Even though we are not professional diplomats, we know that understanding the space for negotiation is essential in any kind of partnership. As organizations with specific mandates and goals, funders typically call for research proposals after a long process of planning and program design. Funders also work within specific budgets that must be allocated within specific timeframes and according to specific financial guidelines. While some flexibility at the contracting stage might be possible, funders are tightly bound by fixed policies. And, like all organizations, funders are subject to routine financial and other audits. For all these reasons, requests for funders to amend their policies on indirect costs can fall on deaf ears.

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NOTES FROM THE FIELD
On dialogue between funders and institutions

Funders tend to engage in dialogue with high-level international or governmental structures when developing programs. However, grantees expressed a strong request that funders engage more closely with their specific national, institutional and local needs. Grantees stressed that funder commitment to strengthening institutional capacity is vital and noted that a good flow of communication between funders and grantees enhances cooperation.

It is also important to acknowledge that negotiations take place at different levels of research governance, from institutional and national to the bilateral or multilateral domains. In fact, science diplomacy is a growing area of foreign policy. In some LMICs, successful science diplomacy has given rise to substantial multi-country investments, such as the European and Developing Countries Clinical Trials Partnership (EDCTP) or the Square Kilometre Array (SKA), which benefit a wide range of research institutions.

Increasingly, the developing world sees science diplomacy as an avenue to access existing science. This is helping some countries improve their infrastructure, invigorate their educational systems and even treat their sick.1

RECOMMENDATIONS FOR GOOD PRACTICE

For funders

- Collaborate with other funders to learn from experience and harmonize policies and processes in ways that minimize the duplication of administrative effort for grantees, thus enhancing the impacts of research investments.

- Prior to and during grant cycles, work towards deeper understandings of the unique goals, strategies and challenges of grantee countries and institutions, and align these with the allocation of grant funding.

- Participate in grantee conferences and bring institutional leaders and/or research managers together to enhance the dialogue between funders and institutions on research management and research capacity development.

- Develop appropriate science diplomacy forums to tackle the challenges faced by grantees based on program evaluation and other feedback loops.

For research institutions

- Before applying to a particular program call, ensure that your institution has an understanding of the funder’s institutional policies as well as the political constraints imposed on funders by their mandates and constituencies.

- Identify the most appropriate channels for negotiation on aspects related to funding and, where possible, use governmental science diplomacy channels and forums to build mutual understandings of shared institutional or country interests.

- Try to engage with funders outside of the urgencies of specific funding calls. For example, participate in funder-hosted events and training opportunities and join networks or forums that funders are part of. Use these as opportunities to network, engage and build relationships with funders.

- Communicate openly with funders on specific challenges that impact on research, including the implications of funders not meeting full research costs.

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Funders and grantees agree that achieving more consistency in terminology will facilitate better understandings of research costing and improve grants management. While a full alignment of terminology might not be possible at this time, clarity at the level of budget itemization and key concepts must be achieved to avoid confusion and missed opportunities.

In addition, much progress is possible within research institutions if all the research managers, support staff and researchers who participate in proposal development strive to achieve consensus and clarity on the terms they use. Let’s start with the two basic ones:

**Research funders**, sometimes called ‘grantmakers’ or ‘donors’, represent a diverse group of possible funding sources, including national or regional public funding (directed either through government or funding agencies), national private funding from different sources and international public and private funding.

**Research institutions** is used here to refer to the range of public universities, government departments, research hospitals, private R&D organizations, not-for-profit organizations, think tanks, and research councils.

In Key 2, we define three types of terms. The first are key technical concepts in research costing and pricing that often cause confusion in grants and contracts. The second are terms related to research management. The third are the values that underpin effective research funding.

**Technical concepts in research costing and pricing**

*Activity-based costing*

Activity-based costing is a methodology that assigns resource costs (such as staff and equipment) to activities (including research) and then links these activities to outputs (such as projects and publications) using cost drivers (defined below).

**Allowable and non-allowable costs**

Allowable costs (also known as eligible costs) are costs that can be claimed from a grant according to the relevant funder’s criteria. Non-allowable costs (also known as disallowable, unallowable or ineligible costs) may not be claimed against a grant allocation. Allowable and non-allowable costs are usually specified in funder guidelines and still tend to change from funder to funder or even from program to program within a single funder’s output.

**Co-funding and in-kind contributions**

Co-funding is when a funder requires a grantee to cover part of the project cost. Grantees cover the amount from their own budgets or raise additional income from another funding source. Co-funding is also known as ‘matching funding’ or ‘cost sharing’.

Some funders see in-kind (non-financial) contributions as a legitimate form of co-funding. For example, this might include time spent on a project by staff members whose salaries are not covered by the funder. It can also include the use of available equipment or space or, in some instances, the indirect costs that are not covered by the funder.

**Cost center**

A cost center is an accounting term that describes an entity, function, project or program that generates costs, and to which direct and indirect costs are allocated.

**Cost drivers**

A cost driver is any factor that causes the cost of an activity to change. For example, maintenance costs associated with high-tech research laboratory equipment, the use of institutional utilities and space and student numbers are all cost drivers that can impact on the cost of doing research.

**Direct and indirect costs**

Direct costs are easily identifiable and attributable to a specific research project. These are costs that are directly incurred for a project and for which there is a clear audit

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*Activity-based costing in the UK* UK universities use what they call the Transparent Approach to Costing (TRAC) when it comes to calculating activity-based costs. In this approach, academic time and space are used as drivers to allocate costs to specific activities. Each institution runs an annual TRAC process to obtain the data that is used to create budgets for research and other projects on a full-cost basis (see https://www.trac.ac.uk/).
record, for example the cost of staff who are employed to work on one specific project only or consumables bought for a specific project. Some costs that are directly allocated to a project can still be based on an estimate. For example, principal investigators (PI) may work part-time on several projects at once. To calculate their salary cost, the time they devote to a specific project has to be estimated and recovered by applying the estimated time to the total cost of the PI's salary. Examples of costs that are commonly categorized as direct costs are provided in Key 4.

**Indirect costs** are more difficult to define and calculate. They cover the facilities and administrative support necessary for research, including ensuring regulatory compliance. These are expenses that would be incurred irrespective of whether a specific research project is undertaken. These costs can be substantial and are often underfunded. Examples of costs that are commonly categorized as indirect costs are provided in Key 4.

Several different terms are used for indirect costs, which highlights the need for more discussion on how the concept should be defined. The use of different definitions and lists of what is and is not allowable makes it very difficult for research institutions to work with more than one funder and to optimally recover indirect costs.

**Full costing or full economic costing**

Full costing is an accounting methodology used to identify and calculate the total costs (direct + indirect costs) that need to be considered to accomplish a project or activity, expressed as an equation: Full cost = direct costs + indirect costs.

Full economic costing (fEC) is a costing methodology developed by UK universities based on the concept of activity-based costing (see above). The full cost of research, calculated using this method, is used to determine the amount to be requested from funders.

**NOTES FROM THE FIELD**

**Other terms for indirect costs**

*Overheads* is a term that is often used interchangeably with indirect costs.

**Facilities and administration costs** or ‘F&A’ is mostly used in the US where indirect costs cover facility costs (such as building maintenance and equipment depreciation as well as the purchase of library books, journals and other materials) and administrative costs (including financial management, research management, human resources (HR), etc.).

**Non-project attributable costs** (NPAC) is used by UK’s Department for International Development (DFID) to describe ‘costs that are not feasibly allocable to a single project’. Examples they list include administration and support, equipment, space and premises costs, and activities that relate to the whole organization and partly support the project, but also support other projects.

**Core costs** or **central costs** are terms used in the non-profit sector to refer to costs incurred to meet ‘core’ organizational and administrative requirements, including salaries, rent, equipment, utilities, communications etc.

**Research management and support costs** is used by the Wellcome Trust to cover costs including building and premises, non-project dedicated administrative and support staff and administration, such as finance, library, and room hire.

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Generally accepted accounting principles (GAAP) is a cluster of widely accepted accounting standards and procedures that have been developed over many years. The principles are used by institutions to organize and summarize their financial records plus certain supporting information into financial statements. The use of GAAP allow the financial statements of different institutions to be compared with one another.

It is worth noting that other accounting standards exist as well; these include the International Financial Reporting Standards (IFRS), the International Public Sector Accounting Standards (IPSAS) and country specific accounting standards.

Indirect cost rate
An indirect cost rate, also referred to as the 'indirect cost recovery rate (ICRR)', is typically calculated as a percentage of direct costs. This rate is applied as a method of ‘charging’ individual projects/programs for their share of the institution's total indirect costs.

In some cases, costs specified by an institution or a funder are subtracted from the direct costs to obtain a modified total direct cost (MTDC). The MTDC can then be used as the basis for calculating an ICRR.

Internal and external auditing
The typical purpose of an internal audit is to provide independent assurance that an institution’s risk management, governance and internal control processes are operating effectively. Internal auditors deal with issues that are fundamental to the survival and prosperity of an institution. Unlike external independent auditors, internal auditors look beyond financial practices and balance sheets to consider wider factors such as an organization’s reputation, values, environmental impact and working conditions.

Research pricing
Calculating the full cost of research enables institutions to provide a basis for pricing projects (that is, deciding on the amount to request from a funder). The type of project, the funder, and the reasons for doing the project can all influence the price. Accordingly, research projects can be priced in three ways:
- On a breakeven basis (price = full cost).
- To earn some income for the institution (price > full cost).
- At a loss (price < full cost).

NOTES FROM THE FIELD
Negotiating an indirect cost rate agreement
A Negotiated Indirect Cost Rate Agreement (NICRA) is a formalized and written agreement between a US federal agency and an institution. It specifies the final negotiated indirect cost rate and other details related to the rate such as the base(s) to which the rate(s) apply and the period(s) for which the rate(s) apply.

US institutions are required to calculate their ICRR using national guidelines and, through a proposal, negotiate the reimbursement rate with a federal funding agency to recover the indirect costs incurred by the organization in the conduct of federal-funded research.

Some US agencies allow institutions in LMICs to propose and negotiate an ICRR. These institutions can then claim indirect costs at the agreed rate. The rate is audited annually and adjusted for the following year.

6 See USAID’s Negotiated Indirect Cost Rate Agreement. Available online.
Restricted and unrestricted funds

Restricted funds refer to funds that may be used only for purposes specified in legally binding terms by the funder. Research grants usually fall into this category.

Unrestricted funds refer to funds that are typically used at the discretion of the institution for its primary mission/s. Recovered indirect costs fall into this category.

