

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



Case studies on
grants management
and research costing



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INTRODUCTION

These case studies offer the experiences and practices of grants management and/or research costing in LMIC institutions, including how indirect costs are applied to project budgets, how indirect cost recovery rates (ICRR) are calculated and how recovered indirect costs are distributed and used. Brief summaries of some of the case studies are presented in the main document. The case studies are relevant to aspects discussed in Keys 3, 4 and 5.

The case studies and other information contained in this document 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.

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EAST AFRICA

African Population and Health Research Center, Kenya

The African Population and Health Research Center (APHRC), based in Kenya, is a research institution and think tank, generating evidence to drive policy action to improve the health and well-being of African people. Its work is centered in three integrated programmatic divisions: Research, Research Capacity Strengthening, and Policy Engagement and Communications. Government funding contributes 22% and foreign foundations and NGOs contribute 71% to the total research income of the APHRC.

Research costing

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, indirect cost 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.

The recovered indirect costs are managed centrally. Other than covering operational running costs, funds are also used to enhance ideation workshops for researchers and support staff, conferences that may not be funded by projects, unfunded research dissemination exercises and policy engagement endeavors. The various units within the organization are required to submit their unrestricted/institutional funding support needs each year to enable streamlined planning for allocations.

Initially, the APHRC experienced some challenges in getting buy-in from research staff who did not understand the importance of full organizational cost recovery. However, through constant awareness building in one-on-one meetings with the director of operations and the finance manager, as well as presentations during senior management meetings, this slowly changed. During the latter meetings, the presentations normally entailed sharing the ICRR vis-à-vis what the organization had actually recovered as a whole (which was always less than the cost), what specific research units had recovered and the implications of under-recovery. With time, research staff and support staff became more careful about properly factoring indirect cost recovery into proposal development and negotiating with funders accordingly, accepting low rates only in cases where funders would provide other benefits that would help contribute to organizational sustainability.

The APHRC believes that efficiencies in their system help to keep their indirect costs at a reasonable level. Some of these efficiencies include:

- Streamlining organizational needs from various units or departments and then prioritising the core ones or combining certain activities that appear similar, and
- Using an integrated system, such as an enterprise resource planning system, to help cut down on operational costs that may otherwise have been replicated.

Grants management

All services – finance, human resources, fundraising and grants management, information technology and facilities – are classified as operations units, each with a head who reports to the director of operations. A key success factor in effective budget development and management is the availability of knowledgeable and experienced financial staff and program accountants. Grants support and management is underpinned by a RACI (responsible, accountable, consulted, informed)



matrix that provides clarity and consensus around the related activities. It articulates roles, responsibilities, accountabilities and standards that help optimize the support provided to researchers.

Capacity strengthening

To develop capacity in grants management, researchers periodically undergo formal budget development training, apart from their informal training through working closely with program accountants. In order to facilitate skills development, support staff include training needs when they set annual performance objectives. The training is linked to the capacities and skills sets that have been identified for the administrative staff who support research and grants as part of a business development review exercise.

In the past, the APHRC has benefited from The Hewlett Foundation organizational effectiveness grants to support institutional strengthening. These grants provided targeted support to help strengthen internal systems, enabling grantees to do their work better and enhancing their impact, and helping organizational leaders to prioritize, justify and support capacity-building projects that would otherwise have been overtaken by events. The most recent award assisted the APHRC to enhance their business development processes to ensure organizational sustainability. Through this one-and-a-half-year grant, the APHRC was able to recruit external consultants to assist with fundraising and to assess their business processes, identify gaps and develop recommendations.

Lessons learnt

- Optimize cost recovery by negotiating to include indirect cost items as direct costs if the funder does not cover the institutional ICRR fully.
- Establish a clear policy that is communicated and understood by all parties.
- Improve efficiencies in the system to reduce indirect costs.
- Articulate clearly the roles, responsibilities, accountabilities and standards for all involved in the grants support and management process.
- Invest in capacity development for research and support staff.
- Maintain good formal and informal relationships with funders by meeting funder requirements, participating in events hosted by funders, attending technical assistance sessions offered by funders, receiving generic mails sent by funders and joining professional networks of which funders are a part, such as the Association of Fundraising Professionals.

Makerere University School of Public Health, Uganda

Makerere University School of Public Health (MakSPH) is Uganda's largest and third-oldest institution of higher learning. MakSPH is one of the schools comprising the Makerere University College of Health Sciences. The school has four departments including health policy, planning and management, epidemiology and biostatistics, disease control and environmental health, and community health and behavioral sciences. MakSPH research contributes to knowledge through over 150 publications annually.

Grants management

In general research support at MakSPH is focused on grants management. The Grants Administration Secretariat (GAS), established in 2013, provides pre- and post-award grants management support to MakSPH faculty and research staff through three full-time staff members. The secretariat falls under the MakSPH Finance Management Unit and is a 'one-stop' point of information for staff submitting proposals to funders. GAS is funded through indirect costs recovered from externally funded research grants. Their services include the identification of funding opportunities, budget development, proposal submission,



responses to donor due diligence checks and compliance management for contracts, grants and sub-awards. The MakSPH grants committee guides the activities and operations of GAS, while the central directorate of research and graduate training plays an oversight role.

GAS has developed a grants procedures manual to assist faculty, research, administrative and other staff involved in the grant writing and management process. The manual provides clear guidelines for programs and projects sponsored by external entities, using grants, contracts and cooperative agreements to enhance communication, to increase collaboration, accountability and proper donor stewardship, and to ensure that management is aware of the commitments and obligations made on behalf of the institution.

All research budgets must be approved by GAS before submission to a funder; the authorized organizational representative will not sign off any proposals that have not been routed through GAS. As part of the approval process (using a proposal transmittal form), the researcher is required to declare financial and any other conflict of interest in order to effectively manage these prior to implementation.

To guide budget development and harmonize the costs related to doing research, GAS has developed tools such as budget templates and budget justification templates, as well as standard rates for the costs of research facilitation, such as per diems, the safari day allowance and fuel for fieldwork. They have also created a checklist of the critical items that must be considered in the development of research budgets including, for example, annual inflation rates, annual base salaries, fringe benefit rates and institutional ICRR. Currently grants management is primarily done using Microsoft Excel.

MakSPH believes that offering a one-stop point for grants support and management where performance is tracked and risks are identified and managed increases donors' confidence in the institution's management structures and processes. Even though there is an established grants management process, MakSPH does experience challenges with researchers who act independently instead of working through GAS. It is difficult to enforce utilization of the service if there is not a firm directive from management. However, grants management is still a relatively new phenomenon and buy-in and support will most probably be achieved over time as the benefits are demonstrated.

Research costing

Indirect costs are identified as costs that are incurred for common objectives and therefore cannot readily and specifically be identified with a project or activity. These costs include utilities (3%), space (2%), equipment maintenance (3.5%), general administrative services costs (4%), depreciation/use of buildings and equipment (1%), library services (0.5%) and bank charges (1%). The institution's policy therefore stipulates that indirect costs must be charged at 15%. If the funder's policy does not allow this, indirect costs should be itemized as direct costs. The ICRR of 15% has been in use for approximately the past seven years.

Lessons learnt

- Provide tools to support accurate budget development.
 - Offer a one-stop point for all grants management information, enquiries and support.
 - Support from management is absolutely essential to fully implement a grants management service.
 - Work with researchers to include support for different aspects of grants management in their grants when allowed by the funder.
 - Include indirect cost items as direct costs where possible if the funder has a limitation on the ICRR.
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Moi University School of Medicine and Moi Teaching and Referral Hospital, Kenya

Moi University School of Medicine (MUSM) and Moi Teaching and Referral Hospital (MTRH) in Eldoret, Kenya, joined forces with the Indiana University School of Medicine (IUSM) in 1989 to promote collaboration between American and Kenyan medical doctors, scientists and students. This collaboration led to the establishment of the Academic Model Providing Access to Healthcare (AMPATH) which is a partnership between MTRH and a consortium of US medical schools, led by IUSM. Built on a tripartite mission of care, education and research, AMPATH's care system is the foundation for a robust research program with over 140 active research protocols involving partners from 20 institutions in Africa, Europe and North America. AMPATH's research program is focused on improving the healthcare people receive in Kenya and other resource-constrained settings around the world.

Grants management

With its growing research portfolio and increasing requirements from funders the need for grants management infrastructure became clear. Researchers have to focus on the science and needed a 'one-stop shop' for fundraising activities. In addition, the institution had to demonstrate accountability for the management of funding resources. The AMPATH grants management infrastructure comprises the research and sponsored projects office (RSPO), the institutional research ethics committee (IREC) and the research program office (RPO). These units collaborate closely with other entities involved in research support such as research working groups, the informatics platform, human resources, and those responsible for maintenance or provision of buildings and other physical infrastructure.

The RSPO, managed by the AMPATH Board and reporting to the AMPATH executive directors, currently manages over 140 grants with a cumulative value of US\$ 130 million. RSPO services are provided through four sections, namely: Contracts and compliance; Finance; Human resources; and Supply chain management. The RPO is the coordinating hub for all research activities at AMPATH, including policies and procedures for research in Kenya, new study development and review processes, study implementation support, research facilities and rental spaces, teleconferencing and room scheduling, mentorship and training for research personnel, and support for submissions to the institutional review board or to IREC.

Research costing

The establishment of a grants management infrastructure has significantly contributed to the exponential increase in research grants. Consequently, indirect costs can consistently be recovered and used to support institutional sustainability. The indirect costs policy requires that 10% of direct costs be budgeted as indirect costs. This ICRR was set by the Board. The policy has a stipulated process for approving a reduced rate or waiving the rate. The recovered indirect costs are primarily used to meet the costs of research administration and the infrastructure that supports research.

It is a challenge to recover indirect costs from funders. Not all funders allow indirect costs and some have set a very low allowable rate that is not negotiable. Lack of a calculated rate puts MUSM and MTRH at a disadvantage in their attempts to advocate for higher rates with donors. An in-depth study is planned for the future to determine the actual ICRR.

To limit the risk of under-recovery, MUSM and MTRH request funders to include indirect costs as part of the direct costs, during proposal development. They have, for example, cited strengthening research administration as one of the objectives of research projects and therefore get funding for capacity building/infrastructure, such as the ERP system that is currently supporting RSPO business processes.

Capacity strengthening

The RSPO and its interface with the IREC and RPO has been strengthened through an International Extramural Associates Research Development Award (IEARDA) from the US National Institutes of Health (NIH). This award resulted in the following outcomes, to name a few:

- An increase in the scope, diversity, quality and number of funded research projects;
- The introduction of electronic research administration through an ERP system covering all RSPO's business processes;
- The development of operational manuals including manuals for grants management, procurement and finance;



- Regular training on grants management that has now developed internal capacity to offer in-house training, and
- Professional research administration certification from a US-based agency and master's level qualifications in research administration for RSPO leadership from a US-based institution.

AMPATH continues to encourage and support staff to obtain certification and qualifications and to attend quality training events. Staff are also encouraged to become members of local professional associations such as the Eastern Africa Research Innovation and Management Association (EARIMA), as well as international professional associations. North–South mentorship through the longstanding collaboration with the Indiana University School of Medicine was invaluable in developing internal capacity in grants and financial management.

Lessons learnt

- Institutional buy-in and support for change processes is essential.
 - Do not try to change everything at once – start small and grow.
 - Tapping into networks and collaborating with experienced organizations can save costs and time.
 - The institution has to invest in training and capacity development.
 - Although grants to fund infrastructure are few, these have to be targeted to ensure that the infrastructure can support competitive research.
 - The whole institution has to be engaged in constant learning and improvement and requires leadership to drive this.
 - A collegial and conducive research environment is important.
 - Recognize that professional research managers currently do not exist in LMICs and hire people with strong capabilities and offer them adequate professional development opportunities.
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SOUTHERN AFRICA

Catholic University of Angola

The Catholic University of Angola (UCAN) is a private institution located in Luanda, Angola, which commenced operations in 1999. The university has five colleges and a number of institutes including three research centers, of which the Center for Scientific Studies and Research (CEIC) is one. CEIC was established in 2002 and is a non-profit research and service center, mainly aimed at fostering fundamental and applied scientific research. It encourages research in various disciplines and supports the development of research projects, organizing conferences, lectures, debates, seminars and other events. CEIC supports UCAN not only in developing its research and teaching potential, but also in contributing to the development of national capacities in the formulation and evaluation of public policies and development strategies.

Research costing

Although the CEIC do not have a written indirect cost policy, their agreed ICRR of 30% is based on the principles of analytical accounting. The total cost of the center is made up of fixed and variable costs. Grants contribute 30% as an indirect cost to cover administrative and other fixed costs. Thus, for each research project, a 30% indirect cost is added to the daily or hourly rate charged for the work to cover these costs.

Capacity strengthening

Through a grant from the Royal Norwegian Embassy in Luanda, the CEIC was able to strengthen their grants management systems by developing and implementing a timesheet policy and structuring the accounting system and processes in line with international standards. In the context of this grant they worked with the Norwegian research institute, Chr. Michelsen Institute (CMI), based in Bergen. The administrative staff and the researchers at CEIC received training in the management of research projects and grants.

Lessons learnt

- It is important to budget accurately and to ensure that the grant can cover all the costs related to each research project.
- Timesheet records are crucial for research costing purposes.
- The indirect cost policy has to be well thought through and designed to ensure that all indirect costs are covered.

College of Medicine, University of Malawi

The College of Medicine (COM) at the University of Malawi (UNIMA) was established in 1991. It is both teaching and research orientated and runs two research structures that each have slightly different administrative systems. The first are units that are large and well-resourced enough to run their own administrative systems. The second are smaller (or newer) units that depend on COM's own central systems and procedures. COM subscribes to UNIMA's research and consultancy policies but applies these by developing college-specific guidelines suited to its own requirements and context.

Grants management

Having experienced an increase in research activity over the years, COM realized that its support systems for the development of new research proposals and the management of existing grants were inadequate. They therefore applied for a grant from the North American Coalition for Christian Admissions Professionals (NACCAP), a program that was funded by the Netherlands Organisation for Scientific Research. Through this grant, and in partnership with the Emma Children's Hospital in Amsterdam and the Liverpool School of Tropical Medicine, COM was able to establish its Research Support Center (RSC), which now coordinates and supports all of COM's research programs.



