

Training the Next Generation of African Researchers

*An institution-led approach to sustainable
career development support and training*



Foreword	4
Overview	5
The Career Development Group (CDG) Institutions	5
Career Development Groups (CDGs)	6
Structure of the CDGs	6
The Career Development Group (CDG) programme	7
Key inputs and expected outputs of the CDG programme	7
CDG ACTIVITIES	8
Overview	8
Institutional CDG activities in 2016	8
Sustainability and future plans	9
MONITORING AND REVIEW	9
THE COLLEGE OF HEALTH SCIENCES, KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY (KNUST), KUMASI, GHANA	10
CDG Profile	10
Key CDG activity	11
Future plans	12
THE CENTRE FOR BIOTECHNOLOGY AND BIOINFORMATICS (CEBIB), UNIVERSITY OF NAIROBI, KENYA	13
CDG Profile	13
Key CDG activity	14
Future plans	15
THE COLLEGE OF MEDICINE (COM), UNIVERSITY OF MALAWI, BLANTYRE, MALAWI AND ITS RESEARCH AFFILIATES	16
CDG Profile	16
Key CDG activity	17
Future plans	18

FACULTY OF MEDICINE, PHARMACY AND DENTISTRY; FACULTY OF SCIENCE AND TECHNOLOGY, UNIVERSITY CHEIKH ANTA DIOP (UCAD), DAKAR, SENEGAL	19
CDG Profile	19
Key CDG activity	20
Future plans	21
KILIMANJARO CHRISTIAN MEDICAL UNIVERSITY COLLEGE (KCMU CO), MOSHI, TANZANIA	22
CDG Profile	22
Key CDG activity	23
Future plans	24
THE COLLEGE OF HEALTH SCIENCES (CHS), MAKERERE UNIVERSITY, KAMPALA, UGANDA	25
CDG Profile	25
Key CDG activity	26
Future plans	27
CDG REVIEW	28
Monitoring and Review	28
Level 1 - Reaction to the CDG programme	29
Level 2 - Learning gains as a result of engaging with the programme	30
Level 3 - Application of learning to practice	31
Level 4 - Effect of the CDG programme on the department / faculty / institution	32
Key challenges	33
Lessons learned	33
CONCLUSION	34
Conclusion	34
References	35
Acknowledgements	35

Sub-Saharan Africa needs more well trained and imaginative scientists if it is to tackle effectively the many, and changing, challenges to the health of its population. Training an enthusiastic young scientist to become an original and effective researcher is demanding.

A masters and/or PhD qualification may provide the necessary theoretical background, and the latter some initial experience on how to plan and conduct a research study, but the initial postdoctoral period is often the time that determines the success or otherwise of a scientist's whole future career. At this stage, a scientist needs guidance not only on the technical aspects of his/her work but also on how to plan their research career and s/he needs to learn additional skills such as writing papers and proposals, supervising staff and managing a budget.

While there is significant progress being made in universities and research institutions in Sub-Saharan Africa to help young scientists at this critical stage of their career, there is still a need for further development in this area. The programme described in this report sets out to demonstrate the changing situation in five African institutions, and an affiliated institution, which are members of the Malaria Capacity Development Consortium (MCDC) – established in 2009 with support from the Bill & Melinda Gates Foundation and the Wellcome Trust to enhance malaria research capacity in Africa.

The MCDC, successor to the Gates Malaria Partnership (GMP), a previous research capacity development programme, has supported a PhD programme at five African universities and also provided continuing support for approximately 30 scientists who obtained their PhD through the GMP programme. This support has included provision of small grants, recruitment to a mentorship programme, participation in a Personal Development Planning Programme (PDP) as well as access to meetings and short courses directed at obtaining general skills. It was clear at the time of its initial funding, that the MCDC programme did not have guaranteed funding beyond its five-year award. Thus, three years ago, discussions were held within the consortium as to how to ensure that the progress made in supporting the general aspects of postdoctoral training in the partner universities during the course of the MCDC programme was not lost when the programme came to an end. These discussions led to the decision to create Career Development Groups at each of MCDC's five partner universities, and at an affiliated university, which could take on many of the responsibilities of supporting the postdoctoral careers of young researchers in their own institutions, previously provided by MCDC, and building on the lessons learnt during the course of the MCDC programme.