Under-recovery

When funders refuse to cover indirect costs or reimburse them at much lower than the institutional rate, under-recovery occurs. Faced with this problem, institutions can choose not to accept such grants, allocate internal funds to cover the difference, or write off the costs based on a strategic decision.

Three useful terms related to research management

Research management

In the literature and in the field, terms used for research management include: research administration, research support, research and innovation management or research and development (R&D) management.

Several different definitions of the role exist too; here are two:

Research management embraces anything that universities [and other research institutions] can do to maximise the impact of their research activity. It includes assistance in identifying new sources of funds, presenting research applications and advice on costing projects and negotiating contracts with external sponsors. It incorporates project management and financial control systems. It also involves help in exploiting research results – through commercialisation, knowledge exchange and dissemination to wider society.  

A research administrator is someone whose role (or a significant part of it) is devoted to support some part of the research lifecycle, including, but not limited to: identifying funding sources and customers, preparing proposals, costing, pricing and submitting funding proposals, drafting, negotiating and accepting contracts, dealing with project finance, employing staff on research contracts, reporting to funders, advising on research impact, knowledge exchange, technology transfer, supporting short courses, postgraduate research student administration, research strategy and policy, research assessment, ethics and governance, information systems, audit, statutory returns, and research office management. Research administrators mostly work in universities and research institutes but many also work in hospitals, charities, government and funding organisations.  

What the different definitions make clear is that the aim of research management is to facilitate and advance research in a sustainable way. Grants management is a component of the broader research management role and refers specifically to the process and methods an institution harnesses to manage its research grants. The pre-award phase includes identifying appropriate funding options, submitting applications, and reviewing applications. Post-award management includes implementing the grant, reporting on progress, and completing the closeout requirements. Grants management plays a vital role in research costing and pricing.

Capacity strengthening

Capacity strengthening refers to processes through which individuals, organizations and societies develop their abilities to function effectively, efficiently and in sustainable ways. In the context of the Five Keys, it refers to efforts to enhance the ability of individuals and institutions to effectively and efficiently manage and administer research resources in order to produce quality research in a sustainable way.


8 See https://raapworldwide.wordpress.com/research-administration/
**Competency**
A competency is a combination of skills, knowledge, abilities and/or characteristics that are required to perform specific activities within a professional role to the standard expected.

**Values that underpin effective research funding**

**Accountability**
This is a core value, which essentially means that both funders and recipients have to be able to justify their allocation and use of research funding in the context of global needs. Funders see accountability as ensuring that they support grantees that efficiently conduct relevant research and produce useful scientific, social or economic interventions. Grantees see accountability as the appropriate stewardship of resources that are entrusted to it to help them carry out their organization’s vision and mission.

**Aid effectiveness**
This notion was mainstreamed through the Paris Declaration on Aid Effectiveness (2005), the Accra Agenda for Action (2008), and the Busan Partnership for Effective Development Cooperation (2011). It was refined at the Fourth High Level Forum on Aid Effectiveness (2012). Its principles include:
- **Ownership of development priorities by LMICs**: that is, grantee countries should define the development model that they want to implement;
- **A focus on sustainable results** (such that creating an impact is the driving force behind all investments and efforts in policy making on development);
- **Partnerships for development**: development depends on the participation of all actors and the diversity and complementarity of all are recognized; and
- **Transparency and shared responsibility**: development cooperation must be transparent and accountable to all citizens.

**Cooperation**
This is an important value in underpinning efforts to address shared societal challenges through research. Cooperation emphasizes shared responsibility and ownership but it is not without its pitfalls. For this reason, guidelines for ensuring fair and equitable cooperation have emerged since 2010.\(^9\) Given the global nature of the challenges facing the planet, recognition of the value of cross-regional research cooperation is growing. Even if funders and institutions have different mandates, they share an interest in producing research that solves societal challenges.

**Impact**
The UN's Sustainable Development Goals (SDGs) pinpoint key global challenges facing all countries. From health and well-being to environmental protection, finding solutions to global challenges is being prioritized. In the field of health, for example, the concept of impact for research funders and institutions is evolving away from traditional measures, such as citations and publication counts, to the application of innovative treatments or services that respond to the specific needs of target populations. This heightened attention to impact is echoed in a transformative science-policy paradigm in which the question of how to use science and technology policy to meet social needs is prioritized. Here, issues of sustainability and inclusiveness are addressed as well as economic growth. Transformative science policy encourages the co-production of social, behavioural and technological change in an interrelated way.

**Sustainability**
Sustainability is the ability to maintain an activity into the future with the appropriate resources and without loss of quality or relevance. Sustainability is also one of the primary drivers behind full cost recovery for research institutions. Another way of ensuring sustainability in the research sector is through capacity strengthening.

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The GRC Statement on capacity building and connectivity among granting agencies worldwide affirms that capacity strengthening activities and efforts to increase connectivity should benefit individuals and organizational structures over the long term.\(^\text{10}\) For proposed actions, GRC participants should establish plans and mechanisms that are self-sustaining, adaptive and results-based. Likewise, members of ESSENCE on Health Research encourage funders and recipients of funding to share knowledge and work in partnership to maximize the benefits of sustainable research capacity strengthening.

Value for money

Some aid agencies, such as DFID,\(^\text{11}\) use the concept explicitly in their programming. The term is closely linked to concepts such as return on investment and fiscal accountability. According to a study by the IDRC,\(^\text{12}\) it has become the ‘term of choice when the public and private sectors wish to demonstrate (to the electorate or stakeholders respectively) that they are working to reduce risk, curtail unnecessary spending, and avoid the waste of funds’. The concept has four main components: economy (a careful use of inputs and resources); efficiency (or productivity); effectiveness (a clear relationship between intended and actual outcomes); and equity (transparency on how interventions reach different groups).

### RECOMMENDATIONS FOR GOOD PRACTICE

<table>
<thead>
<tr>
<th>For funders</th>
<th>For institutions</th>
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<tbody>
<tr>
<td>Compare definitions and concepts used and, where possible, work towards a consistent approach to terminology, especially in relation to research costing.</td>
<td>Openly communicate with funders about confusing or ambiguous definitions and concepts.</td>
</tr>
<tr>
<td>Use plain language in program calls and policy statements and provide opportunities for grantees to seek clarification on concepts.</td>
<td>Clearly define research costing and pricing terms and concepts in policies and help ensure consistency of understanding within the institution.</td>
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</table>
Indirect costs may be hard to figure and even harder to recover – but they should never be overlooked.\(^\text{13}\)

In Key 3, we first explore why funders expect research institutions to be transparent about research costs and describe some of the institutional systems that enable effective research costing and pricing. We then examine the contribution of policymaking and implementation to improving the management of research. We also offer a framework for the development of a research costing and pricing policy.

**Why transparency matters**

Transparency, underpinned by honesty and accountability, is fundamental to research integrity and applies to all aspects of research work – be it collecting and analyzing data, research collaboration, scholarly communication or securing, allocating and managing research funding.

When institutions accept research funding, they also become financially accountable to their funders and have to report on how the money is spent in ways that demonstrate sound financial management. Transparency in calculating the full cost of research is one of the seven principles of the Good Financial Grant Practice (GFGP) (see below) because transparency allows institutions to prepare accurate budgets and forecasts, it increases funders’ trust, and it offers a sound basis for discussions about the recovery of research costs. These issues all impact on institutional sustainability and research competitiveness. Transparency also has other benefits including:

- Ensuring a consistent approach to the costing and pricing of research.
- Determining the strategic value of research projects to an institution and hence guiding investment in that project.
- Making sure that direct and indirect costs are considered when pricing projects.

Funders also subscribe to transparency. They too are accountable to their stakeholders and have to be transparent about the allocation and impact of their funding decisions. However, the transparency and accountability that funders have to demonstrate to their stakeholders often results in increasingly complex compliance requirements related to due diligence and audit processes being imposed on grantees. It is important for research institutions to manage these pressures in ways that ensure that they can adequately recover costs linked to compliance.

**NOTES FROM THE FIELD**

**Why research costing and pricing matters**

Three funders we surveyed put it this way:

- All indirect costs should be listed. We then assess if they are eligible or not. The issue is that we need to have transparent budgets and know what we are paying for.

- Indirect costs must be fully justified as to why these costs are being requested and how they will contribute to the proposed research.

- Even if we can’t change our funding policies immediately, research institutions should work out what their true costs are, identify inefficiencies and gaps, and develop plans and arguments to move this issue forward. It’s important to bring governments into the conversation so that emerging science councils can develop sound indirect cost policies from the start.

Meanwhile grantees typically see things like this:

- The key is that researchers understand what the cost of their research will be. Without understanding what costs are involved, they can’t take informed decisions, especially when the funds raised are less than the cost of the project.

- It is important for sustainability that strategic decisions are made regarding the types of projects (discipline, cost threshold, transdisciplinary, country’s needs) that can be hosted or not pursued.

Institutional enablers

Institution-wide research costing and pricing policies
Research costing and pricing in many institutions in LMICs are fairly new additions to the suite of research management policies. While many factors can have an enabling effect, conducive policy and institutional support for research are vital.

A generic research costing and pricing policy framework is provided in Table 1. This is based on a review of institutional policies that are either publicly available or were shared with us. The framework is not meant to be prescriptive, but it can help institutions benchmark existing policies or it can form the basis for the development of a new policy.

A research costing and pricing policy framework
Successfully implemented full costing policies typically include the sections shown in Table 1. In general, such policies are:

- **Endorsed**: Institutional leadership openly affirm the value of full costing to financial sustainability in that it allows for more efficient resource allocation and better strategic decision-making.

- **Inclusive**: Policy formulation involves key stakeholders to establish shared principles. This can overcome obstacles such as leadership commitment and resistance from staff. Raising awareness and extensive communication throughout the implementation stage is vital.

- **Relevant**: The policy supports the goals of the institution, and is both relevant and clear for those who have to comply with and implement it. The policy supports rather than contradicts other institutional policies.

- **Feasible**: The infrastructure and capacity necessary for successful implementation are available.

- **Enforceable**: The policy is in writing and there are administrative or other controls in place to monitor compliance.

- **Flexible**: The policy is reviewed periodically and can accommodate change and as such can guide future planning and action. It is sensitive to different types of research performed by the institution and to the diversity of funders supporting research.

NOTES FROM THE FIELD
Winning buy-in for policy on indirect costs

Over 60% of grantees reported that their institutions have an indirect cost policy. In many cases, the policies are documented but some have little more than a tacit understanding that guides the ICRR applied to research budgets.