Managing grants centrally requires a change in mindset for those not used to such an approach. Although it has happened slowly, buy-in from the researchers has been facilitated through the value added by the RSC – the RSC provides a portal through which researchers can access specific services and support. The RSC now has a well-established structure and a team of experienced staff including a director, a senior clinical research associate, a training coordinator, a data manager, an assistant marketing and communications officer, a grants compliance officer, a risk analyst, a human resources officer, a procurement assistant, grants accountants, a grants manager, a data officer, an office assistant, and an administrative assistant.

The RSC has established grants management guidelines and manages a database of all grants and funds within the COM. The RSC aims to be self-funded, and to cover their costs from a portion of the indirect costs charged to research grants.

Research costing

The UNIMA's research and consultancy policy stipulates 10% as the ICRR. The policy also stipulates how the recovered costs are to be shared: they are primarily used to strengthen the research environment. Specifically, they support an ethics review committee, ICT, the library, COM administration and research, and the publications committee. Furthermore, the COM department that hosts a particular research program receives a proportionally larger portion of the recovered funds, which they can use to support further research and to encourage researchers to apply for additional grants. In addition, since staff retention is a real challenge, some funds are allocated to support a staff-retention scheme for staff returning from studies abroad.

To manage the recovery of indirect costs, the database is linked to the Institutional Review Board (IRB). Projects are not submitted to the IRB if indirect costs are due to COM. The recovery of indirect costs is waived only in COM-funded student research projects but approval for this has to be obtained from management.

The actual indirect costs are not known and the institution carries any shortfalls that might arise. Over the years, COM has noted that the stipulated 10% ICRR is not sufficient and that certain critical areas supporting research are not benefiting as they should from recoveries. Consequently, the institution is currently undertaking an exercise to establish a more realistic ICRR, sharing proportions and sharing units. This is being done with an internal team comprising staff working at COM and its research affiliates.

Negotiating with funders for reimbursement of the ICRR has been a challenge for COM. The college estimates that for 98% of grants, funders simply cite their own policies on costs; that is, funders specify which costs are capped at a low percentage or not covered at all, and refuse to engage with the issue. The remaining 2% of grants are for contract research, and for these, costs can sometimes be negotiated with a higher degree of success. The RSC's current strategy is to try and negotiate for relevant activities and items to be included as direct costs within the main budget if the indirect costs are not fully funded.

Lessons learnt

- A realistic strategic plan and business plan was essential to ensure sustainability of the RSC beyond the NACCAP funding. A key part of the strategy is the recovery of indirect costs to cover the costs of the RSC.
 - Buy-in from management and staff is critical for the success of the RSC. Without the support of COM management, the RSC would not have the mandate to centrally manage all COM research grants.
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Lúrio University, Mozambique

Lúrio University is a public institution in northern Mozambique that was created in 2006 and started operating in 2007. The Faculty of Health Sciences was the first operational faculty and started with three undergraduate programs and 20 academics, almost all with bachelor's degrees. Currently the university has eight undergraduate programs and four master's programs. The university has 108 full-time academics, with 55% in possession of a master's degree or a PhD. There is a drive in the faculty to grow research: the university continues to invest in academics improving their qualifications, and the undergraduate curriculum includes research-related modules so that over a study period each student will have completed four research courses. Research output is an integral part of the criteria for promoting academic staff. Another aspect of the university's vision is to establish a research support team that can assist researchers and help to build a research culture. In pursuit of this vision, a scientific committee has been established to oversee research activities.

Grants management

The faculty receives external funding from international donors such as Canada's International Development Research Centre (IDRC) and Denmark's Danish International Development Agency (DANIDA). The IDRC grant included funding for administrative support of a research implementation project on mother and neonatal mortality. The DANIDA grant, which is closing out, focused on nutrition, but also supported general strengthening of the institution's administration, including training for financial staff and the purchase of an electronic project management system, Primavera, which has been implemented across the university.

The faculty has a financial unit that started with one accountant, four years ago. There are currently four full-time accountants with defined roles to support the different missions (teaching, research, engagement) of the faculty. The accountants are familiar with the university's funders' rules and regulations, and provide academics with support in developing and managing project budgets. They make sure that the projects are realistically costed and that the university ICRR is included. Since funders use different terminology for the same thing, such as 'indirect costs' or 'overheads', and define what they can be used for differently, this can be challenging when working with grants from different funders.

Research costing

In 2018, the university's council delivered a policy directive that an ICRR of 10% should be charged on all kinds of income, including research grants. The university currently does not refuse grants if the 10% cannot be recovered, and recovers what it can, as allowed by different funders. Each faculty manages its own indirect cost income to ensure sustainability for their research.

Lessons learnt

- Developing a research culture and growing research activities takes time and requires a motivated research support team.
 - Qualified and experienced researchers are essential to achieve the institution's research vision.
 - Researchers have to focus on their research and need experienced support staff to assist them with grants management.
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National Intellectual Property Management Office and the University of Cape Town, South Africa

The National Intellectual Property Management Office (NIPMO) is a specialized service delivery unit within the South African Department of Science and Innovation. The University of Cape Town (UCT) is a research-led university, ranked first in Africa, and was a member of the task team that developed a university-wide research costing methodology.

Prior to the promulgation of the Intellectual Property Rights from Publicly Financed Research and Development Act (No. 51 of 2008, hereafter the IPR Act) South African public institutions costed and priced their externally funded research projects individually and according to their internal priorities and circumstances. With the pending enactment of the IPR Act, universities started to engage informally, to canvas support for the development of a sector-wide approach or set of principles for the costing of research, using the IPR Act as a catalyst. This eventually culminated in a meeting of deputy vice-chancellors responsible for research in 2011 where a task team, with representatives from various universities, was launched to drive the development of a draft approach to the costing of externally funded research. Initially the work of the task team was challenging, as some institutions were fearful of having an approach imposed on them or feared that they might be judged if they did not have a sound approach to research costing in place. It involved a long process of being inclusive irrespective of the university's research footprint and the state of their accounting systems. Once the benefits of having sector-wide principles was understood and accepted, the process moved more smoothly.

Over the next two years, the task team drafted an approach considering how costing was done at South African universities at the time and exploring approaches used by other universities, especially from countries where research collaborators or funders are based. The proposed approach was adopted by an association of public universities, Universities South Africa, and then accepted by NIPMO. Through consultation workshops with stakeholders, NIPMO finalized and issued their latest Guideline in August 2019. Institutions calculate their ICRR using the guideline and submit it to NIPMO for approval. Once approved, the institution is issued with a certificate that is valid for a two-year period. After this period each university individually updates its ICRR submission to NIPMO for re-approval.

An expenditure apportionment method is used to derive the university's ICRR that is then used to calculate the indirect cost recovery, which is added to the direct costs to obtain the full cost of the research project. The approach is detailed in the **NIPMO Guideline 5.1 of 2019**. This method is based on the US's federally determined, simplified Facilities and Administrative (F&A) rate. The sector chose this route for the following reasons:

- The activity-based approach, although theoretically superior, is relatively expensive to implement and maintain.
- The simplified expenditure apportionment approach should be manageable by all universities, given their accounting and reporting obligations to their stakeholders, unless the accounting system of the university does not comply with relevant generally accepted accounting and reporting standards. Major non-compliance with the relevant standards would have been highlighted by internal audit functions and during the routine annual audit which universities are subject to.
- The information requirements, especially at a high (university and major support department) level, should be met by the current audited report and underlying management accounting records.

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

Adoption of the approach by South African universities

All universities had to adjust their approach and methodologies to ensure compliance with NIPMO requirements. When a university adopts a full-cost approach, adequate internal consultation is required to ensure buy-in and support. Nevertheless, management ultimately makes the final decisions. The selected approach must meet most (if not all) of the needs of the research community within the university in the first instance, and directly promote financial sustainability.

Institutions with appropriately maintained and audited accounting records found it easier to adapt to the NIPMO requirements. This was also applicable to those who kept accounting/costing information at an appropriate granular level. Others who kept



information at a less detailed level were much more challenged, especially when differentiating between support departments and/or between research and non-research activities.

Direct costs are relatively clear cut, but heavily influenced by how the university records its costs per research project. In calculating full costs, it is important to include all staff costs that are directly involved with the research project and relatively easily allocable to the project, irrespective of how it will be or is funded.

Confusion arose in some cases regarding the distinction between direct research support costs and indirect support costs. Grey areas, for example the role and hence cost allocation of support services such as libraries, the registrar, student administrative support and alumni and marketing services, also posed a problem.

The coordinated approach resulted in a spectrum of ICRRs, ranging from 15% to 45%. Some of this can be ascribed to the quality of accounting records, and to blurring the distinction between research and non-research costs. Often low-research-intensive universities tended to have a higher ICRR. Although NIPMO allows (with proper motivation) for a differentiated ICRR per faculty, some institutions – for example UCT – strongly advocate against this as it is not an international (and hence major funder) norm and it mitigates against inter- and trans-disciplinary research collaborations. Having a sector-wide approach helps dampen (if not eliminate) the continual complaints from a section of academics who regard full cost recovery as unfair when other universities do not apply it. Through its Guide, NIPMO now provides the country's official benchmark and can identify the universities that require support to ensure proper compliance, thus improving their capacity for accurate and effective research costing. Adopting this approach has been an eye-opener for all universities as it highlighted the quality of their accounting/costing records as well as the efficiencies of their support systems.

The NIPMO system promotes financial sustainability in that it draws attention to the full costs of the proposed research project. Indeed, if the funder does not cover full project costs, many institutions now require that those budgets are approved by an institutional process, so that they can manage the necessary cross-subsidization. UCT regularly use the fact that the ICRR is certified by a statutory body when responding to funder queries and when negotiating indirect costs. Having a statutorily certified sector-wide approach provides significant assurance to their major funders that the ICRR is neither an arbitrary nor an unauditable figure. Over the years UCT has fielded many queries from a range of universities from within and outside South Africa and helped to reduce confusion and resolve contentious matters. UCT participates in a bi-annual forum of institutions (universities and other research institutions) in the Western Cape region where full cost is a standing item. The opportunity to share thoughts, challenges and possible solutions on a range of research finance related topics has been invaluable.

Lessons learnt

- Indirect cost recording/allocation tends to be more challenging than direct cost allocation, often impacted significantly by the quality of the management accounting system used: the more detailed/granular the system, the easier it is to allocate costs. It is in this area that the support of statutory bodies, inter-university forums and professional associations can play a major role in developing a common understanding of grey areas and how best to manage these, with no encroachment on the individual university's autonomy.
 - Having a transparent, auditable and defensible full-cost approach helps tremendously: when deciding whether to invest in a research project or not; in promoting financial sustainability by making all internal stakeholders aware of the full cost of the project; when evaluating the cost (and even quality) of support being provided by the university; to demonstrate credibility with major funders as well as negotiating a better position with funders; and when determining how best to improve efficiencies in the support system (the greater the efficiencies, the lower the ICRR).
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National University of Science and Technology, Zimbabwe

The National University of Science and Technology (NUST) was established in 1991 and is the second largest public research university in Zimbabwe, located in Bulawayo. Its research activities span seven faculties. Most research is funded by international funders or the institutional budget, as limited national opportunities exist.

In 2006, the vice-chancellor of NUST was the first to establish a research office in Zimbabwe. The research office consists of a director, a chief research officer and a research administrator. The office would like to expand to include a research uptake officer who would assist with the dissemination of research output, the production of a monthly research newsletter and the management of the university's two journals. Currently these tasks are carried out by an undergraduate intern.

Grants management

The external research grants portfolio is relatively small, with about five substantial grants being managed by the institution. Currently there is no standard procedure to channel research grant applications through the research office. Financial management of grants is the responsibility of the Bursar's Office with a financial manager dedicating a certain number of hours to the management of external research grants. One administrator in a separate office manages the institutional research grants. The university sets aside an amount of funding each year and researchers can apply competitively for smaller grants (US\$ 5 000–6 000) to support travel, conference attendance and other smaller research expenses.

Research costing

The institution was exposed to indirect cost recovery through the training workshops that were part of the NIH/FIC grant activities and through workshops ESSENCE on Health Research presented on their five keys to improving research costing document during Southern African Research and Innovation Management Association (SARIMA) conferences. The university has an unwritten policy requiring each grantee to pay a 15% indirect cost to the central budget. There are challenges implementing this in the absence of a documented policy and a clear understanding of why it is necessary and what the money will be used for. The 15% was not calculated specifically for the institution, but was benchmarked against the average rate of a group of other institutions at the time. Going forward, the priority is to develop a policy and to agree on a distribution model for the recovered indirect costs to ensure that the environments where the indirect costs are incurred benefit from the recovery of those costs. Once the allocation and recovery of indirect costs are institutionalized, the university will work on improving the accuracy of the ICRR calculation.

Capacity strengthening

The research office focuses on early career researcher development. As the office does not have its own budget, staff apply to a central staff development fund to support PhD studies in the region and participation in short courses and training on issues such as proposal development.

The University of Zimbabwe, as an NIH/FIC grant holder (through the Medical Education Partnership Initiative), was invited to submit applications for a one-year supplementary grant to foster, stimulate, or expand research administration capacity and training. The university partnered with NUST and the African University in Mutare, Zimbabwe, to participate in a joint project titled Zimbabwe Initiative on Research and Innovation Management (ZiRIM) and also involved the universities of Stanford and Colorado in the consortium. The grant supported the following local and international activities:

- In-country training programs on financial and grants management which were attended by financial managers and research administrators. Most presentations were made by experts within the partnership who had already had exposure to the NIH and related funding agencies. These workshops offered an opportunity to benchmark practices and to discuss local challenges prevalent at the time, such as aligning funder policies with institutional policies. It was particularly valuable for the finance staff to be exposed to international financial and grants management practices. In addition, the research financial principles could be transferred to other areas of operation.
- The local partners collaborated to develop a generic research policy that was then customized for each institution, approved by the Senate and implemented.
- Representatives from the Zimbabwean universities had a one-week learning visit to each of the US institutions (Stanford



and Colorado) at different time periods during the project. The institutions could choose what the focus of the visit should be within the broader scope of research management. The director of research at NUST went on the visit to Stanford, which focused on the different types and levels of research support offered across the research value chain. The second visit involved the head of finance in the Bursar's Office, in order to gain knowledge on research finance and grants management including the systems, processes and support required, as well as ways in which to minimize bureaucracy.