The progress that these Career Development Groups have made during the past two years with support from their institutions and the MCDC secretariat, in particular from Dr Hazel McCullough, is described in this report. Sustaining this development will be a challenge but if the progress made during the past two years continues, this will be an important example of collaboration in strengthening research capacity in Sub-Saharan Africa, and a lasting achievement of the work of MCDC.



Professor Sir Brian Greenwood
MCDC Director
Professor of Clinical
Tropical Medicine



Professor David Schellenberg
MCDC Deputy Director
Professor of Malaria &
International Health



Dr Hazel McCullough
MCDC Educational
Advisor

The Malaria Capacity Development Consortium (MCDC) was established in 2009 with funding from the Wellcome Trust and the Bill & Melinda Gates Foundation. It is a partnership of five African and four European institutions, set up to support the development of malaria research capacity in Africa.

To achieve this aim, MCDC set up a programme to support African scientists through doctoral and postdoctoral research fellowships, and provide support for early-career researchers through a formal postdoctoral programme. This programme includes: access to competitive postdoctoral research grants; Personal Development Planning (PDP); mentorship; research dissemination and networking opportunities, and leadership development. In addition, MCDC supports its African partner institutions with programmes to strengthen their research environments, research management and administration, and postgraduate research programmes.

To help sustain this capacity strengthening beyond the MCDC programme, Career Development Groups (CDGs) were established within the MCDC African partner institutions – and an MCDC affiliated institution – to develop a sustainable approach to institution-led capacity strengthening of research and researchers.

The CDG Institutions



The College of Health Sciences, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana



The Centre for Biotechnology and Bioinformatics, University of Nairobi, Kenya



The College of Medicine, University of Malawi, Blantyre, Malawi and its research affiliates.



Faculty of Medicine, Pharmacy and Dentistry; Faculty of Science and Technology, University Cheikh Anta Diop (UCAD), Dakar, Senegal



Kilimanjaro Christian Medical University College, Moshi, Tanzania



The College of Health Sciences, Makerere University, Kampala, Uganda

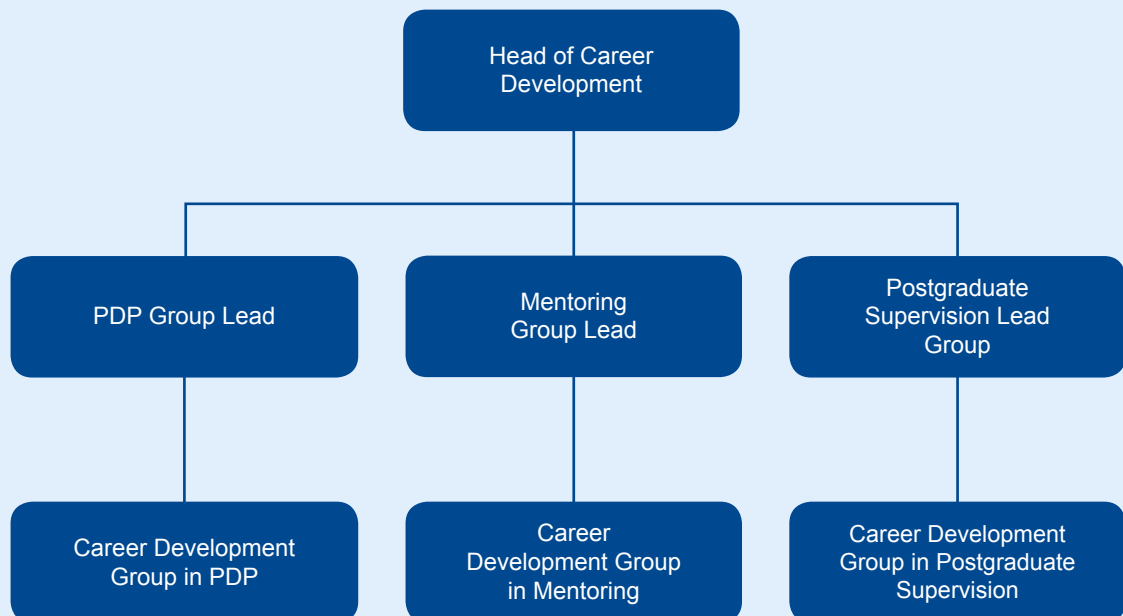
CDGs

The Career Development Groups (CDGs) are composed of staff members from each of the MCDC African partner institutions and the MCDC affiliated institution.