When it comes to the distribution of recovered indirect costs, over 40% of respondents said their institutions have rules or guidelines. Funds are typically shared across institutional units or departments and used to mobilize further resources and support research.

Many respondents noted that policy development and implementation is challenging: some researchers see the inclusion of an ICRR as a kind of ‘tax’ on ‘their grants’. This lack of understanding and buy-in for policy can be major hurdles. Overcoming these hurdles takes significant effort, as one respondent reflected:

> We have worked hard to have public forums and task teams, and to secure buy-in from researchers with every step we take. There will always be those who do not want to understand reason but I find that making lots of information available, and being willing to discuss the matter openly, assists with the acceptance of these policies.
Table 1: Features common to most institutional research costing and pricing policies

<table>
<thead>
<tr>
<th>SECTION</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>Name of the policy</td>
<td>Accurately describes the nature of the policy and its intent.</td>
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<tr>
<td>Policy details/notes</td>
<td>Policy version number, summary of the revision history, including the date of the last revision, and other vital details such as policy owner, date of approval and commencement date and date of review.</td>
</tr>
<tr>
<td>List of contents</td>
<td>Summary outline of the policy content.</td>
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<tr>
<td>Abbreviations/ definitions/terms</td>
<td>Explains the terminology used in the policy (see Key 2 for terms and definitions).</td>
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<tr>
<td>Values</td>
<td>The institution’s values with respect to research costing and pricing are clearly stated, for example:</td>
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<td></td>
<td>“It is expected that all research and/or consultancy projects funded by external funders will meet the highest standard of ethics as set by the institution. The full cost of such projects should be the point of departure for negotiations with funders/sponsors/grantors/clients.”</td>
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<tr>
<td>Policy statement and background</td>
<td>Explains the purpose of the policy and what it aims to achieve. It also provides the background and context for the policy.</td>
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<tr>
<td>Policy principles</td>
<td>Explains what full costs are, what an institution considers as direct and indirect costs, and how an institution’s ICRR should be applied. This section provides information on support services and tools available to assist with budget development as well as guidance on the pricing of projects and guidance on how to charge indirect costs as direct costs when allowed by the funder. Other country-specific issues such as taxes can also be addressed.</td>
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<tr>
<td>Roles and responsibilities</td>
<td>Sets out the roles and responsibilities of all role players (for example, legal services/contract management, finance department, other research support functions, cost recovery committee).</td>
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<tr>
<td>Policy scope</td>
<td>Explains to whom the policy applies/on whom it is binding, what falls under the policy and what exceptions are allowable.</td>
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<td>Examples of inclusions:</td>
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<td></td>
<td>- Research contracts.</td>
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<td>- Diverse research/research without contracts.</td>
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<td>- Consulting services.</td>
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<td>- Sponsorships.</td>
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<td></td>
<td>- Other products and services (including short courses and conferences).</td>
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<td>Examples of exceptions:</td>
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<td>- Consulting below a specified amount.</td>
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<td>- Government subsidies and funding for training, infrastructure and capacity development.</td>
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<td>- Merit-based prizes.</td>
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<td>- Donations/endowments.</td>
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<td>- Bursary income.</td>
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<td>- Membership fees.</td>
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<td></td>
<td>- Limitations to the ICRR based on funder policies. A pre-approved list of funders and the ICRR that should be applied could be provided to avoid delays with approvals of variations of the institutional ICRR.</td>
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<tr>
<th>SECTION</th>
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<tr>
<td>Approval of variations</td>
<td>Explains the process that should be followed if a funder policy does not support recovery of the full institutional ICRR. For example: <em>Charging a reduced rate has to be approved at senior management level i.e. either by the Unit director or director of operations. It involves writing a justification for the reduction or waiver outlining strategic benefits for the Unit to undertake the research.</em></td>
</tr>
<tr>
<td>Distribution of recovered indirect costs</td>
<td>Explains the distribution model for recovered indirect costs.</td>
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<tr>
<td>Appeals process</td>
<td>Depending on the institutional structure an appeals process may be included in the policy, making provision for a researcher to appeal to a higher authority if he/she disagrees with the outcome of the decision.</td>
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<tr>
<td>Non-compliance statement</td>
<td>States why compliance is encouraged and outlines consequences for non-compliance.</td>
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<tr>
<td>Other support tools</td>
<td>Includes any additional FAQs, guidelines, worked examples, etc. that support uptake and use of the policy.</td>
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CASE STUDY
A journey to policy implementation

Stellenbosch University (SU) in South Africa aims to be Africa’s leading research university, globally recognized for advancing excellent, inclusive and innovative knowledge in service of society. Here is the story of how it arrived at and implemented its full cost recovery policy.

2004: With no clear methodology to calculate indirect costs, the university management implemented a research levy of 12% on all research contracts.

2010: National legislation requires South African universities to calculate the full cost of research as a basis for regulating intellectual property transactions with funders. To comply with this legislation while a sector-wide methodology was developed, SU reviewed the 12% levy and added a space levy, calculated on hourly usage of floor space per m². Allowances were made for cost differences between desktop studies vs laboratory services or clinical trials. SU then adopted its first official policy on cost recovery.

2013: SU adopted a full-cost approach not only to comply with the legislation but also to ensure financial sustainability. The adoption of a sector-wide methodology caused SU to increase its ICRR to 17% but, before implementation, in-depth consultation took place with faculties and other stakeholders. At this time, approval processes for the waiving or application of lower indirect costs were also introduced. SU anticipated the emotional impact that the adoption of a full-cost approach might have on the institution and applied the principles of David Rock’s SCARF (Status, Certainty, Autonomy, Relatedness, Fairness) model throughout the process.

2019: Based on 18 months of work by a 30-person internal task team and a process of internal consensus building, some gaps were identified in how the sector-wide method applies to SU and the ICRR was increased to 20%.

Post-2019: Researchers are expected to calculate the full cost of all research projects and use this as the basis to price their research. For funders with capped ICRRs (such as NIH), the price will be lower than full cost while for certain industry-funded research projects, the price could be slightly higher than full cost to make provision for a loss in academic footprint due to restrictions on publications, etc. A key success factor in the smooth implementation of the policy is the availability of tools such as budget templates, and of qualified accountants working with the Research Contracts Management Office to support budget development. These accountants are seconded from Finance to the Research Contracts Office. Having the finance staff in the direct environment where research contracts are processed has proved to be highly effective.

SU is also working towards an integrated reporting approach that will enable the institution to do forecasts on committed income and expenditure based on signed research contracts.

Although it took time for SU to work towards a full-cost approach, the intention from the outset was to ensure that they, as a research-intensive university, would be financially sustainable. This required a disciplined approach to the recovery of indirect costs and in the long term it assisted them to keep the ICRR at a reasonable level.

This is a summary of a longer case study; the full text is available with a set of other relevant cases at https://www.who.int/tdr/partnerships/essence/en/.
Supporting research

As access to research funding has become increasingly competitive and compliance-based, most research projects require information and assistance from a range of support units within their institutions. The development of project proposals, including the transparent costing and pricing of the research project and the management of grants, typically involves the HR, facility and procurement, library, legal and finance departments. Dedicated units that manage and support research, which can vary widely in size and structure, have become essential in research institutions. These focus on developing research strategies and policies, facilitating research partnerships, overseeing research ethics and integrity, managing research proposals and funding, managing research data and information and supporting the uptake, utilization and impact of research.

The functions involved in efficiently securing and managing funding, ensuring value for money and delivery of outputs are essential to maximizing the benefits that can be derived from funder relationships and ensuring compliance and institutional sustainability. The roles, responsibilities and competencies related to pre- and post-award grants management are outlined in Key 5.

There could be inefficiencies in the management and support system causing higher than necessary indirect costs. Using technology is one way to improve efficiency. Grants management software, for example, can be used for funding opportunity searches, tracking of grant applications, storing and sharing of documents/information, real-time updates on project financials, data and metrics for reporting and decision making. It provides for a single, centralized system for the effective administration of grants and the reduced paperwork and labor required can decrease the indirect costs.

International standards for grants management

In 2018, the GFGP was developed as an international standard (ARS 1651:2018) for the financial governance of grants. It is a portal-based assessment system which measures and reports grantee compliance using the GFGP standard. The standard has been divided into four tiers – Bronze, Silver, Gold and Platinum – to cater for organizations that vary in size and scope. The standard addresses seven principles of good financial grant practice (accountability, stewardship, compliance to standards, transparency, viability, integrity, consistency) and sets out four areas of work that organizations should strive to manage (finances, human resources, procurement and governance). As one funder noted:

“We believe that the appetite for the GFGP is a good indicator of the interest by institutions in the overall strengthening of grants and research management.”

NOTES FROM THE FIELD

Standardizing grants management processes and systems

Around 50% of grantees reported that their institutions have templates and standard procedures for drawing up budgets and applying for grant approval but noted that some researchers don’t yet appreciate how useful these can be. Over 80% of grantees reported that their institutions have a grants management system. Where a small number of grants were managed, standard spreadsheet software was used. In other cases, spreadsheets are combined with contract management software. A few respondents reported using fully automated systems. Of these, some were developed in-house, others used proprietary software such as Converis, Oracle Projects, IDU, Microsoft Dynamics Navision and Quickbooks.

14 The development of the GFGP is one of the platforms of the Alliance for Accelerating Excellence in Science in Africa (AESA), which is in turn an initiative of the AAS and the African Union Development Agency (AUDA). See https://www.globalgrantcommunity.org/
**CASE STUDIES**

How some institutions tackle grants management

**Oxford University’s Clinical Research Unit (OUCRU)** is embedded in two government-run tertiary referral hospitals in Vietnam – one in Hanoi and one in Ho Chi Minh City – as well as in Kathmandu, Nepal and Jakarta in Indonesia. A memorandum of understanding between Oxford University and the local institutions sets out OUCRU’s operational parameters.

Grant applications from research sites in Vietnam, Nepal and Indonesia are **managed centrally** in Ho Chi Minh City to ensure consistency but the grants team works collaboratively with researchers to develop project budgets. Researchers enumerate their expected requirements, and the grants team help them to **calculate detailed cost estimates**. They have found that if researchers are unable to specify their needs in detail, they generally require clearer project plans.

Inflation forecasts include the minimum annual 5% pay increment specified in their employment contracts as well as price increases related to insurance and government fees. As they work with **multiple currencies**, the grants team are **careful about exchange rates**. They prefer **funders to make awards in the currency of expenditure** as they find that this reduces potential losses.