- Attending the conference of the Society of Research Administrators International allowed the universities to see what was at the forefront of research management internationally, and provided an excellent opportunity to network.

The project assisted NUST to prioritize actions to develop their financial and research support further: for example, the number of external grants did not warrant a fully online grants management system but there were bureaucratic bottlenecks that had to be addressed. The project led to tangible outputs such as a research policy, two conference presentations and a refereed journal article in *Academic Medicine* (see Mashaah T, Hakim J, Chidzonga M, et al., 2014. **Strengthening research governance for sustainable research: experiences from three Zimbabwean universities.** *Academic Medicine* 89: S69–72).

The involvement of the research director in the NIH/FIC project and his involvement in SARIMA led to discussions about a research management association for Zimbabwe that would serve as a platform for research managers across the country to share experiences and practices. To this end, a meeting was convened with research directors from 14 institutions in Zimbabwe. The meeting was funded partially through the SRIM (SADC Research and Innovation Management) program, funded by the South African Department of Science and Innovation and managed by SARIMA.

Lessons learnt

- Finance managers and research managers should establish a common understanding through regular engagement and training.
- Collaborating to develop a generic policy that can be customized saves time and effort.
- You have to start somewhere and cannot fix everything at once. Having a policy and a consistent approach to research costing will assist to build trust and confidence with funders.

Stellenbosch University, South Africa

Stellenbosch University (SU) in South Africa is a well-established, research-intensive institution on the African continent. In 2018, SU adopted its Vision 2040 and Strategic Framework 2019–2024, which sets out the institution's vision and its strategy for the ensuing five years, and confirms its intent to be Africa's leading research-intensive university, globally recognized as excellent, inclusive and innovative, where they advance knowledge in service of society.

Implementing a full-cost policy

In 2004 university management implemented a research levy of 12% of direct costs on all research contracts. This was driven by the need to have an instrument to recover research-related indirect costs for sustainability purposes, as these are a real cost for the university. There was no clear methodology to calculate indirect costs at the time and the 12% was based on the best estimate.

In 2010 the Intellectual Property Rights from Publicly Financed Research and Development Act (No. 51 of 2008, hereafter the IPR Act) was promulgated. This Act required the full cost of research and development as the basis of regulating intellectual property transactions with funders. All public universities and science councils in South Africa had to ensure that they could account for all direct and indirect costs in accordance with generally acceptable accounting practices (GAAP). The calculation



of direct costs was relatively easy; the challenge was to accurately calculate indirect costs. Since all universities were grappling with this a university membership organization, Universities South Africa, took the lead to coordinate the development of a sector-wide methodology. This methodology was not finalized until 2012/13. Consequently, as an interim approach, SU worked with their 12% research levy and tried to determine what it reasonably should cover. This investigation found that no provision was made for the use of facilities, including the proportionate electricity usage, municipal services, network services, and so on. Therefore, a space levy was added to the 12%, calculated on square meters of floor space and based on hourly usage, with the nuances that there would be a cost difference between a desktop study and a research-intensive study using laboratory services or using facilities from a public academic hospital for clinical trials. This new SU full-cost policy was implemented in 2010 following in-depth consultation with faculties. This first phase of policy implementation was purely to comply with the IPR Act.

In 2013 the second phase of policy implementation started, now using the methodology that was developed through Universities South Africa and approved by the National Intellectual Property Management Office (NIPMO) as the standard methodology to be used by all universities. For SU, in this second phase the driver was no longer compliance only but, more importantly, the need for institutional sustainability. A strict approach to reducing or waiving indirect costs had to be adopted. Research costing was done to ensure that all research projects were costed at least at full cost (break-even point). Deviations from full cost had to be approved by the dean of the faculty and approval could be granted only when there was a strategic reason to continue with the project and/or if the project would have a significant academic footprint (for example, academic publications, or delivering postgraduate students). Using the standard methodology resulted in an ICRR of 17%. Before implementation of this higher rate, consultations with faculties and other stakeholders took place.

In 2019 the ICRR was increased to 20%. This was done after an 18-month internal process through a task team of 30 internal stakeholders (such as senior researchers, deans, various units including information technology, research development, finance, facilities management, teaching and learning, short courses, the technology transfer office and top management) to reach consensus with university management. The increase was necessitated by the fact that the sector-wide methodology had not taken into consideration costs that are directly attributable to research support but are covered by sources other than the main budget of the university.

As do most universities, SU depends significantly on external funding for research and there is always a fine balance to maintain – trying to recover the full cost of research and keeping the costs low to improve the chance of being funded. SU has a substantial percentage of research income from funders that have a cap on their allowable indirect cost recovery, such as the NIH (8% of direct cost). The value-for-money proposition therefore remains critical for both the funders and the university.

As of 2019, researchers have been calculating the full cost of all research projects and using that as the basis to price the research. For funders with capped ICRRs, the price will be lower than full cost while for others, for example industry-funded research, the price could be slightly higher than full cost to make provision for a loss in academic footprint due to restrictions on publications, for example.

SU is working towards an integrated reporting approach for research contracts, where all research-contract budgets are uploaded in this format:

Full-cost calculation ('break-even' point) vs the contract price (can be \leq or \geq than full cost) vs the deviations per line items

This enables SU to start doing forecasts over a period of time on the committed income and expenditures 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.



Lessons learnt

- Inclusion and transparency matter. Be as inclusive and transparent as possible when consulting on and drafting a policy. A task team representing various stakeholders and including experienced researchers who are respected by colleagues as part of the team was essential. They became the ‘champions’ who advocated for the full-cost approach amongst their colleagues. However, there will always be researchers that do not value institutional sustainability above their own research interests. Involving department Chairs is also critical as they are often the filter between researchers and management. Several other consultative processes were necessary, such as, at the faculty board levels, public forums to explain the method and the approach. Recommendations and comments should be taken seriously and incorporated where possible. The experience was that researchers resist, even become hostile, when a change in policy impacts on their research, but that buy-in will follow if they are given the opportunity to debate and understand the institution’s intention. It is particularly important for all stakeholders to be aware of the broader context and the financial challenges that are faced by the institution in order to clarify misconceptions about the institution’s intention with a research-costing policy.
- Get the right expertise and support tools. Providing adequate support and making the process as user-friendly as possible is essential. SU, through the Division for Research Development, ensures that qualified accountants are available to support researchers with budget development. These accountants are seconded from finance to the research contracts office. They have also developed a very user-friendly, full-cost template. Research support must add value whilst working towards compliance. Currently, SU has four project accountants seconded from finance to the research contracts office, as they have realized how valuable this function is when placed in the direct environment where research contracts are processed.
- Effective planning and follow-through communication counts. An implementation plan must be well thought through, practical and effectively communicated, from both a researcher and a support service viewpoint. Enough time (a few months) from the date that the policy is approved until full implementation should be allowed. Make provision for a committee to consider exceptional cases or make decisions on waivers or reductions in ICRRs. Ensure that the financial system can accommodate the ICRRs, as well as exceptions. Continuous under-recovery of full costs will become a financial challenges for the institution, so a mechanism to monitor cases where full indirect costs are not recovered is recommended for sustainability planning purposes. A stricter approach in recovering indirect costs helps to keep the indirect costs in proportion, for example, if the whole institution’s indirect research costs are recovered from only a few funders, the rate will have to be higher, while a proportionally lower rate can be charged if indirect costs are recovered from all the funders.
- Consider the distribution of recovered indirect costs. This was the very first challenge that SU had to deal with in 2004. Deans of faculties were not satisfied with all the recovered indirect costs being allocated to a central university account to cover central indirect costs only, as the faculties also have specific indirect costs that they need to have covered. There must be a well thought through mechanism in place to ensure that the indirect cost recovery flows back to the areas where the cost was incurred.
- Never underestimate the emotional impact that a policy such as that on indirect costs, has on the institution and specifically on researchers. Consider studying the brain-based **SCARF-model by David Rock** and apply the principles right through the process.
- Keep it simple, and realistic. Don’t overcomplicate the policy; for example, in the very first policy (2004) a ‘trademark’ value was included in the indirect cost and it resulted in serious complaints. Understand that indirect cost recovery should be only that, and nothing else.
- Start conservative if you are starting from point zero. Rather build in a mechanism to revisit your ICRR regularly than start with too high a rate at the outset. Researchers and funders need to adjust to your new pricing mechanism.
- Support environments, such as the Division for Research Development, must be brave enough to stand up for researchers against top management when there are unreasonable expectations. At the same time, when researchers are unreasonable, it is important to be brave enough to have the difficult discussions. At the end of the day, a lot can be resolved by having a willingness to engage.



University of Botswana

The University of Botswana (UB) was established in 1982 as the first institution of higher education in Botswana. It contributes 70% of national research output. The university's pursuit of research excellence is driven by the Office of Research and Development that consolidates the institution's research advancements.

Research costing

UB defines indirect costs as the central faculty, school, center, or institute costs that the university incurs to support research, and that are not attributable to specific research projects. These include:

- Operating costs (such as the heating, cooling, cleaning, maintenance and landscaping of buildings and surrounds);
- Faculty and departmental services (such as machine and electrical workshops, secretarial and office assistance, shared equipment, and so on);
- Academic services (such as the library and ICT support);
- Administrative services (such as procurement, accounting and human resources, as well as the university administration itself, which includes the offices of the vice and deputy vice-chancellors, deans, heads of schools and other administrative staff), and
- Research administration and support, such as the office of research management and graduate studies and the Office of International Education and Partnerships.

The university has set its institutional ICRR at a minimum of 35%. Recovered indirect costs at UB are distributed to reward researchers and encourage them to develop and submit further grant proposals. The university's special projects office recovers the indirect costs on grants and contracts within one month of funds being deposited into the university's bank account. Recovered indirect costs are distributed as follows:

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

Lessons learnt

- The actual costs should be reviewed periodically to update costing data.
 - It is a complicated exercise to determine the ICRR. It would have been extremely helpful to have an expert that could work with the institution through the process.
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University of Cape Town, Faculty of Health Sciences, South Africa

The University of Cape Town (UCT) Faculty of Health Sciences is rated among the top 50 health sciences faculties worldwide (by Times Higher Education). The faculty has 13 academic departments, over 20 multidisciplinary research groupings, and more than 4 000 students. Their programs are embedded in four main themes, namely undergraduate and postgraduate teaching, clinical services and research.



Grants management

Grants management varies somewhat between faculties, but consistency is provided through the central research office. Proposals that are submitted to funders are signed off by the faculty research office and if required also by the contracts and innovation office. The Faculty of Health Sciences finance department has within it a faculty research finance office that supports pre-award and post-award research-related activities. The pre-award finance staff support the development of budgets for research projects by helping research staff to cost appropriately, making sure all the relevant costs have been included (including indirect costs), and giving guidance on accommodating inflation, VAT and exchange rates. They know the funding rules of the major health science funders and guide researchers on allowable and non-allowable items relevant to a specific funder. Overall the pre-award team ensure that budgets are realistic and able to deliver the expected outcomes.

The post-award team assists once the grant is awarded. They work with the researcher to manage spend against budget and within funder rules, including activities such as opening the right type of account for a project, loading the budget in tranches in accordance with funder and institutional policy (for example, some funders may give money up front, some may pay retrospectively such that UCT has to bridge funding for the work to happen), providing regular reports on spend against project budget by cost category to help researchers forecast their spend (to prevent over- or underspend), and preparing interim and final financial reports for the funder. The post-award team members also learn the different spending rules of the health sciences funders, so they can ensure that researchers do not spend on items the funder will not reimburse and that claims to funders are not rejected.

Staff undergo significant on-the-job training from more senior financial grants managers, and some staff have specifically undergone training in the management of grants from the NIH. It is very beneficial to hold meetings between finance staff and research managers to discuss and agree on policies and processes to ensure mutual understanding and consistency.

Research costing

Project budgets are reviewed and approved by the faculty prior to submission to the funder, using an online electronic research administration system. Wherever a funder will retain the intellectual property potentially generated from the project, the research must be budgeted and funded at full cost, in accordance with South Africa's IPR Act. The university provides a template to support the calculation of the full cost of a research project, which finance staff will complete for each proposal budget to determine the full cost of the research activity.

Wherever a funder allows a set maximum percentage of indirect costs to a recipient, researchers should include this maximum indirect cost claim within their submitted budget – i.e. researchers should include the full extent of the indirect costs permitted by the funder in their proposals. In addition, where permitted by the funder, researchers should include in their budget (as a direct cost) the time of the finance staff who will directly support the financial administration of the project. It can be a challenge to remain fully aware of what the many different funders do and do not permit with regard to direct and indirect costs. The research finance department therefore guides researchers at proposal development stage regarding allowances and restrictions for each funder to ensure the inclusion of all appropriate costs.

At times UCT engages with specific funders to discuss what they will permit with respect to indirect costs (both cost limits and the types of items that are deemed appropriate for inclusion), as well as to help inform them of both the need to support indirect costs and of the types of costs this involves. This can include discussing how financing for LMIC research can differ from that in high-income countries. Such discussions can be formal or informal, but continued engagement is important for understanding on both sides. Key items for debate are: who should take responsibility for the indirect costs of research, and what ethical and practical considerations should be taken into account regarding the benefits of investment in research, with due attention being given to the long-term impact on the sustainability of the institution hosting it.

Responding to funders who require a detailed breakdown of indirect costs per project is a challenge for universities. This may be easier in self-contained research organizations but in universities, project costs tend to be spread across many different structures and activities, making activity-based attribution complex and difficult. Universities would be better able to improve their research management capacity if funders were willing to cover indirect costs, provided that institutions can demonstrate having used sound methodology to calculate the ICRR collectively, across projects.