Each are set within a structure that supports building institutional capacity and expertise in developing research and researchers. Group leads were identified by the institutions, and tasked with forming working groups in three key areas identified as crucial to supporting individuals, Personal Development Planning (PDP), mentoring and postgraduate supervision. With overall leadership and direction from the group lead, the working groups are intended to be small in number but fully representative and include users of the CDG resources.

Heading up the CDGs is a Head of Career Development (HoCD), whose key role is to provide overall leadership to the groups and be the strategic champion for advancement of career development within the institution.

Structure of the Career Development Groups



The CDG programme

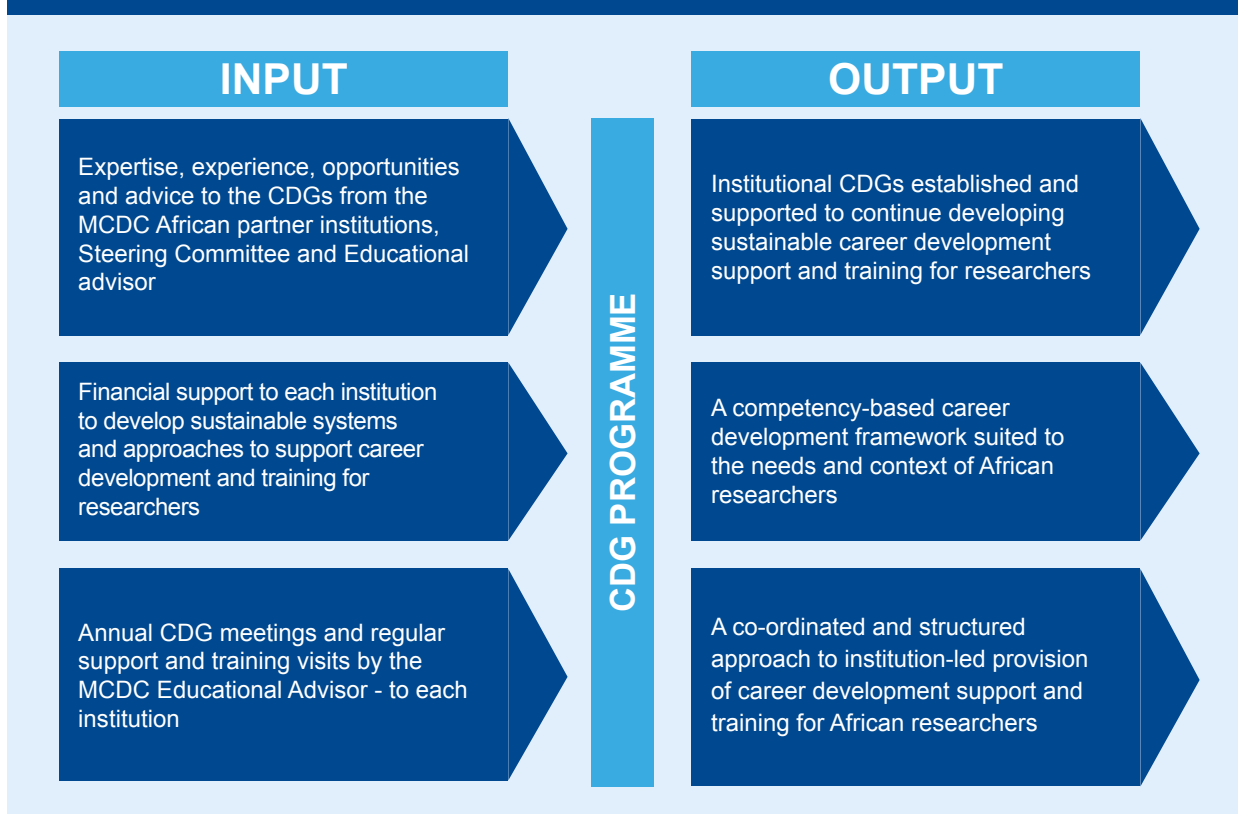
As part of a two-year structured programme, the Career Development Groups (CDGs) set out to embed sustainable career development support and training for researchers within the existing structures, policies and practices of their institutions.