It is a challenge to ensure that researchers follow the standard operating procedures. However, the **grant management team add so much value that researchers can see that engaging with them is to their benefit**. The grants team provides a list of funding opportunities on a monthly basis, offers regular training for staff and local collaborators, and provides support on a one-on-one basis. They also provide guidance on funders’ conditions, on project costing, on managing collaborations, and on managing awarded grants.

**Sociedade Beneficente Israelita Brasileira Albert Einstein (SBIBAE)** is an NPO in São Paulo, Brazil, seeking to improve the health system and to develop new ways of tackling current problems related to education and training, innovation, research and social responsibility in the health sector. The Instituto Israelita de Ensino e Pesquisa Albert Einstein (IIEP), established in 1998, houses the research and education activities of SBIBAE.

Its research support office (RSO) was established in 2014 to offer services and platforms that support the administration of IIEP's research and can **advise on specific aspects of project planning and budgeting**. The RSO also helps with data collection, storage and statistical analysis as well as assisting with the reporting and dissemination of results. **Demand for its grants management services is high**. This includes funding searches, help with proposal writing and submission, as well as procurement, compliance, reporting and project close-outs.

The RSO uses I.Search™ (proprietary database software for the management of documents, processes, costs, resources, and scientific outputs) to **factor in the RSO’s own contribution to projects’ indirect costs**. All RSO employee expenses are allocated to a single ‘cost center’ and the costs are shared between all cost centers within the institution that have active projects. This method does not quantify the time spent on each project, but it does indicate the time spent on each department, thus ensuring that costs of the service are shared between all SBIBAE’s departments.
CASE STUDIES
How some institutions tackle grants management (continued)

The Makerere University School of Public Health (MakSPH) is one of the schools that comprises the Makerere University College of Health Sciences. MakSPH established a Grants Administration Secretariat (GAS) in 2013, which falls under the school’s Finance Management Unit. GAS offers a ‘one stop’ point of information for researchers submitting proposals to local and international agencies and sponsors. Its services include identifying funding opportunities, budget development, proposal submission, responding to donors’ due diligence checks, as well as compliance management for contracts, grants and sub-awards. MakSPH also has a Grants Committee that guides GAS’s activities and operations, and GAS is funded through overheads recovered from externally funded research grants.

GAS has developed a grants procedures manual to assist everyone at MakSPH who is involved in grant writing or management. This provides clear guidelines on programs and projects sponsored by external entities. It aims to enhance communication, as well as to increase collaboration, accountability and proper donor stewardship while ensuring that management is fully informed of commitments made on behalf of the institution.

All research budgets have to be approved by GAS before submission to a funder. As part of the approval process, researchers are required to declare any financial or other conflicts of interest so that these can be effectively managed prior to implementation.

GAS has also developed budget templates, standard rates for items such as per diems, fuel for fieldwork, etc. and a checklist of the critical items that must be considered in the development of research budgets. These items include annual inflation rates, salary increases, fringe benefit rates, and the institutional ICRR.

Nevertheless, some researchers still try to act independently instead of working through GAS. It has been difficult to enforce utilization of the service without a firm directive from management. However, grants management is still a relatively new phenomenon at the university, and buy-in should increase as its value is demonstrated.

The University of Ghana’s School of Public Health (SPH) in the College of Health Sciences, has a strong track record of training, community outreach as well as cutting-edge research on critical public health issues.

The university has a central Office for Research, Innovation and Development (ORID) that is responsible for developing the university’s research policy, fundraising for research, grants management, setting standards for ethics as well as the dissemination of research output, and the commercialization of intellectual property. ORID is currently funded through government subvention and employs full-time staff. The SPH’s finance department is also available to assist with budget support on short notice. Budgets are reviewed by the finance department to ensure that all costs are included and costed correctly before proposals are submitted to funders.

ORID’s Pre- and Post-Award Services Unit assists with the development of budgets for research projects. When developing budgets, actual (rather than projected) costs are used to reduce the risk of under-recovery of research costs.
They run internal due diligence checks at every stage of the funding cycle. Grant funding is released based on the results of these checks, and in line with approved budget lines and deliverables as agreed with the funder. Reports can be generated at short notice and these serve as an invaluable resource for tracking budgets and managing grant compliance.

* These are summaries of longer case studies; the full text is available with a set of other relevant cases at https://www.who.int/tdr/partnerships/essence/en/.
### RECOMMENDATIONS FOR GOOD PRACTICE

<table>
<thead>
<tr>
<th>Funders</th>
<th>Institutions</th>
</tr>
</thead>
</table>
| - Recognize indirect costs as a real cost of doing research, and acknowledge institutional research costing and pricing policies that are transparent, fair and justified.  
- Encourage the use of internationally recognized tools such as the GFGP to help grantees reduce the administrative burden of funders’ financial and grants management due diligence requirements.  
- Publish clear and transparent policies on indirect costs and allowable/non-allowable costs. Make clear where expectations on a specific program differ from the organizational policy.  
- Engage with appropriate national and international forums to understand the challenges faced by research institutions and the approaches taken by different funders. | - Recognize the strategic value of research costing and pricing at leadership level to guide investment, improve efficiencies, promote financial sustainability, and raise the institution’s research profile even if indirect costs are not fully recovered from all funders.  
- Develop and implement clear and transparent policies to justify indirect cost requirements and use.  
- Be inclusive by consulting leaders, implementers and end-users in the policy development process to ensure institutional buy-in, flexibility and transparency and allow sufficient time for this.  
- Support policy implementation by providing effective structures, processes and systems for grants management, backed by management and, where appropriate, use technology to improve the accuracy and efficiency of grants management.  
- Facilitate engagement between researchers and staff supporting research in the early stages of budget and proposal development to improve the accuracy of research costing.  
- Create processes and platforms for regular communication and information sharing between administrative and research staff to encourage mutual learning and improvements in research costing.  
- Critically assess international standards to benchmark institutional compliance and identify gaps in financial and grants management practices.  
- Use appropriate national and international forums to lobby government and funding agencies to recognize the indirect costs of research. |
The practice of research costing and pricing is as much about understanding the real costs of research as it is about recovering these costs from funders. As research activities increase, so too do the demands on infrastructure, operating costs and the costs of research management and support. These expenses are seldom fully covered by project budgets. Over time, the ongoing under-recovery of these costs undermines the upkeep of essential research infrastructure, equipment and research support services. For institutions in LMICs, this means they might never afford to fill current voids in infrastructure and support services.

Therefore, in Key 4 we aim to assist readers to:
- Accurately categorize direct and indirect costs.
- Consider approaches to determining ICRRs.
- Understand how different funders approach indirect costs.
- Work out how recovered costs can be allocated to support institutional sustainability.

### Categorizing costs

Direct and indirect costs are defined in Key 2. However, different funders categorize items differently, and institutions, too, tend to differ in how they allocate costs depending on how well they can track these costs within their own processes and accounting systems. For institutions to match their cost categories with those of their research funders, especially when multiple funders are involved, can be a major challenge.

Examples of research costs and their usual categorization is presented in Table 2.

<table>
<thead>
<tr>
<th>Costs</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct costs</strong></td>
<td></td>
</tr>
<tr>
<td>Salaries and related</td>
<td>Remuneration for research staff as well as administrators, project</td>
</tr>
<tr>
<td>employment benefits and</td>
<td>managers/coordinators. Institutions often provide guidance on how, and</td>
</tr>
<tr>
<td>recruitment costs</td>
<td>at what level, salary and related costs should be charged to projects.</td>
</tr>
<tr>
<td></td>
<td>For multi-year projects, allow a percentage for salary increases as per the institutional policy.</td>
</tr>
<tr>
<td>Subcontractors and</td>
<td>Costs for services outsourced to external organizations or consultants.</td>
</tr>
<tr>
<td>consultants</td>
<td></td>
</tr>
<tr>
<td>Communications</td>
<td>Salaries/bursaries/stipends for graduate and undergraduate students working on the project.</td>
</tr>
<tr>
<td>Travel</td>
<td>Telecommunications, postage and courier expenses.</td>
</tr>
<tr>
<td>Facilities</td>
<td>New facilities required, such as a new field clinic or laboratory, etc. Alterations to make existing facilities fit for purpose.</td>
</tr>
<tr>
<td>Equipment</td>
<td>The purchase or upgrading of equipment as well as the cost of accessing specialized equipment if necessary.</td>
</tr>
<tr>
<td>Consumables</td>
<td>All consumables needed by the project (include reagents, electronic components, stationery, etc.)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Indirect costs</strong></td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Maintenance and repairs of buildings; rental and/or utility costs</td>
</tr>
<tr>
<td></td>
<td>associated with premises used (heating, cooling, electricity, water,</td>
</tr>
<tr>
<td></td>
<td>cleaning, waste removal); technical support for laboratories;</td>
</tr>
<tr>
<td></td>
<td>depreciation of infrastructure and equipment; insurance; leasing;</td>
</tr>
<tr>
<td></td>
<td>security and protection.</td>
</tr>
<tr>
<td>Management and</td>
<td>Governance (such as management support, board activities, audit</td>
</tr>
<tr>
<td>administration</td>
<td>services, legal services, international office), procurement services,</td>
</tr>
<tr>
<td></td>
<td>financial management and accounting, research management (including</td>
</tr>
<tr>
<td></td>
<td>pre- and post-award grants management), intellectual property</td>
</tr>
<tr>
<td></td>
<td>management; information management; human resources management,</td>
</tr>
<tr>
<td></td>
<td>health and safety compliance, general administration, bank charges,</td>
</tr>
<tr>
<td></td>
<td>administration of students engaged in research; human subject</td>
</tr>
<tr>
<td></td>
<td>protection.</td>
</tr>
<tr>
<td>Research resources</td>
<td>Library services; information and communication services (databases,</td>
</tr>
<tr>
<td></td>
<td>telecommunications, information technology).</td>
</tr>
</tbody>
</table>

---

**Table 2: Some examples of research costs and how they are usually categorized**
Consistency

Consistency refers to the application of a particular accounting method and the allocation of a specific accounting item in the same way over an extended period of time. It is also one of the principles of GAAP mentioned in Key 2.

What this means for research institutions is that once consensus is reached on the categorization of direct and indirect costs according to type and circumstances, these costs should be allocated consistently throughout the institution.