Lessons learnt

- Dedicated financial support for research with staff specializing in funders' rules and requirements is very important for successfully attracting and managing research funding and for recovering research costs at the optimal level.
 - Continued engagement with funders is important to develop a mutual understanding of the importance of indirect costs and its impact on institutional sustainability.
 - Regular meetings between research finance staff and research managers are important in order to discuss and agree on policies and processes and to ensure consistency in approaches.
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University of Pretoria, South Africa

The University of Pretoria (UP) is one of Africa's top universities and the largest contact university in South Africa. It consists of nine faculties with approximately 2 600 academics appointed in research positions.

Grants management

It is the role of the Grant Management Unit (GMU) within the Department of Research and Innovation (DRI) to support academics with grant applications. The GMU consists of five full-time and two part-time grant administrators to provide pre- and post-award support. Although some of the faculties appoint internal grant administrators, the GMU is the central grant administration office and assists researchers with the preparation and verification of budgets for grant submissions. When researchers can submit a budget without the approval of the grant management office, the indirect costs are verified when they request assistance with the grant agreement.

The GMU assists researchers with budget preparation through one-on-one meetings, and has developed an online budget resource. One-on-one meetings between grant administrators and researchers aim to assist with the preparation of budgets for specific grant opportunities. The administrator will assist the researcher to prepare a budget that is in line with the requirements of the funder as well as the institutional policies. The number and duration of the meetings depends on the researcher's experience and the type of funding opportunity. Researchers are more likely to request one-on-one meetings when the funder has strict requirements for the budget, or in cases where the project team consists of a number of sub-awardee institutions. When the project includes sub-awardees, the grant administrator also facilitates and verifies the sub-awardee budgets to ensure compliance.

Due to the limited number of grant administrators within the DRI, the GMU contracted software developers to develop an online budget resource. This online resource guides the researcher through the budget preparation process by asking a series of questions within areas such as project outcomes, activities required to complete each outcome, resources required for each activity, and so on. The online budget resource was developed with the institutional policies in mind. For example, the tool automatically calculates the indirect cost based on whether the researcher has indicated that the submission is for contract research or a grant application. The tool also includes an annual escalation rate, automatic inclusion of full scholarships, and institutional rates such as salaries, car fleet hire, campus venue rates, and so on. The budget resource enables the researcher to prepare and download the budget in a Microsoft Excel format. The researcher can change the currency depending on the requirement of the funder, which enables the researcher to prepare one budget and easily adjust the document for various submissions. An additional feature enables the researcher to request the GMU to obtain quotations for items such as airfares, accommodation and equipment.

Capacity strengthening

The university offers a variety of free training to UP staff through 'UP Priority Courses'. The GMU presents five workshops per year on budget preparation, which are aimed at researchers and faculty grant administrators. Instead of focusing on the



requirements of specific funding agencies, the workshop guides participants through the process of preparing a budget that is in line with the institutional policies on issues such as indirect cost calculation, per diem rates, and fuel re-imbusement rates. The workshops also address common mistakes that are made in budget development. These workshops therefore advocate for the preparation of detailed line-item budgets based on the outcomes of the project and the activities per outcome.

Lessons learnt

- Regular opportunities should be available to train early career academics and grant administrators on research budget preparation and its alignment with university policies.
 - Effective budget preparation requires different levels of intervention and different types of tools to limit the administrative burden on researchers.
 - Using custom-built software can be cost- and time-efficient.
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Wits Health Consortium, South Africa

The Wits Health Consortium (Pty) Ltd (WHC) was established two decades ago as an administrative arm of the Faculty of Health Sciences at the University of the Witwatersrand. It is now a private entity that is wholly owned by the University of the Witwatersrand and, as such, is a tax-exempt business. WHC has established a reputation for responsibly managing sponsor and commercially funded activities worth over US\$ 72 million annually.

Grants management

Through its Shared Services Center, WHC offers a comprehensive one-stop solution for the management of research grants, including financial management, grants management, legal services, human resources and payroll, through 300 skilled staff. Partners benefit from the WHC's registration with international donors such as the System for Award Management (SAM), saving them the effort of individually registering and maintaining their registration. Due to their flexible structure, the WHC are able to limit bureaucratic burdens often encountered in the university system. A service level agreement specifies the roles and responsibilities of WHC and the partner unit/organization. The WHC vision is to be a key coordinator linking specialist researchers with some of the world's top donors, sponsors and philanthropists. To this end, the services are no longer limited to the University of the Witwatersrand; institutions with a small number of sizeable research grants from international funders and lacking the necessary systems, processes and/or expertise often make use of their service as well.

The WHC orients their policies to comply with their strictest funder. The team no longer have to remember different regulations, because if they comply at the strictest level, they will comply at all other levels.

WHC was rated at platinum level when reviewed against the grants management standards of the Good Financial Grants Practice (GFGP). Undertaking a GFGP review was a good way for WHC to consider their own practices against set standards and to contemplate areas for improvement.

Research costing

WHC operates on a simple model where indirect costs recovered from grants are used to cover their service fee to support the grant. WHC seldom absorbs more than 10% on a grant. Should the grant allow the applicant to recover more than 10%, the partner institution will recover any indirect costs they may have from that.

WHC's experience is that while some funders are willing to discuss the need for indirect costs, and to work with them to find a way to recover the real or full costs of research, others remain more inflexible. Clear policies and the ability to demonstrate transparently what the indirect costs are used for has been a success factor in recovering these costs.



One of the challenges is the inconsistency in the implementation of federal regulations amongst US government agencies. Although the US federal guideline stipulates that an organization can claim a 10% minimum rate in the absence of a negotiated indirect cost rate agreement (NICRA), this is not allowed by all the agencies. WHC is in the process of developing a NICRA proposal to allow them to recover real indirect costs, and has had to contract the services of an expert to assist with this process. WHC acknowledges it is a big organization that can afford the services of an expert, something that may not be feasible for many institutions in LMICs. A further hurdle is the acceptance of a NICRA with one federal agency by another. Although it is stipulated in the guidelines that a NICRA with your major agency should be accepted by other agencies, the unwritten feedback currently is that this will not always be the case.

One of WHC's strategies to limit the indirect costs charged to projects is using technology. They have designed an electronic system hosting all the documents and information on the grants they manage. Their procurement and ordering systems are electronic, as is the payment requisition process. This not only saves labor costs, but also other costs, such as the cost of couriers. In addition, WHC is currently designing an electronic system for timesheet management.

The WHC process is that all budgets must be reviewed before being submitted to the funder. This process allows for optimization of the budgets to reduce the risk of insufficient cost recovery. In this respect, grant experts check that all direct costs and indirect costs are covered and where a funder has a limit on indirect cost recovery, additional indirect project costs are included as direct costs. Where possible, WHC will negotiate with the funder to try and include as many direct and indirect costs as possible in the project budget.

Capacity strengthening

Providing expert services requires continuous upskilling of staff, including the financial managers who support the accountants. In 2019 WHC opted for a more cost-effective model by bringing a recognized trainer on US federal grants in to offer a customized program for WHC staff. This was combined with supplementary training by in-house expertise.

Monthly grants meetings are used as opportunities for sharing and learning. Any changes in funders' regulations or other experiences are shared and discussed to encourage mutual learning. In addition, a shared portal is maintained where documents and information can be shared.

Two years ago, the US Agency for International Development (USAID) began inviting WHC to send team members for training on programs offered by USAID and Centers for Disease Control and Prevention (CDC), who also have similar opportunities.

Lessons learnt

- Develop clear and transparent policies to justify indirect cost requirements.
 - Drive internal policies to comply with the strictest funder's requirements.
 - Reduce labor costs by using technology.
 - Invest in upskilling staff and create opportunities for mutual learning.
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WEST AFRICA

African Health Economics and Policy Association, Ghana

The African Health Economics and Policy Association (AfHEA) is a bilingual (English and French) non-profit association inaugurated in March 2009 with its headquarters in Accra, Ghana. AfHEA has executed and continues to execute several research projects funded mainly by foreign donor agencies, such as the Bill and Melinda Gates Foundation, the IDRC, the Rockefeller Foundation and others. AfHEA also compiles and disseminates grey literature on a variety of themes in health economics, financing and policy.

Grants management

In the pre-award stage, the budget development process involves both technical staff (i.e. researchers) and the accounting and grants management staff. This helps to identify exhaustively all the various costs, which may not be captured accurately if left to only either the technical staff or the accounting and administrative staff. At the same time, it builds expertise through shared learning. During the budget development phase, rigorous and detailed budgeting is emphasized to ensure that all aspects of the research project are duly captured. The grants management process also emphasizes accurate record keeping by all staff and researchers. Over the years, AfHEA has learnt that proposals with detailed budgets are more likely to be considered by donors. The pricing should be done based on properly researched current market conditions but should also incorporate inflationary adjustments. This helps minimize, if not eliminate under-budgeting.

The costs of the grants management staff are shared among various projects and their salaries are charged *ad valorem* from the various research projects being implemented. AfHEA has experienced some challenges in growing the research and grants support service mainly because of the lack of adequate and sustainable funding to employ research and grant support staff.

Research costing

AfHEA considers their administrative and financial management, bank charges and other organizational overhead charges to be indirect costs. The ICRR of 15% of total direct cost is an estimate that is applied consistently. The rate was agreed at the level of the Executive Management Committee. Committee members all have backgrounds in health financing and health economics, which serves as a resource for the association. The recovered indirect costs are used to cover actual indirect costs incurred by the organization.

Decisions on using an ICRR lower than the organizational rate of 15% are made by the Executive Management Committee in consultation with the researcher. This is often the case where the funder has a limit to the allowable ICRR. From their experience some funders will not allow higher rates than their fixed rates but there are a few that are open to indirect cost negotiations.

AfHEA occasionally experiences challenges with managing unspent budgets where the unspent funding has to be returned to the funder. In these cases, the recovered indirect costs are less than the indirect costs budgeted for.

Capacity strengthening

AfHEA uses opportunities offered through grants from, for example, the Bill and Melinda Gates Foundation and the IDRC to develop skills and capacity for grants management. These grants offer training workshops on various related topics.

Lessons learnt

- Involve research, finance and administrative staff in the early stages of budget and proposal development for accuracy of costing and to build expertise.
 - Develop detailed and accurate budgets at the proposal stage to reduce the risk of under-recovery and to increase the chances of being funded.
 - Produce quality and accurate reports and keep to timelines to foster good relationships with funders.
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L'Association Togolaise pour le Bien-Etre Familial, Togo

L'Association Togolaise pour le Bien-Etre Familial (Togolese Association for Family Welfare) (ATBEF) has been operational since 1975, working in the field of sexual and reproductive health and rights, and specifically, in family planning. It is a non-governmental organization with a strong national community base. It has modern facilities benefiting from the subsidies and technical assistance of an international expert from the International Planned Parenthood Federation (IPPF) in rights in sexual health and reproduction. Both the IPPF and the Ministry of Health of Togo recognize the ATBEF as a learning center where both national and international actors come to train on reproductive health issues.

Grants management

ATBEF follows financial and administrative management practices that meet international standards. The 154 employees are adequately qualified and experienced to execute and support research projects. The IDRC has performed an assessment of the grants management capacity of ATBEF and concluded that ATBEF is able to manage the IDRC award. However, a budget line for capacity building was included in the budget and will assist ATBEF to improve the capacity of technical project staff and of accountants and program officers.

Research grants are managed in dedicated accounts. Monthly reconciliations are done on each cash and bank account. Internal controls are regularly conducted by the internal audit committees and an annual audit is always carried out by recognized international expertise firms appointed by either IPPF or the technical and financial partner.

Research costing

When indirect costs cannot cover actual expenses, the budget of the activity is revised to fit all the expenses that should normally be covered by indirect costs as direct project costs. With technical assistance from the IPPF, a tool has been developed to determine the ICRR to be applied. It is based on the principle of the comparison between the total cost, the costs of the operation (programs) and the costs of administration and general services which is then applied to the project budget. The lower the budget, the lower the management fee (indirect costs). The recovered indirect costs are used to cover operating costs that are not directly funded by the project and to maintain and improve the institution's infrastructure.

Lessons learnt

- A clear and common definition of indirect costs will help institutions to better consider these costs for a project within the overall system of the institution.
- The existence of a mechanism and a policy for managing and monitoring indirect costs within the institution provides credibility and a basis for negotiation with funders.
- The recovery of indirect costs allows institutions to deliver quality outputs.

La Société d'Études et de Recherche en Santé Publique, Burkina Faso

La Société d'Études et de Recherche en Santé Publique (Society for Studies and Research in Public Health) (SERSAP) is a private not-for-profit organization based in Burkina Faso and founded in 2003 in order to create synergy between research and consulting work, with the aim of promoting talent in health research and, more specifically, in health systems. Research funding is mainly provided by international organizations such as the IDRC but also by bilateral and multilateral agencies and international NGOs working in Burkina Faso and the African region, such as the West African Health Organization (WAHO). Over the past ten years SERSAP has managed to contribute to the annual production of at least two master's and two doctoral-level qualifications, as well as scientific articles and policy notes in public health or health economics.



Research costing

Indirect costs are estimated at 13% of the total budget. However, in the majority of cases the funder specifies a limit (often 8%) at which indirect costs are reimbursed, and SERSAP complies with that limit. SERSAP has a finance department responsible for setting and discussing the indirect costs. The recovered indirect costs are generally used to cover costs such as research facilities, the secretariat, energy and communication.

It is a challenge if indirect costs are not fully covered as these expenses are required in order to deliver on the project outcomes. As a not-for-profit organization, SERSAP does not benefit from any government funding for research. In addition, in SERSAP's experience indirect costs are often recovered late in the course of a project, which can result in cash flow deficits to cover expenses.

Staff have to be paid from project funding. The limits on budget items, especially salaries, which differ from grant to grant, pose a challenge as these limits are not always consistent with the needs of the institution. Young researchers are often discouraged from continuing with research due to the low remuneration levels. It is often also difficult to include a salary for a grants administrator. To fully cover the salaries of research management staff they also have to support other activities such as training and commissioned studies where additional income is generated.