Each CDG, in collaboration with members from their wider academic and research communities, undertook a baseline assessment of their institution's current provision of support and training for researchers, and developed an action plan to address any gaps. While diverse context and need produced individualised CDG activities and strategies to achieve this scope of work, several common activities were designed to promote sustained development beyond the MCDC programme. These included:

- gaining institutional buy-in and strategic oversight for the groups
- aligning objectives of the CDG action plans with those of the institution and other stakeholders
- integrating all newly-developed systems and resources within institutional structures and processes

The CDGs also sought agreement from their institutions to include involvement in this work towards accreditation for promotion.

Key inputs and expected outputs of the programme



CDG activities

Overview

Results from the CDGs' institutional baseline assessments showed a great deal of researcher development and training taking place within their institutions.

Five of the six institutions delivered doctoral programmes that provided researchers with “on-the-job” training to develop competencies in areas such as, research techniques (laboratory, fieldwork, etc.), research management and organisation, and skills in critical analysis, scientific writing and communication.

The results also showed various models of provision – from the structured Francophone CAMES* system of a harmonising framework for higher education, research and innovation, to mandatory and accredited core skills modules as part of PhD and joint degree programmes managed by Graduate Schools or Directorates of Postgraduate Studies, to ad-hoc, unstructured and informal provision managed by individuals at faculty or individual level.

In some cases, this training was part of capacity development programmes, and were managed and evaluated by host programmes.

Following institutional approval, wider consultation on action planning, and collaboration with other stakeholders, each CDG developed and implemented prioritised activities to support the career development of their researchers and faculty staff.

Institutional CDG activities in 2016

- Implementing structured researcher and staff development training programmes within CDG faculties/Colleges/Centres
- Introducing Professional Development Portfolios mapped to competency frameworks, to support researcher and staff CPD, progression and promotion
- Strengthening existing programmes in PDP, mentoring and research supervision and introducing team supervision for doctoral researchers
- Integrating PDP into PhD curricula as part of accredited Graduate Skills Training programmes
- Incorporating PDP and mentoring programmes for postdoctoral researchers and faculty staff into individualised professional portfolio development
- Setting up an academic-approved Centre for Career Development (CDC) - to provide supporting infrastructure for researcher and staff development programmes
- Building electronic support systems to facilitate PDP, mentoring, research supervision, monitoring and evaluating student performance, and tracking research progress and alumni activity
- Using small grants from MCDC for infrastructure upgrades and refurbishing learning spaces – classroom, laboratory, PhD and postdoctorate rooms
- Developing a research career database, to profile and track the research engagement of all faculty staff

*CAMES - Conseil Africain et Malgache pour l'Enseignement Supérieur / African and Malagasy Council for Higher Education

- Developing databases for profiling and tracking active supervisors and mentors
- Appointing institution-approved training co-ordinators and administrative staff to support CDG activities
- Developing a competency-based career development framework for African researchers – to assist with identifying individual development needs for PDP, and inform the development of future training.

Sustainability and future plans

A key aim of the CDGs is to promote the sustainability of their work post MDCD, and to encourage the embedding of systems and resources developed by the groups within their institutional structures and processes.

Each of the CDGs worked with their groups and members of their institutions to develop a sustainable approach best suited to their context and needs.