Research funders use the principle of consistency in their policies and practices to emphasize different objectives. For example, the NIH Grant policy states:

> Costs may be charged as either direct costs or F&A costs, depending on their identifiable benefit to a particular project or program, but all costs must be treated consistently for all work of the organization under similar circumstances, regardless of the source of funding.\(^{15}\)

The Gates Foundation note that:

> We seek consistency across funding mechanisms and thus we reserve the right to apply this philosophy and principles to contracts.\(^{16}\)

Approaches to determining indirect cost recovery

An ICRR is the ratio obtained from dividing the indirect costs (grouped together) by a cost base. Many universities and non-profit research institutions use one of the following models for calculating their ICRR:

- Activity-based costing uses specific cost drivers (such as staff and space) as the allocation base. This approach produces a high level of transparency and accuracy, but it requires intensive data collection and preparation as well as accounting systems that can attribute costs to individual research projects. This is the basis of the TRAC method used in the UK.
- Using direct costs as the base, the ICRR is expressed as a percentage of the total direct cost or the MTDC. Individual projects are then charged for their share of the indirect costs. The actual service/benefit provision or usage will vary per project but this should balance out at an overall institutional level. This method is common in Europe and the US.

Often a single ICRR is applied across a whole institution but in large institutions, different units/faculties sometimes apply different rates. A distinction between the rates of research performed on-site and off-site is sometimes also made. The actual ICRR usually differs from institution to institution due to differences in the costs and complexity of research (with its associated infrastructure) carried out across institutions, regions and countries.

There is no single rate that 'fits all'. However, institutions can benefit from sharing experiences, defining principles and having opportunities to benchmark their progresses. Experience has shown that coordinating efforts to implement full-cost recovery can increase the efficiency of the process; it saves costs and deepens levels of transparency, accountability and compliance. Coordination can be facilitated at national level, as occurred among publicly funded universities in the US, UK, and South Africa. Other efforts involve regional or sector-led networks of institutions.


\(^{16}\) Bill and Melinda Gates Foundation (2017, February) Indirect Cost Policy. Available online.
NOTES FROM THE FIELD
Calculating indirect cost recovery rates

All the grantee survey respondent institutions are subject to annual external financial audits. Only 46% of respondents reported that their institution had an ICRR. In terms of calculation methods:

- Some institutions use the previous year’s audited financial statements to calculate the total costs and then set the ICRR as a percentage of the total direct costs or the total modified direct costs.
- Other institutions agreed on an ICRR after consulting with other institutions in their country.
- A third set use estimates or use the ICRR set by their funders.

In addition, respondents reported seeing changes in their institutions’ approaches to indirect costs over time. For example, research policies and research management offices are established; ICRRs are revised regularly; indirect cost levies are charged on all institutional services; indirect costs are reclassified as direct costs based on funder guidelines; and recovered indirect costs are distributed in line with an institutional policy.

Respondents reported challenges with the calculation of ‘realistic’ ICRRs; not knowing how to place value on or disaggregate specific indirect-cost items; acceptance by researchers of the need to recover indirect costs; and the lack of an ICRR to begin with.

CASE STUDIES
Institutional approaches to determining ICRRs

Colombia’s International Centre for Medical Research and Training (CIDEIM), is an NPO located in Cali, Colombia, with the objective to improve the quality of life of vulnerable populations by reducing the impact of infectious diseases. CIDEIM receives research funding from national and international sources and uses the audited financial statements from the previous calendar year to calculate the actual indirect costs. Direct costs represent the total expenditure on research and research capacity strengthening for a fiscal year. Indirect costs include those expenditures that were incurred in the fiscal year to support the operations of the Center, providing services across all projects. The institutional ICRR is calculated as follows:

\[
\text{Institutional ICRR} = \left( \frac{\text{Indirect costs}}{\text{Direct costs}} \right) \times 100
\]

The resulting rate usually ranges between 30% and 36%. Consequently, the indirect costs recognized by funders (between 7% and 8%) are lower than the real indirect institutional costs.

The recognition and recovery of only a fraction of indirect costs constitutes a major challenge to the sustainability of the research and training program, and the institution. Allowances for an amount based on a predefined percentage of the direct costs for unforeseen situations (Flexible Funding Allowance) and for inflation (Inflation Allowance) are uncommon yet highly important. CIDEIM grants administration reviews funder policies to identify costs generally classified as indirect by the institution, such as ethical committee review, that are permitted and recognized as direct costs by some funders.
Institutional approaches to determining ICRRs (continued)

The African Population and Health Research Center (APHRC) in Kenya is an independent think tank that generates evidence to drive policy aimed at improving health and well-being in Africa. Its work centers on three programs: Research, Research Capacity Strengthening, and Policy Engagement and Communications. National government funding contributes 22% of APHRC’s total income while foreign foundations and NGOs contribute 71%.

APHRC splits its costs into program and indirect costs. Administrative and support costs as well as other expenses that fall within the routine services normally provided across the organization are treated as indirect costs. The indirect costs are broken down as per the audited annual accounts. The ICRR is reviewed annually and is determined as shown below.

\[
\text{Institutional ICRR} = \frac{\text{Annual indirect costs}}{\text{Annual program costs}} \times 100
\]

APHRC allows for administrative expenses to be charged as direct costs when, for example, the nature of the work performed under a project requires administrative support that is significantly greater than the level of services routinely provided by the administration office.

While funder philosophies on indirect costs are diverse, APHRC seeks to recover their full indirect costs – either as a percentage of direct project costs or above the line as specific allocated costs. Where a maximum allowable percentage is lower than APHRC’s published annual ICRR, overhead items are charged as direct costs. Where funders require indirect costs to be itemized, APHRC have categorized these into four areas namely, facilities or occupancy costs; information and communication costs; governance costs and other administration costs.

Initially, APHRC experienced some challenges from staff who did not understand the importance of full cost recovery. However, by having a clear policy and constantly building awareness about why and how it must be implemented, this slowly changed. Research and support staff have become more careful about factoring indirect costs into proposals and negotiating with funders accordingly. The organization now accepts low ICRRs only if it stands to benefit from the funding in ways that will contribute strategically to organizational sustainability.

APHRC believes that the efficiency of their systems help to keep their indirect costs at a reasonable level. For example:

- They streamline organizational needs from various units/departments and combine core activities wherever possible.
- They use an integrated enterprise resource planning system that helps identify and reduce operational costs that could otherwise have been duplicated.

In this regard, APHRC has benefited from the Hewlett Foundation’s Organizational Effectiveness grants. One of the areas they focused on was strengthening their business processes to support organizational sustainability. With the support of the grant they were able to recruit consultants who assessed their business processes, identified gaps and developed recommendations for them to consider.
The Eastern Mediterranean Public Health Network (EMPHNET) is a regional network that focuses on strengthening public health systems in the Eastern Mediterranean Region with its headquarters in Amman, Jordan. EMPHNET works in partnership with government ministries, non-government organizations, international agencies as well as the private sector and other public health institutions in the region and globally to promote public health and applied epidemiology.

EMPHNET developed its indirect cost policy by involving staff members such as the program manager, the grant manager, the finance director and the finance officers. The policy was then presented to the executive director and approved by the board. The ICRR is determined using actual financial data and is applied in line with the requirements of different funders. EMPHNET’s financial processes result in comprehensive records for daily transactions. The inflow and outflow of indirect costs are recorded so that EMPHNET can accurately trace the forecasting versus the allocation of indirect costs. Indirect costs are generally directed towards non-program activities such as administrative, managerial, logistical and other support costs, including costs relating to staff recruitment, financial control, ICT support, and activities related to procurement, transport and warehousing.

The indirect cost charge on non-program-related activities represents a reimbursement of program budget expenditures. This seeks to ensure that non-program activities do not place a financial burden on the agency’s regular budget. In accounting terms, indirect costs represent an inflow into the program budget and an expense for non-program activities. As part of liquidity planning, the agency closely monitors and forecasts its program budgets and cash flow. This ensures that timely action is taken if undesirable cash levels are projected. The indirect cost forecast (done by the budget division) is an important part of the cash-flow planning.

The National Intellectual Property Management Office (NIPMO) is a specialized unit within the South African Department of Science and Innovation. The University of Cape Town (UCT) is a research-led university that took part in a task team that developed a research costing and pricing methodology for all of South Africa’s public universities. In 2008, South Africa passed the Intellectual Property Rights from Publicly Financed R&D Act which meant that South Africa’s universities and other publicly funded research institutions had to change how they costed and priced research. A national task team was set up to review existing practices and explore international approaches. Through a process of consultation, NIPMO approved a method for calculating indirect costs that is now being used by all the universities. The direct cost method (also known as the expenditure apportionment method) is used to derive the universities’ institutional ICRRs. Research projects then apply the institutional ICRR to calculate the indirect cost recovery for each project. This is then added to direct project costs to arrive at the full project cost. The sector chose this route for the following reasons:
- Despite its benefits, an activity-based approach is more expensive to implement and maintain.
- The expenditure apportionment approach is simpler and more manageable for all universities, given their existing accounting and reporting obligations.
The information requirements, especially at a high (university and major support department) level, should be met by the current audited reports and underlying management accounting records.

The standard formulas used to determine the full costs are:

- \[ \text{Full cost} = \text{direct costs} + \text{indirect costs} \]
- \[ \text{Full cost} = \text{direct costs} + \text{ICRR} \times (\text{modified}) \text{ direct costs} \]

The institutional ICRR is calculated as follows:\(^7\)

<table>
<thead>
<tr>
<th>Indirect Cost Recovery Ratio (ICRR) calculation, using the Expenditure Apportionment Basis</th>
<th>Calculation</th>
<th>Item</th>
<th>Source of expenditure amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent Unrestricted expenditure excluding residences</td>
<td>A</td>
<td>AFS*</td>
<td></td>
</tr>
<tr>
<td>Recurrent Restricted expenditure excluding residences</td>
<td>(B1 + B2)</td>
<td>B</td>
<td>AFS</td>
</tr>
<tr>
<td>- Research related costs</td>
<td>B1</td>
<td>MA*</td>
<td></td>
</tr>
<tr>
<td>- Non-research related costs</td>
<td>B2</td>
<td>MA</td>
<td></td>
</tr>
<tr>
<td>Total expenditure</td>
<td>A + B</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Indirect cost allocation ratio (ICAR) (%)</td>
<td>B/C or B1/C</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Determine expenditure from institutional support departments less exclusions/ modifications (to be motivated)</td>
<td>E</td>
<td>MA</td>
<td></td>
</tr>
<tr>
<td>Indirect cost attributable to research</td>
<td>D \times E</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>Direct research support costs</td>
<td>G</td>
<td>MA</td>
<td></td>
</tr>
<tr>
<td>Total indirect research cost</td>
<td>F + G</td>
<td>H</td>
<td></td>
</tr>
<tr>
<td>The indirect cost recovery rate (ICRR) (%)</td>
<td>H/B or H/B1</td>
<td>I</td>
<td></td>
</tr>
</tbody>
</table>


**Notes**

- (A & B) is university-wide information obtained from the audited annual financial statements (AFS); B1, B2, E & G are research specific and support department expenses obtained from the management accounts (MA) that are reconciled to the AFS.
- First the deemed portion (F) of the cost of support provided by support departments (including finance, HR, ICT, libraries, properties and services, executive offices, internal audit, risk management, registrar, legal services, etc.) is calculated. To this is added the cost of units or offices (G) dedicated solely/largely to research support (such as the research office, deputy vice chancellor for research, etc.) to arrive at the total indirect research costs (H).
- H is then reflected as a percentage (I = ICRR) of the total research costs at university level (B or B1).
CASE STUDIES
Institutional approaches to determining ICRRs (continued)

The ICRR can be used to calculate the indirect cost recovery for each project – how much each project should contribute to cover their indirect costs. This is calculated by modifying the direct cost base by excluding amounts for bursaries, as well as major equipment and/or work done by subcontractors that costs more than a threshold determined by each university.