Lessons learnt

- It places a lot of financial pressure on the institution if the indirect costs are covered at a very low rate, or not at all, and the funder set limits on budget line items. SERSAP increasingly has to draw on its own resources to ensure the desired level of quality. This will limit institutional development in the long term.
- Frequent reporting (every six months) on multi-year projects places an unnecessary administrative burden on institutions with scarce resources.
- As funders' agendas change so do their areas of focus. This can pose a challenge for continuity in research funding.
- Often grants are managed and closed out well, but the grant did not make provision for monitoring and evaluating the implementation of the project. SERSAP has worked on projects where the government expressed interest in adopting a model in their strategies, but the authorities eventually could not be pushed to take ownership, because of the lack of monitoring and evaluation of its implementation during the project.

Medical Research Council Unit, London School of Hygiene and Tropical Medicine, the Gambia

The London School of Hygiene and Tropical Medicine's Medical Research Council Unit (MRC Unit) in the Gambia represents a unique concentration of scientific expertise and high-quality research platforms in the West African region. Its mission is to deliver innovative, world-leading research aimed at reducing the burden of illness and death in LMICs, supported by an enabling research environment. Foreign government agencies and multilateral funders contribute to 63% of the institution's income, with charity organizations and industry contributing 33% and 1.2% respectively. Of the donor profile, European sources account for 63%, followed by North American sources at 33%. A significant proportion of the research undertaken by the MRC Unit is funded by UK Research and Innovation (UKRI) and supported through collaborative funding schemes such as the Global Challenges Research Fund and the Joint Global Health Trials. The Bill and Melinda Gates Foundation remains a primary funder of their research.

Grants management

The MRC Unit has a research support office that offers pre- and post-award services, contracts management, monitoring and evaluation and performance management. The office is partially funded through core funding and supplemented by external funding from projects. The 19 staff members working in the office are full-time staff dedicated to research support.



To optimize budgets and reduce the risk of low cost recovery, the MRC Unit has a cost recovery mechanism for most of its research support departments (labs, biobank, archives, data management, statistics and clinical trials support), which enables the unit to directly charge the cost of these services to grants in an easily auditable process. Project budgets are prepared by the research support office in collaboration with finance after consulting with the researcher to establish resource requirements for a proposal. An electronic grants management system developed in-house is used.

One of the key challenges in developing the support services has been the lack of availability of research management professionals in the job market. In our setting, there is not much awareness of the profession as a result of which recruitment is always a problem. Our focus has now shifted to building capacity internally through internal and external training opportunities, a well-structured career development plan for those already incumbent, and providing opportunities to attend conferences.

The unit has recently been awarded a grant by the Bill and Melinda Gates Foundation through the German Development Agency (GIZ) to support further development of its research support services.

Research costing

The ICRR is based on the running costs of infrastructures that enable research to take place. The MRC Unit operates on a full economic cost recovery basis and the current ICRR is 26%. Charging a reduced rate has to be approved at senior management level – either by the unit director or the director of operations. It involves writing a justification for the reduction or waiver outlining the strategic benefits for the unit of undertaking the research.

A written policy maintained by the research office and the finance department provides guidance on cost recovery. The recovered indirect costs are used to contribute to the cost of central support services and for the maintenance of infrastructure such as the departments of human resources, finance, IT and procurement, as well as estates and facilities.

Capacity strengthening

The MRC Unit has developed an internal training program tailored to address the identified gaps in their research environment. There is a central training fund which is competitively awarded and is available for skills development of researchers and support staff.

Lessons learnt

- Project finances must be monitored regularly and monthly financial summary reports should be discussed with researchers.
- Use technology and tools to support grants management, for example, earned value analysis – Converis (for management of research contracts), REMSYS (for research administration – developed internally), LIPS (for publications – internally developed) and Microsoft Excel (monitoring financial performance of projects and for doing calculations).
- Keep funders informed about any significant deviation from initial plans.
- Always look for ways to innovate, thereby adding value to the research management process. It is important to provide the right support in the right environment and understand the objective of the grant that is being supported.
- Researchers must not undervalue their science. Even if the proposed budget is more than the allocated budget ceiling for a call, funders will always make an exception for an excellent proposal.
- Most funding agencies have established a set ICRR which is non-negotiable; however, what is covered can be negotiated in some instances and this is an opportunity that research institutions should take advantage of.



Obafemi Awolowo University, Nigeria

Obafemi Awolowo University, formerly known as the University of Ife, is in Ile and is a federal government owned and operated Nigerian university. Currently most of the research funding comes from national government. International funders, including the International Fund for Agricultural Development, the Bill and Melinda Gates Foundation, the Carnegie Corporation, the Humboldt Foundation and USAID, contribute to the university's research budget.

Grants management

The university's management has strengthened central research management capacity through the creation of units for research support, linkages and partnerships, intellectual property and technology transfer as part of the central research office. All these units report to an executive director. A unit within the bursary department performs an oversight function, which strengthens grants management.

All funding applications pass through the university research office for review before they are submitted to the funder.

Research costing

Indirect costs are recovered at 10%, which is the estimated rate to cover costs for expenses such as rent and utilities, general and administrative expenses, equipment depreciation, and interest. The recovered indirect costs are shared between the university, the faculty and the hosting department.

In general, the university's experience is that funders have become more open to discussing indirect costs but, in some instances, they are very strict in terms of what constitutes indirect costs.

Capacity strengthening

There is currently no specific training or support for the capacity and skills development of support staff and challenges with bottlenecks are encountered sometimes. A grant from the Carnegie Corporation of New York supported the strengthening of the research support function as a component of a wider institutional strengthening initiative.

Lessons learnt

- Always follow the guidelines and rules established by the funders. This increases the chance of winning a grant and builds trust.
- Prudence in grants management is essential to build trust.
- Having an oversight function for grants management within the bursary department has proven to be important for effective management of research grants.

School of Public Health, University of Ghana

The School of Public Health (SPH) is a constituent of the College of Health Sciences at the University of Ghana (UG), the country's largest university. The SPH has a strong track record of training, community outreach and cutting-edge research on critical public health issues.

Grants management

UG has a central Office for Research, Innovation and Development (ORID), which commenced operations in 2010/2011, and is responsible for the university's research policy, fundraising for research, effective distribution and efficient use of



research funds, setting standards for effective dissemination of high-quality research output, grants management, ethics and registration, and patenting and commercialization of intellectual property. ORID staff are full-time employees and are currently funded through government subvention.

The pre- and post-award services unit in ORID supports project budget development and conducts an internal due diligence check process at every stage of the funding cycle. Grant funding is released based on this check and on approved budget lines and deliverables as agreed with the funder. This has been an effective way to track funding and to manage grant compliance. The SPH and the university have an excellent system for tracking budget and actual expenditures. Reports can be generated at very short notice and serve as an invaluable resource for project management. The SPH has an efficient finance department that is available to assist with budget support at short notice. Budgets are reviewed by the finance staff to ensure that all costs are included and costed correctly before submission to the funder. When developing budgets, actual rather than projected costs are used in order to reduce the risk of under-recovery for research costs.

Research costing

The internal process for approval of a lower ICRR or a waiver of the rate requires the submission to justify the reason for the waiver or a lower rate through a formal request to the pro vice-chancellor for ORID. GU has guidelines on the disbursement of recovered indirect costs in the following ratio: 10% to the department, 10% to SPH, 5% to the College of Health Sciences and 5% to the principal investigator (PI). The funding must be used to support and strengthen research. The remaining 70% is used to support the UG Research Fund, research support and other university-wide activities to advance research and scholarship.

In the SPH's experience, although some funders seem to be flexible about discussing and negotiating ICRRs, others have fixed rates with no room for negotiation.

Capacity strengthening

The Building Stronger Universities initiative by the DANIDA has been providing training on contract and grant management services to ORID staff and has contributed significantly to capacity development of the team.

Lessons learnt

- Internal processes to carefully monitor project budgets and expenditure are essential.
 - Skilled financial and support staff is very important for effective research costing and grants management.
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University of Ibadan, Nigeria

The University of Ibadan (UI) is a research-intensive public higher education institution. Most of the research funding comes from foreign non-profit donors. Some funding comes from the national Tertiary Trust Fund and, from its own resources, the university provides some funding for research projects, which is awarded on a competitive basis.

UI aims to build trust between the institution and funders by being transparent and having a standard procedure for managing research funding, although this process is still bureaucratic.

Grants management

UI has a Research Management Office that is headed by a director and has five functional units: research development and policy, research ethics and integrity, research links, finance and legal. The staff are all full-time employees dedicated to this service.



Amongst other things, the office disseminates information about funding opportunities and facilitates grant writing and grants management workshops. Having experienced staff in the research office to support researchers with budget development represented an important step towards relieving the administrative burden on researchers. Although the research support office has made a lot of progress in encouraging researchers to use and trust their services some still do not work with the research office before submitting proposals, which results in budgets that are not appropriately costed and negotiated, to the disadvantage of the institution.

The Research Management Office was funded by an NIH IEARDA grant and the development was supported by the postgraduate school and once-off support from the MacArthur Grant Liaison Office of the university. Initially funding from the Wellcome Trust and the Global Research Fund made provision for research administrative support, and funding from these grants was also available to enhance capacity in research management. The research office staff are now funded from the university budget.

UI recently developed a homegrown Electronic Research Administrative system (UI-DeRA) funded by IREX (a global development and education organization funded by the Carnegie Corporation). This funding came on the heels of a six-week fellowship for two research office staff at two US universities. The development of the system has contributed to more effective management of research funding.

The university has also pioneered a Research Innovation and Strategic Partnerships Office headed by a deputy vice-chancellor. This office now oversees all research and research management activities in the university.

Research costing

The university has an ICRR of 10% that was determined by Senate. Where funders allow a higher rate, it is used to compensate for funders who allow less than 10% (for example, some US government agencies). The recovered indirect costs are distributed in accordance with a formula and are shared between the central university accounting office, the faculty and the department responsible for the research project. To minimize the impact of exchange rate fluctuations, an institutional exchange rate is used for budget preparation. The university operates a research development fund (RDF) of which the primary function is to develop capacity in grantsmanship. The RDF derives its funding from several sources, including a 1% contribution from the university's share of the indirect costs recovered from research grants.

Capacity strengthening

The capacity of the research management staff is developed through in-house training and support for travel grants to attend training offered by funders and collaborating institutions.

Lessons learnt

- Capacity development of grants management staff enhances the confidence of staff to deliver optimal services.
 - When appointing staff in the research office, make sure to select those who are eager to learn as this is an area where a lot of pioneer work has to be done.
 - Robust experience in grantsmanship (held or is holding a grant, understands proposal development, understands electronic databases and a good manager of people) would be highly recommended for prospective heads of major research management units.
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University of Jos, Nigeria

The University of Jos (UJ) is a public institution in Nigeria. Research activities are funded by the government and foreign donors.

Grants management

The Office of Research and Development (ORD) was established to evolve deliberate policies to drive research and development in the university. The Advancement Office has the mandate for resource mobilization and is therefore responsible for identifying prospective donors for research activities. It also supports proposal and budget development, impact reporting, financial management, project management and capacity development.

Through a Carnegie funded project (refer to the section on capacity strengthening below), a 'virtual office' was established for grants management. This is seen as one of the good practices that has ensured a sustainable support service at the university. The virtual office is composed of staff from the Advancement Office (projects and finance officers), the ORD (proposal development and submission), auditors from the auditing department and accountants from the bursary and physical facilities departments. Its operational strategy evolved naturally during the training process funded by the Carnegie grant and aimed to enhance the efficiency of the Advancement Office, in view of its critical services in ensuring the timely release of research funds; to maintain the operational sustainability of the office through ensuring the flow of donor funds, and to continue capacity building to mainstream research administration.

The virtual office team meets regularly for appraisal and review of activities to ensure effective grants management and timely release of funds for researchers. Indeed, the timely release of funds was a primary weakness that was identified at the inception of the Carnegie grant. When a grant is received, the virtual office plays a key role in fast-tracking the processing of requests for funds for research/project activities. This is necessary to reduce bottlenecks associated with bureaucratic university systems. The process of fast-tracking is applicable only to externally funded research.

Research costing

The institution has a policy on the recovery of indirect costs but provides flexibility for funders that do not support the institutional ICRR. Recovered indirect costs are managed centrally and are used to fund specific services involved in supporting the research. Although some funders are open to discussing the funding of indirect costs it remains a challenge to recover indirect costs at an appropriate level.

Capacity strengthening

The Carnegie Corporation of New York, through a wider institutional strengthening approach, funded the training of staff providing research support. The intervention enhanced staff understanding of collaborating with funder organizations related to research and university activities more broadly. This has enabled the institution to engage alumni, development partners and the diplomatic community to support the achievement of its mandate of teaching, research and community development. Currently, the university is engaged with French institutions, through the French Embassy, in research collaboration and exchanges.

Interventions through the Carnegie-funded project provided special technical training for budgeting and this supported the development of capacity to assist researchers with grant proposals.

Lessons learnt

- Find innovative ways to optimize grants management processes.
 - A mutual understanding of unique requirements for research is essential to ensure effective processes for grants management.
 - Conducive grants management processes increase the capacity to utilize research funds and to build confidence and trust between the institution and its research funders.
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West African network for TB, AIDS and Malaria, Senegal

The West African network for TB, AIDS and Malaria (WANETAM) is part of a pool of four networks of excellence created by the European and Developing Countries Clinical Trials Partnership (EDCTP) to combat poverty-related diseases in sub-Saharan Africa. It brings together 16 research institutions from nine West African countries and four European partners. WANETAM is headquartered at the Institut de Recherche en Santé, de Surveillance Épidémiologique et de Formation (IRESSEF) in Dakar, Senegal, and the director of IRESSEF plays the role of coordinator within the network. WANETAM is mainly funded by EDCTP, while IRESSEF is supported by several funders such as EDCTP, CDC, the Bill and Melinda Gates Foundation, Gilead, USAID, UNICEF and others.