College of Health Sciences, Kwame
Nkrumah University of Science and
Technology (KNUST), Kumasi

Contact:

Dr Harry K. Tagbor

Senior Lecturer, KNUST
CDG – Head of Career Development
ktagbor@yahoo.com
<http://chs.knust.edu.gh/>

Dr Rita Akosua Dickson

Senior lecturer, KNUST
CDG Lead – Mentoring

Dr Peter Agyei-Baffour

Senior Lecturer, KNUST
CDG Lead – Personal Development Planning

Dr Anto Berko Panyin

Senior Lecturer, KNUST
CDG Lead – Postgraduate Supervision

Miss Millicent A. Boateng

Co-ordinator, KNUST
Career Development Centre Co-ordinator



*We adopted a sustainable and systematic
approach to career development at
KNUST for staff, academics, researchers
and students by establishing the Career
Development Centre*

Establishing a Career Development Centre (CDC) at KNUST, Ghana

The KNUST CDGs started with a proposal to establish a Career Development Centre in the University. The basis of this proposal was to ensure long-term sustainability of research capacity strengthening activities in the College of Health Sciences, and KNUST as a whole.

After obtaining approval for operation at both College and University level, on 27 May 2015, the CDGs inaugurated the Career Development Centre in the College of Health Sciences.

The aim of the Centre is to establish a sustainable, systematic approach to career development for staff, academics, researchers and students. It will use in-house expertise and align with best practice to promote the development of highly trained and motivated individuals, who will be equipped to engage in leadership roles in all facets of life.

The Centre has obtained office space, which is set up as a training centre with an administrative section. Three activities have been rolled out by the Centre and two of them took place after the inauguration of the Centre.

The activities include:

- Systematic review and meta-analysis course
- Career Development Centre retreat for staff development
- Induction and Research Methodology workshop for PhD students

All these activities were well supported and attended by faculty and PhD students; and the retreat was attended by two Provosts from the University, Deans, Heads of Departments and all levels of faculty within the College.

The output from the retreat is a robust staff development programme, where the provision of in-house courses and workshops is mapped to staff development through a Career Planning Development framework and Personal Development Planning programmes.

The document is currently being finalised and will focus on the development of the following skills among others:

- Core skills
 - Personal Development Planning
 - Mentoring
- Learning and Teaching
- Research skills and techniques
- Student supervision and tutoring

Through this programme, the Centre plans to achieve its vision which is to provide the needed platform to develop and upgrade staff in all spheres of their career.



12 future plans

Ensuring long-term sustainability at KNUST, Ghana

KNUST CDG established the Career Development Centre to provide a sustainable means of career progression in the College and University. For long-term sustainability of the Centre, the group proposes these activities:

Institutional buy-in:

Although this goal has been achieved at College and University level, the CDG plans to reach out to Schools and Departments in the University to gain their support for the Staff Development Programme and buy-in to the vision of the Centre. The Centre also plans to form Special Interest Groups to facilitate and support the planned activities.

Staff voluntary contributions:

This approach to sustainability and contribution to self-financing of the Centre has been shared by most faculty and leadership on several platforms. The Centre plans to write a proposal to the College and the University for approval of these voluntary contributions by faculty into a common Career Development Fund (CDF).

Course fees for training/workshops:

Participants of training and workshops organized by the Centre will be required to pay course fees to enrol in the programmes. After the establishment of the Career Development Fund, course fees will likely be subsidized.

Collaboration with other projects:

Several projects are likely to share some of our activities on the Staff Development Programme. The Centre plans to collaborate on such activities to enable joint delivery of programmes, and avoid duplication of activities within the College.

Others: The Centre has plans to seek university appointments for the support staff in the Centre and to apply for funding from international donors and grants to support the activities of the Centre.



CDG Team Members



CDG Team Members

The Centre for Biotechnology and Bioinformatics (CEBIB), University of Nairobi

Contact:

Dr Isabella Oyier

Visiting-Lecturer, KEMRI-Wellcome Trust Research Programme, and CEBIB

Head of CDG group and Leads Student supervision

isseyochola@gmail.com

<http://cebib.uonbi.ac.ke/>

Dr Benard Kulohoma

Lecturer, CEBIB, and International Centre for Insect

Physiology and Ecology

CDG Lead – Mentorship

Dr Harold Ocholla

Postdoctoral fellow, KEMRI-CDC research programme and CEBIB

CDG Lead – Personal Development Planning

Mr Abraham Parwos

Postgraduate studies co-ordinator, CEBIB

Leads – Co-ordination of postgraduate Studies

We used in-house resources and recruited an intern to design, build and test an online system to better manage the student administration process at CEBIB