Every second year, each university updates its ICRR and submits this to NIPMO for re-approval. Although all the universities use the same approach, each institution’s ICRR is based on their own specific cost structure, accounting system and the scope of research support.

UCT adopted this full-cost approach after extensive consultations within the university. For UCT, it was important that the approach meet most (if not all) of the needs of the research community while enhancing financial sustainability. Being part of a sector-wide approach helped to dampen complaints from some staff who saw full costing as unfair when other universities did not apply this. NIPMO is now in a position to benchmark the performance of different universities in terms of research costing and pricing as well as identify institutions that might require support to enhance compliance.

In response to funder queries, and when negotiating indirect costs, UCT explain that their ICRR is certified by a statutory body. This provides assurance to funders that the ICRR is neither arbitrary nor unaudited. Being both transparent and defendable, this approach is also useful when research institutions are deciding whether to invest in a research project; making internal stakeholders aware of the full costs of a project; evaluating the cost (and quality) of support being provided by the university; and determining how best to improve efficiencies in the support system.

The NIPMO guideline also provides a method for non-university public institutions to calculate their ICRR. In this case the formula ICRR = indirect costs / relevant cost driver (for example, direct costs or direct manpower costs) is used.

* These are summaries of longer case studies; the full text is available with a set of other relevant cases at https://www.who.int/tdr/partnerships/essence/en/.
How funders see indirect costs

Some evidence indicates that funders increasingly see indirect costs as essential for the delivery of project outcomes, and are changing their practices accordingly (see the case studies below). Nevertheless, funders still vary significantly in how they define and cover indirect costs. This ranges from not funding indirect costs at all to reimbursement at very low rates, reimbursement at institutional rates, reimbursing a flat rate, or requiring itemized justifications for all indirect costs.

Given this variety, many research institutions in LMICs find that recovering indirect costs is challenging. Where institutions receive most of their funding from a source that covers indirect costs at a very low rate, the burden on the institution to cover the shortfall can, over time, outweigh the benefits of the funding.

For this reason, the more established institutions might choose not to pursue certain grants. However, institutions that are trying to establish a research culture and profile find this much more difficult. The catch is that frequent under-recovery of indirect costs increases the inability of research institutions to develop and maintain the necessary research infrastructure and support.

Through dialogue, funders and research institutions in LMICs must continue to improve those practices that help them determine and recover the real costs of research via fair and transparent costing and pricing mechanisms.

A study by the European University Association demonstrated that funder rules can be an important driver to encourage improved research costing and pricing practices. They found that the EU’s 7th Framework Programme for Research and Innovation was a major driver for the implementation of full costing in European universities. The possibility of receiving a higher amount for the reimbursement of costs than a flat rate would provide was a strong enough incentive for institutions to start developing appropriate costing methodologies. In addition, full costing helped improve the awareness of institutional leaders and researchers across most of Europe about indirect costs, and the full costs of doing research.

NOTES FROM THE FIELD
Funders and indirect cost rates

Of funders surveyed, 55% used a percentage of the direct cost or MTDC; 28% negotiated the rate based on institutional policy and project needs; and 17% negotiated a rate with institutions, or required itemized lists of indirect costs for review, or allowed for indirect cost recovery in selected programs.

When asked if they had observed changes in funder practices in relation to funding indirect costs, several grantees noted that funders are becoming more flexible. Several respondents indicated that relatively speaking, it is becoming easier to recover indirect costs from newer funding program/frameworks, such as the EU’s Horizon 2020 Programme. However, the general sense is that while funders are talking about indirect costs/full cost recovery, many have yet to change their policies and practices accordingly.
CASE STUDIES
Foundations improve coverage of indirect costs

Five of the biggest foundations in the US have joined forces to do more to cover grantee indirect costs and they are embarking on a campaign to encourage other grant makers to join this effort. The aim is to ‘destigmatize’ overhead expenses ‘and make sure everybody understands that they are an essential cost not only of doing business but of growing a business and making investments in infrastructure and increasing impact’.

Accordingly, the heads of the Ford, William and Flora Hewlett, John D and Catherine T MacArthur, Open Society and Packard Foundations spent two years studying the challenges facing their non-profit grantees. They found that restrictive policies that do not support the funding required to effectively run the projects have created major deficits in both new and well-established organizations. The study found that grants typically cover about half of grantees’ overhead costs.

Although all five foundations had already allowed for some indirect cost reimbursement, they realized that they had not done enough. As a first step to finding a solution they identified a menu of six grant-making approaches and undertook to test some of these and share their findings.19

The Hewlett Foundation announced its intention to develop a new grant policy in August 2019 by inviting grantees to engage with the foundation in a candid conversation to assess the true costs of the research. As part of this process, they hope grantees will take the lead in determining how best to allocate the funding to direct and indirect costs. The Foundation’s Indirect Cost Policy is available online.

The Welcome Trust’s indirect costs policy changed in October 2019 to allow universities outside of the UK and Ireland, research organizations that do not receive core funding for overheads, charitable and not-for-profit organizations, as well as small or medium-sized commercial organizations to claim indirect costs at a maximum rate of 20% of the direct research costs if the organization is based in a LMIC. Allowable indirect costs (overheads) include estate costs (buildings and premises), non-project dedicated administrative and support staff and administration costs (such as financial management and library fees). The policy is available online.

### CASE STUDIES

**How three Northern funders support indirect costs**

The **IDRC** defines indirect costs as administrative costs that are not directly related to a research project, including:
- Salaries and benefits for personnel who support and administer the project, such as secretaries, clerks, accountants, etc.
- Stationery and other office supplies.
- Telecommunications (unless the project warrants a specific budget line item for this).
- Computer equipment used to administer and monitor grant disbursements.
- Bank charges (as per the relevant financial reporting guidelines).

No other overheads are eligible for funding from IDRC grants. However, research institutions that have a policy of recovering indirect costs through applying a levy can do so, provided the IDRC or its auditors are satisfied that the levy is fair and reasonable, and that the rate is **not more than 13% of the total grant**. Applicants also have to track all indirect cost charges in case of a possible audit. Their Guidelines for Project Expenditure are available online.

The **National Institute for Health Research** (NIHR) Global Health Research program supports high-quality applied health research for the direct and primary benefit of people in LMICs, using Official Development Assistance (ODA) funding. For applications including collaborating partners based in LMICs, **100% of those partners’ direct and indirect costs will be funded**. All indirect costs requested must be fully justified as to why these costs are required and how they will contribute to the delivery of the objectives of the program. The methodology used to calculate these costs and how they represent good value for money should be clearly stated on the Finance Form submitted with the application. Indirect costs should be charged in proportion to the total amount of staff effort (research and support staff) requested on the application for funding. The **NIHR GHR Finance Guidance** is available online.

**UK Research and Innovation** (UKRI) comprises the UK’s seven research councils. They established a Global Challenges Research Fund that supports cutting-edge interdisciplinary research to respond to emergencies in LMICs and to strengthen the research and innovation capabilities of researchers in both the UK and LMICs. UKRI allows an overhead rate to be covered at **20% of salaries and other staff-related costs** to countries that are classified as LMICs by the World Bank or as ‘least developed countries’ by the United Nations. Non-staff related direct costs (such as equipment, consultancies and conferences as well as travel and subsistence) are not covered. More information about the Global Challenges Research Fund is available online.
CASE STUDIES
How some multilateral funders support indirect costs

The EDCTP funds clinical research to accelerate the development of new or improved drugs, vaccines, microbicides and diagnostic tools for HIV/AIDS, tuberculosis and malaria as well as other poverty-related infectious diseases in sub-Saharan Africa, with a focus on phase II and III clinical trials. Their Financial Guidelines for Beneficiaries are available online.

The European Commission sets the ICRR and this is applied as a flat rate regardless of grantees’ own systems. The rate is calculated automatically within EDCTP’s budget template and they require no supporting evidence. As of 2019, the ICRR was set at 25% and this is calculated as follows:

(Total eligible costs – subcontracting costs) x 25%

The AAS defines indirect costs as overhead expenses or ongoing operational costs incurred by the applicant organization on behalf of the organization’s activities and projects that are not easily identified with any specific project; administrative or other expenses which are not directly allocable to a particular activity or project, and expenses related to general operations of an organization that are shared among projects and/or functions. The ASS provides a comprehensive list of examples of indirect costs and allows a maximum of 15% of the total project cost. The AAS Cost Guidelines are available online.

CASE STUDIES
How some LMIC funders support indirect costs

Colciencias is the Colombian government’s science agency (also known as the Administrative Department of Science, Technology and Innovation) and the largest source of research funding in the country. Colombia has recently voted to create the nation’s first Ministry of Science, Technology and Innovation. The science ministry will take shape through a restructuring of Colciencias. In 2020, Colciencias was reimbursing indirect costs at a rate of 7%.

The São Paulo Research Foundation (FAPESP) is a public foundation in Brazil, with the aim of providing grants, funds and programs that support research, education and innovation in public and private institutions in the state of São Paulo. Three types of research overheads can be covered:

- Amounts granted to PIs and co-PIs to enable their participation in scientific meetings and in short-term research internships outside of São Paulo. These amounts are defined in the terms of the grant.
- Research infrastructure – a maximum of 15% of the total initial grant can be spent on infrastructure directly related to the research project, including items such as minor building renovations and data management.
CASE STUDIES
How some LMIC funders support indirect costs (continued)

- Institutional infrastructure – a maximum of 10 to 20% (depending on the type of grant) of the total grant is awarded for this and funds must be spent as specified in an ‘Annual Plan for Institutional Research Infrastructure’, as approved by the research institution.