Grants management

Currently there is no formal research support service, although plans are in place to establish a research support office (RSO). Once established, the RSO will provide a coherent system to support the institution in grant writing and research management. This includes tracking grant opportunities, support during grant writing, and contribution to the planning, execution and monitoring of projects to ensure their success. The research management procedures are being developed with inputs from scientists and administrative staff.

The RSO will be funded from grants, including where possible both direct and indirect cost components, and from other income, such as routine services delivered by the labs. This is a new endeavor and convincing the leadership and scientific staff of the relevance and value of the RSO has been a challenge. While the RSO is still in the planning phase, a multidisciplinary team of scientists and administrators is positioned to help with project budget development. Before this, scientists used to prepare their budgets alone, but this often resulted in underestimated research costs. Now, scientists have to provide a work plan with a project breakdown and, based on this, resources that are deemed necessary for the completion of tasks are identified and submitted to procurement or HR, who provide detailed costs for each identified item. Further support is provided by the finance department to finalize the budget.

Research costing

The ICRR within EDCTP projects is a flat rate of 25% of the eligible direct costs. Costs relating to subcontracting and in-kind contributions provided by third parties, which are not used on the beneficiary's premises, are excluded. The use of the recovered indirect costs is at the discretion of each site within the WANETAM network.

For WANETAM, the PI decides how the recovered indirect costs should be used, based on their internal needs. For IRESSEF, recovered indirect costs are used to support administrative staff and running costs, such as electricity, water and telephone costs. There is no common approach to the allocation of indirect costs and their use from funders. Providing a flat rate is an excellent way to support the indirect costs of research but only if the grantee institutions have strong governance systems. If not, this can lead to the misuse of recovered indirect costs. It could be in the long-term interest of research-performing institutions and funders if institutions were to be required to provide a policy on how indirect costs are allocated and used by an institution.

Lessons learnt

- Consultation at the project initiation phase is important to help identify resources with more accuracy, so that budgeting becomes easier and amounts budgeted are more realistic.
 - Research support must be promoted and embraced by institutions as it is key to the success of research and grants management.
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MIDDLE EAST AND NORTH AFRICA

Eastern Mediterranean Public Health Network

The Eastern Mediterranean Public Health Network (EMPHNET) is a regional network that focuses on strengthening public health systems in the eastern Mediterranean region. It works in partnership with ministries of health, non-government organizations, international agencies, the private sector and other public health institutions in the region and globally, to promote public health and applied epidemiology. EMPHNET is the only public health network in the region that supports field epidemiology training programs as a mechanism for advancing public health workforce capacity in the region.

Grants management

EMPHNET has a grants and contracts unit within the executive office that provides support for grant proposal development, compliance with funder requirements and other grants management activities. The unit supports all departments within the organization. When developing project budgets, EMPHNET ensures that the direct costs needed to resource the project are realistic and fully included in the budget. Indirect costs are also included, following the funder's guidelines.

Research costing

EMPHNET has an indirect cost policy that was developed by involving different role players such as the program manager, grant manager, finance director, and finance officers. The policy was presented to the executive director and approved by the board of directors. The ICRR is determined using actual financial data and is applied in line with the requirements of different funders.

EMPHNET has a very detailed financial procedure, resulting in comprehensive records for daily transactions. Indirect cost inflow and outflow amounts are recorded and EMPHNET can therefore accurately trace the overall forecast and spending on indirect costs. Indirect costs generally support the implementation of non-programmatic budget activities such as administrative, managerial, logistical and other support costs, including, without limitation, costs relating to the recruitment of staff, budget and financial control, information and communication technology support and transactions in respect of procurement, transport and warehousing.

The indirect cost charge on non-program budget activities represents a reimbursement of programmatic budget (PB) expenditures. This seeks to ensure that non-program budget activities do not place a financial burden on the agency's regular budget. In accounting terms, the indirect cost is an inflow into the PB and an expense on the non-program budget activities. As part of liquidity planning, the agency closely monitors and forecasts its PB cash flows. This enables timely action to be taken in response to any undesirable cash levels projected. The indirect cost forecast (done by the budget division) is an important part of the cash flow planning.

Capacity strengthening

Provision of regular hands-on mentoring, conducting in-house training and setting professional development goals as part of the staff appraisal system supports the capacity and skills development of staff.

Lessons learnt

- Investing in skills and capacity development is essential to ensure the delivery of quality research and to produce quality reports for funders.
 - The organization regularly has to identify gaps in institutional systems and processes to ensure continuous improvement.
 - Effective communication between the different units supporting different aspects of research within the organization is very important.
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National Agronomic Research Institute, Morocco

The National Agronomic Research Institute (INRA) is a public institution with origins as far back as 1914, when the first official services for agricultural research were established. INRA is currently viewed as the main national agricultural research and innovation institution in Morocco, and falls under the authority of the Ministry of Agriculture, with about 720 staff members.

Currently the local government contributes approximately 90% of the total budget and the other 10% is sourced from national grants, bilateral collaborations, and foreign donors. There is a need to increase research income from foreign funders but there is a major challenge in the continuity of research programs, mainly due to the voluntary retirement of key researchers and technicians. For this reason, INRA is in the process of adapting its research programs to the national research strategy, which aims to consolidate the efforts of all research and training institutions interested in agricultural research. Other strategies are to capitalize on existing networks and to actively develop new international networks to improve the institution's competitiveness in applying for research grants.

Grants management

There is no research grants management support service at INRA because there is currently no budget to support this. Researchers support one another: for example, senior researchers support younger researchers in developing proposals and budgets and they are also often supported by partners when co-applying in response to an international call for proposals. Project coordinators often find it challenging to align the budget terminology used by funders with the terminology used by INRA and the Ministry of Finance.

Nonetheless, in comparison with other institutions in Morocco, INRA has developed good mechanisms to attract and manage research funding. An example is the off-budget account. The off-budget account is a budgeting system used for extra public funds deployed by INRA. It is completely different from the public accounting system used for the general budget received from the Ministry of Agriculture, and is a flexible system adapted to accommodate research contracts and the requirements of funders. It is also not obliged to adhere to the fiscal year, which means that expenses can be allocated against the budget within the project period without interruption by the fiscal year-end.

Research costing

The indirect cost applied by INRA is stipulated by law. For grants received from non-state donors, an ICRR is charged and the recovered funds are managed as part of the off-budget account from where it is distributed to support scientific research (10%) and INRA's general budget (10%). In some cases, particularly for funds from the USA, Canada and Europe, the ICRR is defined in advance by the funder and varies between 3% and 20%. INRA does not negotiate these rates because they are set by the funders. In cases where the ICRR is less than 10%, INRA is required to justify the reduced rate – a process in which the representative in the Ministry of Finance who controls the budget can reject the proposal, on the basis of insufficient justification. In many cases where the indirect cost is around 5% or even 3%, INRA decides not to accept the grant simply because it cannot cover INRA's costs.

Capacity strengthening

The research and development service head at INRA has received training on how to manage grants on two different occasions but it remains complicated, especially for EU-funded projects.

Lesson learnt

- Common terminology for budget development and financial reporting amongst funders would make it easier for institutions to access more international funding.
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EAST ASIA AND PACIFIC

King Mongkut's University of Technology, Thailand

King Mongkut's University of Technology (KMUTT) is a top-ranked engineering and technology university in Bangkok, Thailand, and as such has strong linkages with and support from local industry partners. The 2019 national reform creating the Ministry of Higher Education, Science, Research, and Innovation increases the demand for universities to respond to national needs and requires greater internal coordination from within the university along with more collaboration.

Grants management

Historically, KMUTT developed from a training institution and is growing its research activities and the necessary infrastructure and support for competitive research. In line with its strategy to grow research and increase commercialization and impact, KMUTT restructured their research and innovation support system by merging the research promotion and service unit and the industry partnerships unit to form the Research, Innovation and Partnership Office in 2015. This office has grown from approximately 45 staff members to over 100 staff members. Two vice-presidents (one for research strategy and research management, and one for industry partnerships) report to a senior vice-president for research and innovation.

Research costing

Although KMUTT currently do not have a full-cost approach, the strategic importance of this is recognized. Upgrading the systems and developing the capabilities to support such an approach are being considered. An ICRR of 15%–20% is currently charged on research projects. The national funders allow for the reimbursement of indirect costs and it is recovered from international funders as allowed by their funding guidelines.

Capacity strengthening

KMUTT aims to develop the capacity of staff to deliver a proactive support service instead of purely administrative support. This is being done through the use of available opportunities to develop staff skills and capacity, such as procurement training offered by the government and training offered by funders. Three staff members participated in an International Network of Research Management Societies (INORMS) conference in 2016 and the opportunity for international benchmarking and learning has been extremely valuable.

Lessons learnt

- Organizational change requires strong leadership from top management and includes the realignment of policies and procedures, getting buy-in from staff and strengthening the capacity of administrative staff.
- Changing research management systems takes longer than you might expect.
- Improving research management requires collaboration across the whole university.

Oxford University Clinical Research Unit, Vietnam, Nepal and Indonesia

The Oxford University Clinical Research Unit (OUCRU) has two main locations in Vietnam – Hanoi and Ho Chi Minh City (HCMC). There are also sites in Kathmandu, Nepal, and Jakarta, Indonesia. OUCRU Vietnam is embedded in Vietnamese government tertiary referral hospitals in HCMC and Hanoi and operates in the context of memoranda of understanding between Oxford University in the UK and the local institutions. The vision is to have local, regional and global impact on health by leading a locally driven research program on infectious diseases in Southeast Asia.

Approximately 90% of OUCRU's staff are employed locally in Vietnam through the OUCRU payroll. Both units are provided with some core funding support by the Wellcome Trust, as part of the Wellcome Africa Asia Program. OUCRU's major research funders are UK government agencies, NIH or international non-profit organizations.



Grants management

OUCRU has an administrative team providing financial and grants management support. Grants support is provided by the University of Oxford Tropical Medicine team and locally, by one full-time person and 50% of another local staff member's time. 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 information and advice on funders' guidelines and conditions, the costing of projects, managing collaborations and the grants process.

To ensure consistency in the costing of research and the management of grants, grant applications from all OUCRU sites (Vietnam, Nepal, Indonesia) are managed centrally by the team in HCMC. They do project costing based on real forecasted expenses from the earliest stage of proposal submission. They include forecasted inflation in costings where they know that prices will increase: for example, staff have a guaranteed minimum 5% pay increment each year mandated in their employment contracts. They also ensure that all hidden employment costs such as insurance and government fees are covered. As they mostly work in multiple currencies, they are particularly careful when dealing with exchange rates, and request funders to make awards in the currency of expenditure as much as possible, in order to reduce potential losses.

The grants team work collaboratively with researchers to develop costings. Researchers will enumerate their expected requirements, and the grants team will help to estimate true, detailed costings. Costings are usually very detailed, including each position and full-time equivalent (FTE) for staff costs. Non-staff costs such as flights and accommodation, consumables and reagents, are based on current actuals and equipment quotes from suppliers. This appears to be the most reliable way to reduce the risk of low cost recovery and it improves the quality of the application. If researchers are not able to specify their needs in detail, they generally require a clearer project plan.

Research costing

When project budgets include expenditure that takes place in the UK (for example, University of Oxford staff salaries), the UK full economic costs (FEC) are applied to that portion of the budget. For other budget items indirect costs are charged as a percentage of direct costs, as allowed by the funder. In general, budgets aim to recover the maximum amount of indirect costs that a funder will allow (for example, 20% for UKRI, 15% for the Bill and Melinda Gates Foundation). Where the funder does not have a set limit, an ICRR of 20% is applied. The 20% rate was not calculated using a specific methodology as this has not yet been developed for local expenditures.

When project budgets are relatively small or restricted in terms of meeting project outcomes the indirect costs are often reduced or waived. The reduction or waiving of indirect costs is approved by the director of operations. For the most part, the portion of recovered indirect costs received for activities in the UK are allocated to the University of Oxford and the other recovered indirect costs are allocated to the central budget to refund the core grant from which the majority of indirect expenditures were incurred.

In such a decentralized operation, it is a challenge to ensure that PI's follow the agreed process instead of acting independently. However, PI's have found that the value added by the services the grants team provides generates interest and trust amongst the researchers and helps them to realize that engaging with the grants team is to their benefit.

Capacity strengthening

The grants team offers training in the form of seminars and workshops tailored for researchers at different career stages. Topics specifically related to grants and grants management are also covered. Little funding is available to support grants management skills development, but the team did manage to train a local person in HCMC who is now able to support pre-award grants processes at a good standard, and plans to continue with this local capacity building at other sites.

Lessons learnt

- Central management of all grants and contracts helps ensure consistency.
 - Offer value-added support that will encourage researchers to follow internal processes.
 - Have an experienced grants team to support costing and grants management.
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LATIN AMERICA

Centro de Estudios en Protección Social y Economía de la Salud, Colombia

Centro de Estudios en Protección Social y Economía de la Salud (Center for Studies in Social Protection and Health Economics) (PROESA) is a research institution based at Icesi University and supported by the Valle del Lili Clinical Foundation, both located in Cali, Colombia. Its mission is to conduct high-quality research that supports the development of economic policies and social protection, based on evidence, for healthcare. The source of PROESA's research income depends on the ongoing projects, which are usually funded by national agencies and international funders.

Grants management

Support for the administration and accounting processes of PROESA's research projects is provided by the Icesi University.

Research costing

PROESA follows a process based on the type of study to be conducted to calculate the cost of research projects. Specifically, once the project deliverables are defined, it identifies the human resources required for each deliverable, first in terms of time required by each person, and based on that, the monetary costs. Other direct costs and indirect costs are then added to complete the budget. Where allowable, a profit margin is added. PROESA has an indirect cost policy to guide the consistent application of indirect costs to funded projects.

PROESA uses the fixed costs from the previous year as well as the budgeted expenditures of the current year to calculate the institutional ICRR. In the case of projects that extend to the following year, the forecast of the consumer price index (CPI) is used to update the calculations. Indirect costs are generally made up of administrative costs and office expenses, and are allocated proportionally across projects based on the expected number of projects for the year.

Lessons learnt

- Continuous monitoring of costs as well as income is essential for the sustainability of a research center, even though it is not its core activity.
- Multiple sources of funding imply multiple cost structures, and it is necessary to adapt the flow of work and use of resources to that dynamic; otherwise, research activities might become unsustainable.
- Having a permanent source of funding to fund the core structure of PROESA is key. Without this, the center would become another consultancy firm that tries to survive in the market. The financial stability legitimates, in a sense, the work of the center.

Centro Internacional de Entrenamiento e Investigaciones Médicas, Colombia

Centro Internacional de Entrenamiento e Investigaciones Médicas (International Center for Medical Research and Training) (CIDEIM) is a non-profit organization located in Cali, Colombia, with the objective of reducing the impact of infectious diseases among the most vulnerable populations in order to improve the quality of life in such communities. It receives research funding from national and international sources. The Colombian Administrative Department of Science, Technology and Innovation (COLCIENCIAS), recently established within the Ministry of Science (Minciencias), is the principal source of national funding. International funding sources include the Special Program for Research and Training in Tropical Diseases (TDR) at the World Health Organization (WHO), the Wellcome Trust, NIH/FIC and National Institute of Allergy and Infectious Diseases (NIAID) and the Swiss National Science Foundation.



Grants management

The application of policies and procedures for the grant administration process is currently managed and administered jointly by the Research Development and Promotion Unit and the Administrative Unit (purchasing, financial management, quality assurance and human resources). These units provide support to researchers during the different phases of the grant life cycle. To systematically fulfill the requirements of grant administration, the organization has a quality management system, supported by manuals, standard procedures and formats that provide guidance for researchers in the development of their proposals, projects, budgets and reports.

The current administrative/financial grant management process begins with an internal evaluation of pre-proposals, to determine their alignment with the institutional mission and objectives as well as compliance with scientific and ethical standards. Following this, a full proposal is prepared and presented using the guidelines of the funder. After approval of the project an initiation meeting is convened to review the project plan, responsibilities and commitments. The project initiation form is signed off by the PI and all co-investigators. Regular monitoring meetings are held to review technical and financial execution. Activities established in the project plan are carried out in compliance with the policies established by the funding agency, the relevant national regulations and institutional policies, with the support and guidance of the Administrative Unit. Upon completion of the project, technical and financial closure is formalized through a closing meeting.

Research costing

CIDEIM 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:

$$\frac{\text{Indirect costs}}{\text{Direct costs}} \times 100 = \text{Institutional ICRR}$$

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.

Capacity strengthening

As a research and training center, capacity strengthening is a priority for CIDEIM. The following strategies are in place to support capacity strengthening in research management:

- Collaborative programs: multiple collaborative projects with the University of Yale has contributed significantly to improving in-house competency to manage grants in compliance with US federal regulations.
- Institutional training: CIDEIM staff receive training through the effective project planning and evaluation (PEEP) course developed by TDR. This course helps research teams to identify achievable objectives, activities, and budgets for their projects.
- Individual coaching: those responsible for research management at the institution have participated in different national and international seminars, including those organized by NIH in Panama, for example, on the management of policies and grants, and workshop sessions at the annual meetings of the Society of Research Administrators International (SRA).



Lessons learnt

- The range of knowledge and experience necessary to administer research is expansive, and the recovery of the costs of organizational structures and processes to carry out this work is challenging. Autonomous research centers must explore flexible organizational structures that meet institutional needs and assure compliance with requirements of funding agencies and national regulations.
 - Although most of CIDEIM researchers understand English, the majority of the administrative staff do not. This creates a communication barrier for implementing international funder requirements, a situation that extends to other research institutions in the local and regional context.
 - It is vital to involve the Administrative Unit and the Research Development and Promotion Unit from the first stages of proposal and budget development. This ensures efficient grants management, including accurate estimates of the total project cost. Once the project is approved, this budget estimate facilitates and guides the recovery of research costs, and institutional sustainability.
 - Institutional monitoring of projects requires discipline and cultural and organizational change. Establishing methods that facilitate effective communication between researchers and administrative staff is crucial.
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Instituto de Enfermedades Infecciosas y Parasitología Antonio Vidal, Honduras

Instituto de Enfermedades Infecciosas y Parasitología Antonio Vidal (Institute of Infectious Diseases and Parasitology) (IAV) is a private non-profit organization operating from Honduras. Among its functions are research, training and consulting activities in infectious diseases and the parasitology field in general, and the provision of administrative support to government institutions and universities. IAV has received funding from The Foundation for Conservation in Guatemala; the ANESVAD Foundation in Bilbao, Spain; the Tulane University in New Orleans; funders such as the TDR/WHO and its special program of research, development and research training in human reproduction; the Wellcome Trust and The Global Health Network.

Grants management

PI's have to submit their proposals to the IAV Board for approval. Once approved, the budget is developed with assistance from the finance and administrative staff. IAV have developed administrative and financial guidelines for managing grants funding, which are aligned with government fiscal procedures. Project expense reports are done manually and are updated daily, using Microsoft Excel. The expenditure reports are correlated with bank statements and account information. Billing is done manually, but using the formats approved by the financial reporting system in Honduras and in accordance with the billing system regulations and other fiscal documents of the Honduras government.

Research costing

IAV applies an ICRR of 10% on research grants unless the funder has a limit that is lower than the institutional rate.

Lessons learnt

- The financial reporting system in Honduras has changed in a non-unified and non-standard way over the last decade and IAV has had to adapt by investing its limited resources.
 - Institutions such as IAV in countries such as Honduras survive an unfair fiscal system through the solidarity and voluntary work of its members.
 - The commitment of the members framed on the institutional mission and vision and their credibility with their collaborators and the community in general, are the forces that drive the work of IAV.
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Pontificia Universidad Católica del Ecuador

Pontificia Universidad Católica del Ecuador (Pontifical Catholic University of Ecuador) (PUCE) is a private research university with its headquarters in Quito, Ecuador. Most of the research is funded from institutional resources but research funding is also obtained from various national and foreign institutions such as the University of Ohio, the Secretariat of Higher Education, Science, Technology and Innovation, the Institute of Tropical Medicine Antwerp, Yale University, the Smithsonian Tropical Research Institute, the University of Illinois, the NHI and the WHO.

Grants management

PUCE does not have a separate grants management office since its activities are supported by the administrative staff of the university. The financial department of the university keeps detailed records of project income and expenditure. Where allowed, administrative staff are appointed through project budgets to provide dedicated project support.

Research costing

In collaboration with the university, the researchers determine the direct costs for each project, including human resources directly involved in the project, travel and transportation and the acquisition of equipment (if required). Indirect costs are applied as a percentage of the direct costs of the project. PUCE does not have an indirect cost policy but consistently charges an ICRR of up to 20% for consultancies and services and up to 15% for research projects, depending on the funder's guidelines. Since they want to develop and grow research activities, PUCE currently waives the indirect costs where they are not supported by the funder.

Lessons learnt

- In many cases the funding received requires substantial administration and the indirect costs are not sufficient to cover these expenses. Institutions must be aware that this is the case more often than they expect and do their financial planning accordingly.
- For some projects sufficient cash flow is required to start the activities and institutions must plan for this.

Sociedade Beneficente Israelita Brasileira Albert Einstein, Brazil

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.

Grants management

The Research Support Office (RSO) was established in 2014 and brings together research management services and platforms strategically designed to support research administration and to provide technical advice on specific aspects of project planning and budgeting. RSO activities include statistical support, data collection and storage and support for the reporting and dissemination of results. There is a great demand for the grants management service, which includes funding searches, support with proposal preparation and submission, account management and purchases, compliance, reporting and project closeouts. The RSO uses I.Search™, a proprietary database for the management of documents, processes, costs, resources and scientific outputs. This database was obtained in 2005 and was upgraded in 2009 and 2010 to allow for its current functionality.



Research costing

I.Search™ is also used as a tool to manage the RSO personnel component of the indirect costs. All RSO employee expenses are allocated to a single cost center and the costs are shared across all the cost centers of the institution that have active projects. This method does not quantify the time spent on each project but gives an idea of the time spent for each department, thus ensuring that the costs of the institutional service are shared among all SBIBAE's departments, as the RSO operational budget is very limited.

Lessons learnt

- To advance research and to increase the production of quality research outputs requires skilled and experienced research support staff to relieve researchers of the administrative burden their research entails.
 - Technology can reduce the administrative load of grants management and hence the institutional indirect costs. This requires maintenance and occasional systems upgrades.
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APPROACHES TO CALCULATING INDIRECT COST RATES IN HIGH-INCOME COUNTRIES

The approaches of LMICs to the calculation of ICRRs are discussed in Key 4. The information below provides examples of approaches followed by some developed countries.

A study conducted by the Canadian Association of University Business Officers (CAUBO), with the support of the Canadian Association of University Research Administrators (CAURA), compared experiences across Canada, the UK, Australia, and the USA (see https://www.caubo.ca/wp-content/uploads/2016/03/Indirect_Costs_of_Research-CAUBO_2013.pdf). The study concluded that country research systems are nuanced with unique complexities, but importantly, that there is a risk to research institutions when the real costs of research are not funded. In addition, consistent practices for institutions across a country, with respect to ICRRs, would strengthen the position of all institutions.

United States, with Michigan State University as an example

Full costing in the US began during WWII in the 1940s, when the Office of Naval Research (ONR) engaged university faculty members to carry out contract research for special projects. By 1947 ONR began to formalize the funding of these programs and it became apparent that the issue of institutional costs (now commonly known as the Facilities and Administrative [F&A] rate) would need to be addressed to support the university-based research structure to sustain and grow this research. This rate was initially a flat rate percentage amount of the total direct costs. By 1958 more formal guidelines emerged from the Bureau of the Budget, via Circular A-21. That created a more formal set of criteria for justifying and documenting costs. Circular A-21 was revised many times over the years for various reasons related to increasing costs, federal agency reorganizations and political and budgetary pressures. In 1993 a cap of 26% was imposed on the administrative portion of F&A, which is still the current top rate on administrative costs. At Michigan State University (MSU), for example, this is the rate used for projects where less than 50% of the research is conducted off the main campus.

The facilities portion of F&A includes costs such as building depreciation (e.g. 5% at MSU, equipment depreciation (2.7% at MSU), operations and maintenance (18.2% at MSU), interest (2.6% at MSU) and library (2% at MSU). The current facilities rate at MSU is 30.5% of modified total direct costs (MTDC) giving a total F&A rate of 56.5%.

In 2014, Uniform Guidance (UG) was adopted to provide a government-wide framework for grants management and is an authoritative set of rules and requirements for federal awards that synthesizes and supersedes guidance from earlier Office of Management and Budget (OMB) circulars. These guidelines speak broadly to US federal awards. The indirect cost (IDC) rate of 56.5% is MSU's default rate for all sponsored projects (irrespective of sponsor) unless the funder has a different published rate which is the rate applied to all applicants. In that case, faculty PI's may seek this funding with a lower rate. Agreements with other negotiated rates also exist with certain entities, such as the State of Michigan, which has a 20% IDC negotiated rate with MSU.

At MSU researchers need special waiver approval from the vice-president for research and graduate studies to apply for funding with rates outside of guidelines or negotiated or published rates. If a lower rate is approved, the unrecovered indirect costs are prominently flagged on internal routing for all approvers to review, in order to determine whether the project merits outweigh the burden of unrecovered costs, because institutions already heavily invest their own funds in research endeavors. Usually, F&A cost rates are displayed on institutional websites and are fully accessible by the public. This level of transparency is important and helps instill stakeholder trust.

At MSU 10% of the total indirect costs recovered is reserved for the college where the PI's are appointed and an additional 10% is reserved for the department where the PI's are appointed. If they have multiple college or department appointments, the distributions are based on the relative percentage of effort in each college or department. There are other provisions for a PI who may perform their research within other campus units/colleges and for units performing post-award administration, with the goal of indirect cost recovery benefiting the unit where the costs have been incurred.



Departments receive their portion of recovered costs as an additional line item in their annual budget. These funds are used to offset general operating costs of the unit, as it is a 'recovery' of expenses incurred to benefit multiple projects. Having additional research indirect costs return allows departments to hire student employees, support additional faculty projects or travel, and so on. At MSU, colleges also receive their indirect cost portion in their annual appropriation and this return is typically retained to support additional research endeavors such as support for pilot research projects, student research, and to match support required by some external grants.

United Kingdom

The transparent approach to costing (TRAC) is the methodology developed for the higher education sector to help them cost their activities. It is an activity-based costing system adapted to academic culture in a way that also meets the needs of the main public funders of higher education.

This model distinguishes between three main cost elements:

- Directly incurred (DI) costs: those that can be explicitly identified and recorded against a project;
- Directly allocated (DA) costs: those that are attributable to a project, but are estimated rather than directly recorded, and
- Indirect (Ind) costs: all the other costs of running the institution that are not directly attributable to the project, but nonetheless need to be paid for (including common administration, library, and so on).

In the TRAC system the full economic costs (FEC) are apportioned between activities such as publicly funded and non-publicly funded teaching, research and other activities such as for the provision of accommodation, catering and other services rendered on a commercial basis.

Some costs are specific to an activity – for example, research assistants employed on a specific project – and these costs are directly assigned to the activity. Other costs are apportioned using cost drivers such as space costs (apportioned to departments and activities based on the space occupied) and student support service costs (apportioned based on student numbers). Staff costs, within academic departments, are apportioned based on the results from a time allocation survey carried out every three years – the results are reviewed annually and updated, if necessary, by heads of departments.

Based on pricing from annual TRAC reporting, a rate is determined for each institution. The costs are based on a percentage of the full-time equivalent (FTE)/salary costs and are generally reimbursed as follows:

- UK research councils (80% of FEC);
- EU framework projects (75% of eligible costs [not of FEC]);
- UK charities (direct costs only), and
- UK government departments (100% of FEC).