The Science Granting Councils Initiative is a multi-funder initiative that aims to strengthen the capacities of 15 science granting councils (SGCs) in Eastern, Southern and Western Africa. As part of the initiative, an annual benchmarking survey is performed by the Association of Commonwealth Universities. One of the survey questions seeks to establish whether the Councils cover indirect costs on their awards (excluding awards for PhD and master’s degrees, etc.). Results of the 2018 survey showed that eight of the 13 SGCs (61.5%) that responded do not fund any indirect costs; one SGC funded indirect costs on some awards; one funded indirect costs on all awards, and three selected ‘not applicable’ as they had not disbursed awards in that year.

Vietnam’s National Foundation for Science and Technology Development (NAFOSTED) has been operational since 2008. It is a legal entity affiliated with the Ministry of Science and Technology (MOST), funding research and research capacity development. Grantee organizations can estimate their expenditure on research management, costs linked to utilities required for research activities, and the costs of staff providing indirect support. These are covered up to 5% of the total project cost, but may not exceed a limit specified in a government guideline. The guideline is available online.

Distributing recovered indirect costs

Recovered costs represent a reimbursement of costs already incurred by an institution and a way that institutions can attain and ensure their sustainability. Accordingly, every institution has to develop a cohesive rationale for the management and reallocation of recovered indirect costs.

Generally, recovered funds are allocated at the discretion of institutions’ governing bodies but the process often becomes contentious.

For this reason, it is now widely accepted that the best practice is to have a clear institutional policy that ensures transparency and understanding. This can form part of the policy on indirect costing or be kept separate. Although different institutions manage recovered indirect costs differently, the amounts are often recorded in a central budget, and are distributed to offset ongoing indirect expenses.
CASE STUDIES
Managing and distributing recovered indirect costs

The University of Botswana distributes recovered overheads to reward researchers and encourage them to develop and submit further grant proposals. The university has a Special Projects Office that recovers overheads on grants and contracts within a month of funds being deposited into the university's bank account, and these are distributed as follows:

- 45% to the main research account of the researcher/s involved in the grant or contract, to be used for any research-related activity such as conference attendance, purchase of hardware or software, hiring research assistants etc.
- 25% to the university to be used for internally funded research.
- 20% to the school/institute/center involved in the grant for the purchase of research-related consumables, hiring of staff, small equipment, teaching aids, etc.
- 10% to the university's research and development office to support capacity building, statistical databases and packages, ethics and other discretionary research-related activities.

At Nigeria’s University of Ibadan recovered indirect costs are distributed in accordance with a university-approved formula and shared between the central university budget, the faculty and the department responsible for the research project. The university also has a Research Development Fund, the primary function of which is to develop capacity in grantsmanship. This fund receives income from several sources including 1% of the university’s share of indirect costs recovered from research grants.

Morocco’s National Agronomic Research Institute (INRA) is based in the Ministry of Agriculture, and their ICRR is stipulated by law. A rate of 20% applies to grants received from non-state funders, and recovered funds are managed as part of an off-budget account.* From here 10% is used to support research and 10% is allocated to INRA’s general budget to cover organizational costs. INRA has a process to approve indirect costs lower than the stipulated rate, but they seldom approve projects where the ICRR is below 5%.

* An off-budget account is part of INRA’s budgeting system used for non-state funds. It is separate from the accounting system used for their general budget as received from the Ministry of Agriculture. As such, the account is flexible, not locked into the government’s financial year, and can be adapted to meet funder requirements and project needs.
## RECOMMENDATIONS FOR GOOD PRACTICE

<table>
<thead>
<tr>
<th>Funders</th>
<th>Institutions</th>
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<tbody>
<tr>
<td>Recognize indirect costs as necessary to the sustainable delivery of high quality project/program outcomes and find ways to routinely cover these costs.</td>
<td>Develop transparent, defendable research costing and pricing systems relevant to your context, and use opportunities to benchmark and share what is learnt from this.</td>
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<tr>
<td>Discuss this issue internally and with other funders to find ways to better support both the direct and indirect costs of research.</td>
<td>Calculate an ICRR that covers the cost of all infrastructure and support necessary to sustain competitive research.</td>
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<td>Be aware of the power dynamics that arise when funding collaborative cross regional research by institutions that have radically different access to infrastructure and other resources.</td>
<td>Periodically review the ICRR in line with variations in costs.</td>
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<tr>
<td>Be mindful of how your funding policies can encourage good research costing and pricing practices at grantee institutions.</td>
<td>Create and document fair and transparent policies on how recovered indirect costs will be distributed and used to support institutional sustainability.</td>
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<td>Establish a mechanism to monitor cases where full indirect cost is not recovered as data input to sustainability planning.</td>
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<td></td>
<td>Seek to improve efficiencies in the system to reduce indirect costs.</td>
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<td></td>
<td>Continue to engage in dialogue with funders to encourage improvements in policies and practices related to the full costing and pricing of research.</td>
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<td>Demonstrate to funders what the full costs of projects are and what the consequences of underfunding will be in light of decrease in unrestricted/discretionary funding.</td>
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<td></td>
<td>Optimize cost recovery by negotiating to include indirect cost items as direct costs if the funder does not cover the institutional ICRR fully.</td>
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Key 5: Strengthening capacities for grants management

The benefits of research management in enhancing the sustainability of research and of research institutions are increasingly clear. Globally, research management has evolved as a professional role within the research enterprise.

Consequently, every year, more professionals are being trained and employed to carry out this work in LMICs. However, the development of this strategic and niche capability requires institutions to recognize and value individuals’ abilities so that their contributions can be optimally integrated and applied.

One funder commented:

> We now assess an increasing, if still modest, number of LMIC-based research organizations as ‘low-risk’ because they have stronger administrative and management capacities.

Even so, there is much room for improvement. For example, a 2019 study of 200 universities in Africa showed that around 30% possess administrative units that manage research grants and systematically review and approve grant proposals. In a 2014 study, researchers in LMICs reported that they spend up to 50% of their time on research-related administrative work rather than on the research itself. Another study from Brazil reports that researchers there spend, on average, 33% of their time solving ‘red tape’ issues related to drafting grant proposals and research management.

While funders can play a significant role in strengthening sustainable research management capacity by expanding allocations for indirect costs, institutional commitment and investment is equally crucial. Institutions have to move beyond awareness of the importance of research management, and establish consistent institutional policies and systems, including those for grants management and research costing, that are run by well-trained personnel.

Accordingly, in Key 5, the focus is on:

- Exploring the responsibilities and competencies required for grants management. Research management embraces many other functions (see definition in Key 2). The focus in Key 5 however is mostly on grants management because of its role in preparing project budgets and managing recovered indirect costs.
- Listing some of the funding and training initiatives that support capacity development in this field.

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NOTES FROM THE FIELD
Funders do fund research management

Just 13% of the funders surveyed reported that they do not support research management. Those that fund research management do so in different ways:

- Through allowable indirect costs.
- Through direct costs, including training, salaries for administrative and support staff, review costs and data management costs.
- Via specific grants such as the NIHR Financial Assurance Fund (see below).

However, under- and over-costing is still often evident in grant applications, and this poses a financial and audit risk to both funder and grantees. Some funders have responded to this by offering to fund skills development or providing other types of support to enhance capacity. Grantees suggested that grant conditions could specify that, where institutions that do not yet have transparent research costing and pricing systems, a portion of the institutional indirect costs have to be allocated to fund the strengthening of research management capacity.

Roles and responsibilities involved in grants management

Research management involves a range of functions that together can ensure the successful implementation of research programs and projects. Grants management is one of these functions and it is a key enabler of the effective management of research funding. The research grant cycle and the support required during the different stages of the cycle is shown in Table 3.
| Pre-award                  | Find funding  
|                          | Gather and disseminate information about relevant funding opportunities. |
|                          | Prepare proposal  
|                          | - Apply standard operating procedures to develop and approve proposals.  
|                          | - Develop templates and tools to support proposal development and accurate budgeting.  
|                          | - Assist with and review aspects such as compliance with funder and institutional policies/guidelines and regulatory requirements. |
|                          | Submit proposal  
|                          | - Arrange for sign-off, submit the proposal to the funder and assist with requests for additional submissions or changes from funder. |
|                          | Finalize award agreements  
|                          | - Support the development and finalization of the grant agreement and other grant-related agreements. |
| Post-award                | Set up grant account  
|                          | - Establish and manage a grant account and oversee financial compliance. |
|                          | Monitor compliance and reporting  
|                          | - Assist with grants monitoring and compliance and serve as the liaison between the institution and the funder.  
|                          | - Support financial administration and reporting. |
|                          | Close-out  
|                          | - Finalize the project account, close it in the institutional financial system and ensure correct records are retained. |
Like most other research management functions, grants management is a people-oriented function, in which the ability to engage with individuals and groups at different levels, and across cultures and borders, is important. For this reason both technical and soft skills are equally important, as seen in Table 4.

<table>
<thead>
<tr>
<th>Competency</th>
<th>Description</th>
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<tr>
<td><strong>Accuracy</strong></td>
<td>Attention to detail in accomplishing grants management related tasks.</td>
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<tr>
<td><strong>Administrative skills</strong></td>
<td>For processing applications, budgets and contracts.</td>
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<td><strong>Analytical thinking</strong></td>
<td>To analyse and interpret legislation and policies/guidelines; develop/contribute to guidelines, templates and tools, identify and access risks; review proposals, budgets and reports.</td>
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<td><strong>Conflict management</strong></td>
<td>Use relevant approaches to manage and resolve concerns, disagreement, and conflict.</td>
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<tr>
<td><strong>Creative thinking</strong></td>
<td>Construct budgets; embrace new technologies, techniques and working methods; apply good practice and welcome fresh ideas from inside and outside the organization.</td>
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<tr>
<td><strong>Data and information management</strong></td>
<td>Gather, maintain and manage information and data, including the storage and protection thereof.</td>
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<tr>
<td><strong>External awareness</strong></td>
<td>Keep track with the funding and research policy and regulatory landscape and its relation to the institutional research priorities.</td>
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<tr>
<td><strong>Interpersonal and communication skills</strong></td>
<td>Develop and maintain relationships at various levels inside and outside of the institution; communicate and comment on, verbally and in writing, research related matters; foster and respect cultural and individual differences.</td>
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<tr>
<td><strong>IT literacy</strong></td>
<td>Use relevant systems and software for grants management; use technology to optimize governance, performance and processes.</td>
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<tr>
<td><strong>Knowledge of the research process</strong></td>
<td>Understand the research cycle; appreciate what motivates researchers.</td>
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<tr>
<td><strong>Negotiation and influencing skills</strong></td>
<td>Where relevant negotiate with researchers, managers, funders; ensure that compliance requirements are met; gain buy-in for institutional policies and processes.</td>
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<tr>
<td><strong>Networking</strong></td>
<td>Benchmark and share good practice; develop and maintain professional contacts and relationships.</td>
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<tr>
<td><strong>Numeracy</strong></td>
<td>Basic knowledge of accounting and the principles of research costing and pricing; review project budgets.</td>
</tr>
<tr>
<td><strong>Organizational knowledge and awareness</strong></td>
<td>Understand the institution’s business processes, policies, priorities, research relationships and external influences.</td>
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<tr>
<td><strong>Problem solving</strong></td>
<td>Assess situations, identify problems and recommend solutions; deal with inconsistencies.</td>
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<tr>
<td><strong>Project management</strong></td>
<td>Oversee projects; understand the full funded project cycle.</td>
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<tr>
<td><strong>Self-management</strong></td>
<td>Prioritize goals and meet deadlines; maintain high work standards even under pressure; be aware of developments in the area of specialization.</td>
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<tr>
<td><strong>Training and development</strong></td>
<td>Design and facilitate grants management training; coach and mentor early career researchers and grants managers.</td>
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Building skills and capacity linked to grants management

While institutional commitment and investment is essential for developing sustainable capacity, funders play a significant role through funding of indirect costs and through various capacity strengthening initiatives and targeted funding models. The need for deeper coordination between funders in these regards is clear.