Sweden

A model for the calculation of indirect costs was accepted by the Association of Swedish Higher Education (SUHF) in 2007. National workshops and peer-to-peer learning assisted the implementation. The allocation base is direct salaries or salary plus running costs. The basic principles of the model are:

- The operations of the higher education institution are divided into core activities and support activities and the core activities are divided into distinct operations, which are referred to as cost-bearers.
- Expenditure on support activities (joint costs) is apportioned to the different core activity operations (teaching and research).
- All joint expenditure is apportioned among the cost-bearers in the form of shared costs.
- All higher education institutions use expenditure as the basis of their allocation to the cost-bearers, i.e. the main basis is direct salary costs (alternatively, direct salary and operational costs).



- All revenues and expenditure are attributed to the cost-bearers, which makes it possible to monitor full coverage of costs.
- A new method for project calculations, 'full-cost calculation', which indicates total costs (direct costs and a fair share of indirect costs) and revenues (divided into external funding and grants), has been developed.
- A common functionally divided structure for shared expenditure at different levels is applied when making full-cost calculations.

Other examples

- Norway: see <https://www.forskningsradet.no/en/apply-for-funding/Budget/what-to-enter-in-the-project-budget/foring-av-personalkostnader-og-indirekte-kostnader-i-uh-sektoren/>
- Finland: see https://bestprac.eu/fileadmin/mediapool-bestprac/documents/Outputs/Learning_materials/Financial_Matters/1_Main_documents/2019-04-01_BESTPRAC_Financial_Management_of_H2020_projects_-_Guide_to_Best_Practice
- Ireland: see <https://hea.ie/assets/uploads/2017/06/Report-Of-The-Group-On-Research-Overheads.pdf>
- Australia: see <https://www.education.gov.au/full-cost-university-research>
- Think Tanks: see https://onthinktanks.org/wp-content/uploads/2018/02/OTT_BestPracticeSeries_Third.pdf



INITIATIVES FOR INSTITUTIONAL OR SYSTEM-WIDE CAPACITY STRENGTHENING IN GRANTS MANAGEMENT

These examples demonstrate how some funders are supporting initiatives to strengthen capacity in grants management at recipient institutions. Brief summaries of some of the examples are presented in Key 5 of the main document.

India Research Management Initiative (IRMI)

Research and innovation plays a central role in national development in India and receives major support from the Government of India. The country has nearly 7 000 research institutions, including universities and research institutes, and has several national initiatives for the training of researchers. Enabling research funding is available at all career stages – from the Government of India, international agencies and funding partnerships such as the Wellcome Trust/DBT India Alliance (hereafter India Alliance¹), the European Molecular Biology Organization and the Human Frontier Science Program. Indian researchers also participate in large multi-institutional thematic programs, supported both by the Government of India and other sources.

As is the case with their global peers, Indian researchers would benefit from having research management support made available to them at their institutions. A 12-month pilot phase of IRMI, supported by the India Alliance, facilitated conversations on research management support services with 31 Indian institutions. From the IRMI pilot, it is clear that this segment of the research ecosystem in India is still at an early stage of development. While Indian institutions have robust financial management processes in place for grants, a small number have made a start with additionally offering support for partnership building, pre-award services, program management and the development of online systems for grant management. In part, these changes have been catalyzed by the movement of research managers from funding agencies to institutions with forward-thinking leadership. If more institutions came forward to similarly streamline their research support services, this would have a positive impact on Indian research and on interactions with funders.

Presently, there is a modest number of research managers employed at Indian institutions. This group of professionals needs to be nurtured and given access to training and networking opportunities. The IRMI pilot phase created the first opportunities for Indian research managers to meet and interact with one another for discussions on their career paths, challenges and contributions to their employing institutions. Additionally, a small group of Indian delegates attended the International Network of Research Management Societies (INORMS) conference 2018, a prominent international conference on research management. These experiences highlighted the importance of a peer group for Indian research managers and have laid the foundations for building a community of practice in India.

Insights from the IRMI pilot phase have guided the subsequent establishment of a new five-year program for IRMI from 2019 to 2024, with a specific focus on (i) supporting research centers in India by strengthening research management services available to their researchers; (ii) supporting training, career development, and networking opportunities for research managers and administrators; (iii) building national and international partnerships for knowledge and resource exchange and (iv) creating a community of practice for research management in India.

As part of the new phase of IRMI, the India Alliance will support funding opportunities such as travel bursaries for research management conferences, funding for international exchange of research managers and institutional grants for developing research management structures. In addition, the India Alliance will facilitate training and networking activities to foster a community of practice for Indian research managers. These interventions are foundational steps towards strengthening research ecosystems in India.

Further insights from the India Alliance IRMI pilot can be accessed [here](#).

¹ The India Alliance is a co-funded partnership between The Wellcome Trust, UK and the Department of Biotechnology, Government of India. Operated as an independent charity in India, the India Alliance provides a unique program of research fellowship schemes, competitive grants and other funding, with the aim of building excellence in biomedical research in India.



Research Management Programme in Africa (ReMPro Africa)

The African Academy of Sciences (AAS) identified research management as one of the critical gaps that need to be addressed to ensure a strong research ecosystem that will maximize the quality and output of research. In 2017 The AAS set up ReMPro Africa to transform research management at institutional level through four interconnected strands:

- Institutional leadership – ensuring awareness and engagement that will strengthen research management functions across successive generations of leadership and senior academic staff and hence continuity.
- Sustainability – identifying mechanisms to support research management functions in African institutions, including financial and career sustainability, with or without external funding, to create strong research environments that will support greater research productivity, innovation and funder confidence.
- Standards – developing a common standard that constitutes an acceptable level of support provision, recognized both by institutions and funding partners. In this context an international standard for Good Research Management Practice (GRMP) based on the Good Financial Grants Practice (GFGP) process is being developed. Research management professionals, researchers, institutional leaders and funders have deliberated on the scope, depth and breadth of a global research management standard at various workshops and consultation events. The GRMP will standardize, simplify and strengthen the institutional management of research.
- Capacity – continuous capacity development for individuals in key research management functions to promote the notion of the research management ‘career’ pathway in institutions, supported by an appropriate infrastructure of networks and training opportunities.

The funding partners include the Wellcome Trust, UKRI, the Department for International Development (DFID), the National Institute for Health Research (NIHR) and the Royal Society.

Financial Assurance Fund (FAF)

NIHR was established in 2006 and is the largest funder of health and social care research in the UK. FAF is funded by NIHR through their Global Health Research Programme. The FAF aims to provide assurance that grantees comply with requirements on the use and distribution of funds in LMICs and focuses on sustainable capacity building in financial and risk management with collaborating LMIC partners. FAF is intended to benefit partners in LMICs through UK institutions who apply for and receive the funding, of which 70% + must be allocated to their LMIC partners. The program fosters South–South collaboration and the use of expertise in LMICs by, for example, recommending that applications include compliance audits that make use of local rather than international auditors.

To justify an application to the FAF, UK institutions have to assess the LMIC partners' financial systems and financial management capacity in order to identify areas for support. The application requires a support letter from the LMIC partner, confirming the need for this funding and their understanding of how the funds will benefit them in the longer term. Achieving longer-term benefits is part of the assessment criteria for the selection of LMIC partners. Examples of how the funding can provide these benefits includes: training in setting up appropriate financial management systems, supporting partners to achieve a Good Financial Grants Practice (GFGP) rating, development of a manual of policies and procedures, enabling the partner to administer research grants, embedding financial management good practice for research grants in LMIC partners and creating networks/communities within the NIHR cohort of finance managers who can discuss issues together and share learning.



Organizational Effectiveness Program (OE)

The William and Flora Hewlett Foundation is one of the largest philanthropic funders in the US. Its Organizational Effectiveness Program was launched in 2004 and provides grants of targeted support to grantees across all the foundation's core programs to build capacity in areas such as strategic planning, leadership transition, financial planning, board development and governance, and communications planning. The program was created because the institutions that the Hewlett Foundation depends on to achieve its goals are often under-resourced and understaffed, and do not have the time or capacity to focus on building strong internal systems, developing plans for the future, or cultivating leadership and future talent.

Science Granting Councils Initiative (SGCI)

The SGCI began as a five-year initiative jointly funded by the DFID, the IDRC and the Department of Science and Technology and the National Research Foundation in South Africa to strengthen the capacities of 15 science granting councils across sub-Saharan Africa. The objective of the initiative is to support research and evidence-based policies that will contribute to economic and social development in sub-Saharan countries. In 2017, the initiative received a Science Diplomacy Award from the Government of South Africa for its work with public funding agencies across sub-Saharan Africa, as well as several collaborating science and technology policy and practice organizations within and outside Africa. Currently the SGCI supports the capacity of councils to:

- Manage research;
- Design and monitor research programs, and to formulate and implement policies based on the use of robust science, technology and innovation indicators;
- Support knowledge transfer to the private sector and establish partnerships between councils for research competitions and other activities, and
- Build networks among councils and with other science-system actors.

In addition to supporting these four themes, a new partnership with the Swedish International Development Cooperation Agency (Sida) will add two new cross-cutting themes, namely research excellence and gender equality and inclusivity. Councils will be supported to consider how the research they fund can be gender-transformative and inclusive, as well as how their grant-making policies and practices can empower women scientists and those from marginalized communities.

Strengthening of Collaboration, Leadership and Professionalisation in Research Management (StoRM)

StoRM is funded by the European Union Erasmus Plus Program under the Action for Capacity Building in Higher Education. The project focuses on the Southern African Development Community (SADC) and is led by Stellenbosch University and involves five other institutions in southern Africa, the Southern African Research and Innovation Management Association (SARIMA) and three European institutions.

The project aims to:

- Establish a postgraduate diploma in research management for early career research management professionals;
- Develop an executive Masters degree curriculum for mid-career research management professionals;
- Establish a professional recognition mechanism for senior research management professionals, and
- Support a staff exchange and mentoring program, aimed at sharing good practice and developing research management capacities across the different regions.

The project will have a long-term positive impact on international partnerships and cooperation, not only between the consortium partners, but also more broadly between the members of SARIMA, ARMA International and the European Association of Research Managers and Administrators (EARMA) as regional professional associations.



Think Tank Initiative (TTI)

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. TTI was funded by the IDRC, the William and Flora Hewlett Foundation, the Bill and Melinda Gates Foundation, the United Kingdom Department for International Development, and the Norwegian Agency for Development Cooperation. It is managed by the IDRC. Following recommendations from the first phase, the second phase (2014–2019) focused more closely on the financial resilience of think tanks.

In addition to one-on-one support, TTI aimed to enhance relationships between think tanks and funders by organizing courses, workshops, and webinars to boost the internal financial capacity of think tanks and their ability to navigate a changing funding environment.

Capacity-building programs launched in 2016 helped Latin American think tanks design, strengthen, and implement sustainability strategies. In Africa, an 18-month project deepened the understanding and use of business model concepts. Many other organizations used TTI's support to strengthen their finance and administration capacity, thereby increasing their accountability and attractiveness to funders. This entailed revising human resources and financial management manuals, upgrading their financial systems, developing funding strategies, hiring resource mobilization officers and expanding staff capacity in administration, finance, and monitoring and evaluation.

University Administration Support Program (UASP)

UASP is run by IREX, a global development and education organization, and supports the development of research management capacity among mid- to senior-level research managers in 19 countries, including some in Africa. The fellowships were implemented in 2002 and are funded by the Carnegie Corporation of New York.

The fellowship model provides for a six-week intervention including two weeks of training and peer-to-peer learning in Washington DC, and a four-week placement (linked to priorities identified at the home institution) at a respected US university. Fellows are supported to develop an implementation plan based on the application of learning from the host placement. A virtual learning environment enables fellows to engage with UASP trainers, peers and alumni prior to, during and after placement. Following the placement, fellows can apply for small grants to start with the implementation of reforms at their home institutions, to take further research management courses and to attend relevant conferences.

Global Infectious Disease Research Administration Development Award for Low- and Middle-Income Country Institutions

NIH/NIAID hosts three-day regional post-award grants management training workshops in countries where there are institutions that receive NIAID research funding. While these regional training events have helped many attendees, they are usually too short and the cost of travel is often not affordable to institutions. Consequently, the NIAID also supports the **Global Infectious Disease Research Administration Development Award for LMICs** to provide senior administrators from institutions in LMICs with advanced training in the management of NIH grants. The initiative provides support for the travel of senior administrator(s) from the LMIC institution to a partner US host institution where they receive hands-on training in grants administration, including compliance with NIH scientific reporting requirements. Overall, these senior grants administrators are empowered to serve as institutional grants management leaders. Upon return to their institutions they are expected to train others at their home institutions, implement grants management changes if needed, as well as serve as a resource for training other local or regional institutions receiving NIAID funds.



Institutional Support Office for Researchers Training Program (EAIP)

The São Paulo Research Foundation (FAPESP) is a public foundation in Brazil, with the aim of providing grants, funds and programs to support research, education and innovation in private and public institutions and companies in the state of São Paulo. In response to the demand from the scientific community FAPESP initiated the EAIP in 2010.

This four-day training program provides information about FAPESP and the types of grants that are available as well as training on grants management related topics such as proposal preparation and submission, financial administration, auditing, and accountability. Participants are encouraged to use the learning to improve their institutional systems and processes. A year after the training the participating institution is visited by an EAIP program manager to check on the improvements and to provide further support in areas related to grants management that are still challenging for the institution.

Strengthening national research and innovation capacities in Vietnam (ENHANCE)

The ENHANCE project (2015–2018) was funded by the European Union Erasmus Plus Program and operated at a macro level, targeting the Vietnamese Higher Education System particularly in the area of research and innovation management and implementation. The consortium involved six universities from different geographical locations in Vietnam, Vietnamese government departments (the Ministry of Education and Training and the Ministry of Science and Technology) and three European universities.

The main objective of the project was to strengthen capacities of the Vietnamese higher education system by promoting effective research and innovation management. To achieve this, targeted training programs were implemented and a network of research and innovation offices were established in Vietnam. By the end of the project 4 700 academics, researchers, managers and students had received training on research management topics, including research funding; six research management units had been created or strengthened at Vietnamese institutions; a white paper with recommendations on how to improve research and innovation management in Vietnam was produced, and a network was formed for all participating research management units.





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