However, capacity strengthening also has to be carried out in harmony with institutions’ needs, and with an emphasis on transparent communication between management, support staff and funders. The growing awareness of the importance of research management within institutions has seen the emergence of a pool of individuals who wish to develop their skills and become professionals, but the lack of training and career opportunities is a barrier to recruitment and retention.

In-house training options
Several research institutions with more established research management services offer in-house training. Even though research management staff can benefit from some of this training, it mostly targets researchers. To strengthen their research management capacity, some institutions also pay for staff to undergo training and mentorship, as well as consider work exchanges and courses offered by credible external providers and professional associations. In LMICs, professional associations for research management can be found in Brazil, the Caribbean, Malaysia, and Central, Eastern, Southern and Western Africa (see https://inorms.net/membership-directory/).

Funder-linked training opportunities
Some funders also offer training to develop grantees’ knowledge, skills and experience particularly related to the funder’s own regulations, guidelines, processes and management of their grants. As funders increasingly recognize the importance of research management in the research ecosystem, dedicated initiatives to support capacity development in this area in a structured and targeted way. There seems to be an increasing number of opportunities to strengthen institutional or system-wide research management capacity.

NOTES FROM THE FIELD
Support for training and capacity development

A small percentage (4%) of grantees indicated that their institutions do not support training in grants management. About half (44%) of the institutions offer in-house training and 21% encourage their support staff to attend training offered by external providers. One grantee noted that support for capacity building in finance, procurement and grants management within her institution is increasing.
The **São Paulo Research Foundation** (FAPESP), a public foundation in Brazil, established a Training Program for Implementation of an Institutional Support Office for Researchers (EAIP) in 2010. The four-day program offers training on FAPESP grants and grants management, and includes topics such as proposal preparation and submission, financial administration, auditing and accountability. A year after the training the participating institution is visited by an EAIP program manager to check on progress that has been made and to assess the need for further support.

The **EDCTP** offers financial and project management training for financial and project management staff through workshops held in Southern, Western, Central and Eastern Africa.

The **National Institute of Allergy and Infectious Disease** (NIAID) supports the understanding, treatment, and prevention of infectious, immunologic, and allergic diseases. NIAID offers workshops on grants and contract management for PIs, grant administrators, business managers, and budget coordinators from various countries. Issues such as grant and funding policies, the preparation of progress and financial reports, and subcontracting are addressed. While these training events have helped many, NIAID has realized that they are often too short and the cost of travel makes them unaffordable. Consequently, NIAID now supports the Global Infectious Disease Research Administration Development Award. This provides senior administrators in LMICs with advanced training in grants management. On returning to their institutions, these administrators are expected to train others and serve as a resource for other local or regional institutions that are funded by NIAID.

A wide range of research management initiatives serve both individual institutions and the broader research systems in LMICs. While these vary in size and scope, they all attempt to strengthen and enhance research management capacity.

**Financial Assurance Fund** (FAF) is a funding mechanism providing existing award holders with the opportunity to strengthen capacity in financial and risk management among collaborating partners. It is funded by the NIHR through their Global Health Research Programme.

**India Research Management Initiative** (IRMI) facilitated conversations on research management during a 12-month pilot project with 31 Indian institutions. Insights from the pilot guided the establishment of a five-year program that is running from 2019 to 2024. While Indian institutions have robust financial management processes in place for grants, a small number have made a start with additional research support. The program focuses on strengthening research management services; supporting training, career development and networking opportunities for research managers;
CASE STUDIES
Institutional or system-wide capacity strengthening initiatives (continued)

building national and international partnerships for knowledge and resource exchange; and creating a community of practice for research management in India. It is funded by the India Alliance, a partnership between The Wellcome Trust and the Department of Biotechnology, Government of India.

Organizational Effectiveness Program (OE) provides targeted support to grantees to build capacity in areas such as strategic planning, succession planning, financial planning, board development and governance, and communication strategies. It is funded by the William and Flora Hewlett Foundation.

Research Management Programme in Africa (ReMPro Africa) aims to fill critical gaps in research management to ensure a strong research ecosystem, and maximize the quality and output of research. It focuses on institutional leadership, sustainability, standards and individual capacity strengthening. It is funded by the Wellcome Trust, UKRI, DFID, NIHR and The Royal Society.

Strengthening national research and innovation capacities in Vietnam (ENHANCE) operates at a macro level targeting the country’s higher education system, and particularly research and innovation management. By 2020, about 4,700 academics, researchers, managers and students had received training on research management and research funding. Six research management units have been set up or strengthened at participating Vietnamese institutions; a white paper with recommendations to improve research and innovation management in Vietnam was produced and a network of the participating research management units were formed. It is funded by the EU Erasmus Plus Programme.

Think Tank Initiative (TTI) provided 43 policy research organizations in 20 countries across Latin America, sub-Saharan Africa and South Asia with core funding, combined with capacity development, monitoring, and advisory support from TTI staff and external experts, with a focus in a second phase on think tanks’ financial resilience. It is funded by the IDRC, the William and Flora Hewlett Foundation, the Bill and Melinda Gates Foundation, DFID, and the Norwegian Agency for Development Cooperation (Norad).

University Administration Support Programme (UASP) is managed by IREX, a global development and education organization. This program supports the development of research management capacity among mid- to senior-level research managers in 19 countries, including some in Africa. The program offers training as well as peer-to-peer learning and exchange. It is funded by the Carnegie Corporation of New York.

These are summaries of longer case studies; the full text is available with a set of other relevant cases at https://www.who.int/tdr/partnerships/essence/en/.
### RECOMMENDATIONS FOR GOOD PRACTICE

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<tr>
<td>See research management as a fundamental part of the research ecosystem and build research management capacity through supporting institutions’ indirect costs and capacity strengthening initiatives. New programs such as the ReMPro Africa and IRMI offer context-specific interventions and foster a community of practice while creating opportunities for international networking so that the impact of the different interventions can be monitored.</td>
<td>Recognize the value of research management at the highest level of leadership, and invest in people, systems and processes that are fit for purpose and allow for ongoing skills and capacity development.</td>
</tr>
<tr>
<td>Include the calculation of accurate ICRRs and the development of supporting policies for the implementation of ICRRs in capacity strengthening grants.</td>
<td>Accept that the skills requirements for research management include but encompass much more than general administrative skills.</td>
</tr>
<tr>
<td>Allow an allocation within collaborative grants that allow for institutions to share resources and experiences related to this issue in cost- and time-effective ways.</td>
<td>Support research management staff to regularly upgrade their skills through obtaining relevant training and participating in conferences and other networking events.</td>
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<tr>
<td>Support programs that address context specific research management capacity challenges and that encourage local governments to fund and otherwise support research management systems and skills building.</td>
<td>Institutionalize research management and create career pathways for research management staff.</td>
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<tr>
<td>Institute annual professional development targets for research management staff to ensure that capacity is developed in line with the institutional research strategy.</td>
<td>Explore cost-effective ways to train staff, and take advantage of training, fellowships and travel grants offered by funders for relevant conferences.</td>
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<tr>
<td>Work with researchers to include support for different aspects of research management in their grants as allowed by the funder.</td>
<td>Consider working with other institutions in their vicinity to jointly fund an expert trainer to develop a customized program to train several staff members instead of sending individual staff to training sessions.</td>
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The evolution of the Five Keys, 2012 to 2020

First edition (2012)

Discussion at the INORMS (International Network of Research Management Societies) conference in 2010 highlighted the challenges of research costing in LMICs. ESSENCE realized that its objectives put it in an ideal position to facilitate a dialogue between its members and research institutions in LMICs and initiated a study to examine the research costing practices of funders and grantee institutions. That study led to the publication of the first edition of this booklet in English, Spanish and French.\(^{21}\)

Training modules (2014)

After its release, the Five Keys was presented to audiences in many parts of the world and it became clear that supplementary training materials would enable ESSENCE to share the message of the good practice document more widely. A resource pack was produced to help trainers give short presentations and run in-depth workshops. This includes course notes for participants\(^ {22}\) and video interviews with funders and leaders of research institutions.\(^ {23}\)

Second edition (2020)

An update on the first edition was prompted by the recognition that although research environments are changing fast, research costing and pricing remains a burning issue for both funders and research institutions. As for the first edition, data was collected via two surveys. The funder survey yielded responses from 19 funders, including government funding agencies, not-for-profit foundations and multilateral/international organizations. The grantee survey yielded responses from 67 institutions including universities, research centers/institutes, science councils and not-for-profit organizations (collectively referred to as research-performing institutions or simply institutions) from 30 different countries in Southern, Eastern, Western and Central Africa, South and Southeast Asia, the Middle East and North Africa, the Caribbean and South America.

The survey data was supplemented by focus-group discussions, interviews with respondents, a literature review, and the development of case studies. Consultations conducted electronically and at relevant events helped test and improve the document.

Although the ESSENCE group is health focused, the study was not limited to institutions that conduct health-related research.
Recommended reading


A resource pack for trainers
Supplementing the ESSENCE good practice document
Using the five keys to improving research costing in low- and middle-income countries

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