14 key CDG activity

Implementing an online system for career development at the University of Nairobi, Kenya

The online system was developed by a need to better manage the student administration process at CEBIB. The CDG developed supervision procedures that included supervisor-student meetings and documentation such as progress reports; this also ensured accountability for the timely completion of projects and graduation of students. In order for students, staff and the postgraduate co-ordinator to have easy access and monitor this process, we established the CEBIB CDG online system. We used in-house resources and advertised for an internship position in the School of Computing and Informatics (SCI), College of Biological and Physical Sciences, University of Nairobi. With support from the College Principal, the directors of CEBIB and SCI, we recruited an intern for 3 months who worked closely with the University Information Communication and Technology (ICT) Department to develop the online system on the same platform as the University's Student Management Information System (SMIS).

The aim of the project was to design, build and test a web-based information database system that would enable CEBIB to work more effectively administratively.

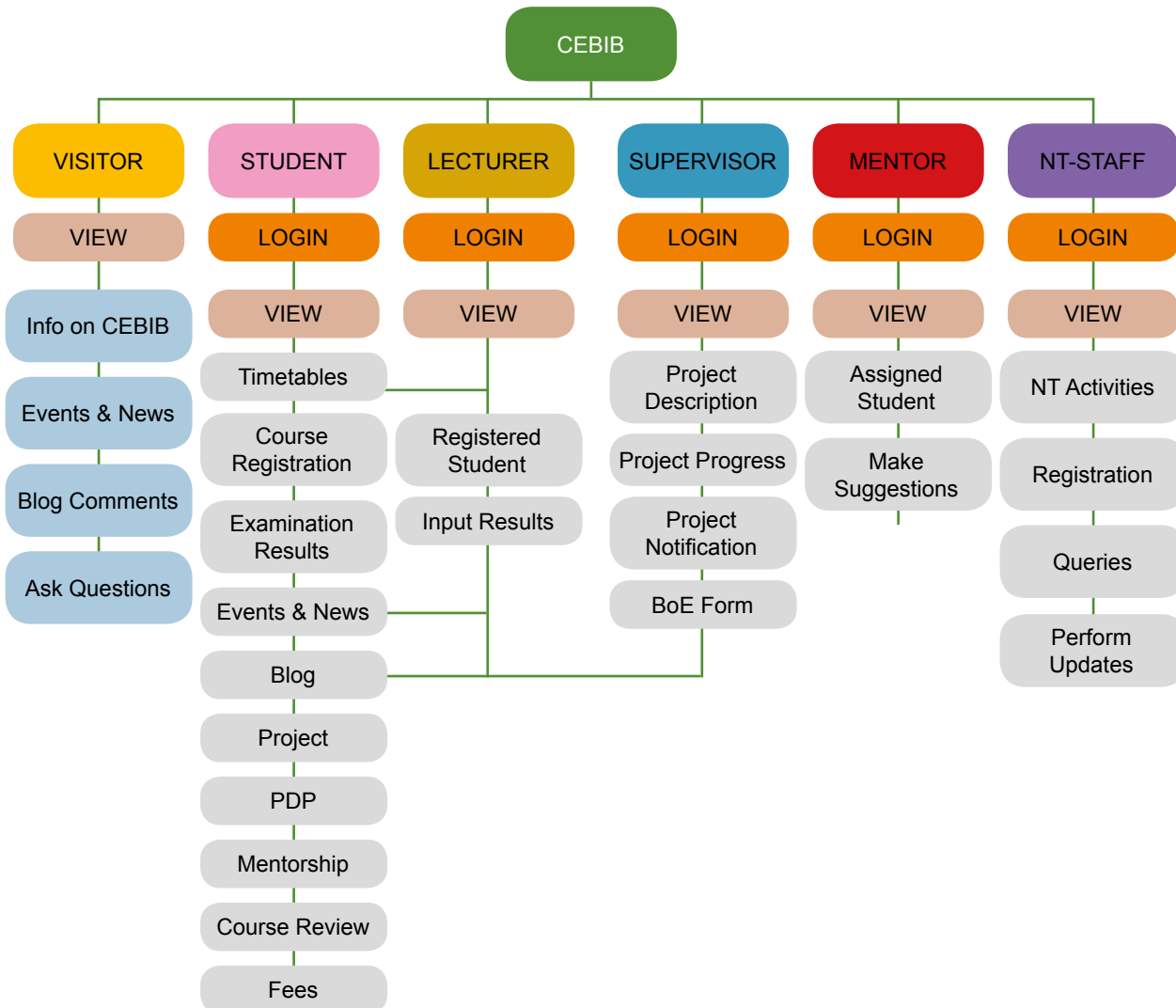
The system was designed to assist in:

- The student submission of CEBIB administrative documentation - PDP forms, MSc research project selection forms
- Monitoring and evaluating student processes such as, assignment submission, student progress reporting and review by supervisors
- Documenting student performance such as, examination reporting by staff
- Tracking the progress of students from project submission to examination and graduation
- Providing an administrative and laboratory inventory system – an online directory of laboratory equipment and reagents and administrative stationery.

The requirement specifications included functional (the essential tabs, which include the PDP, mentorship and supervision were included), non-functional (the look and feel of the website, for example the colour scheme matched those of the university's website), site adaptation (the CEBIB site was designed to conform with the same design and performance standards as the university website to allow for its easy integration by the ICT Department), user Interface (the website of the online system was designed to be self-intuitive) and performance (the online system was assessed to ensure optimal error-free performance).

The system was created with a log-in portal for the students and staff – and access to particular documents for each group. For instance, students could access their timetable, course registration, assignments, exam results, PDP, mentorship and research project details and documentation (as shown in the figure below). The postgraduate co-ordinator (PGC) is the system administrator who is tasked with the registration (data entry & update) of details of the users of the system (lecturers, students), and the retrieval of data or information for reporting, to inform the implementation of University policy/regulations. The PGC is also able to prompt the users to follow-up on unmet targets as per the annual academic schedules. The CEBIB director also has administrative rights to the system.

Following the development of the system the prototype was successfully piloted by the CEBIB MSc students and submitted for review by the University SMIS development technical staff prior to integration into the CEBIB website.



Future plans at the University of Nairobi, Kenya

We employed a postgraduate co-ordinator for a year with the aim that, post MCDC, they become a university employee based at CEBIB to ensure the continuity of the PDP, mentorship and supervision activities the CDG has introduced over the last 18 months.

The postgraduate co-ordinator is currently on an extended six-month university contract, with the aim that he will be formally employed at the end of this time period. The online system was also developed to make it easy for the new documentation on PDP, mentorship and supervision to be accessed and become part of the CEBIB educational programme.

We aim to continue our outreach programmes to the College of Biological and Physical Sciences where CEBIB is based and the wider university, to explain the PDP, mentorship and supervision practices at CEBIB. We will work towards embedding our CDG programme within the university's MSc and PhD training such that it contributes as credits towards the completion of a postgraduate degree.



The College of Medicine (CoM),
University of Malawi, Blantyre, Malawi
and its research affiliates

Contact:

Prof Victor Mwapasa

Dean of Postgraduate Studies and Research
CDG – Head of Career Development
vmwapasa@medcol.mw
www.medcol.mw

Dr Gertrude Chapotera

Senior Lecturer in Public Health
CDG Lead – Mentorship

Dr Lucinda Manda-Taylor

Lecturer and CoM Research Ethics Committee Admin
CDG Lead – Personal Development Planning

Prof Fanuel Lampiao

Associate Professor of Physiology
CDG Lead – Postgraduate Supervision

Dr Vincent Jumbo

Research Fellow and Honorary Lecturer
CDG – Training Co-ordinator

*The PDP and mentoring
programmes at CoM are designed
to complement each other... and are
incorporated into the Professional
Career Development Portfolio*

key CDG activity

Developing a Professional Career Development Portfolio to support researcher and staff development at the College of Medicine, University of Malawi

The College of Medicine delivers several postgraduate training programmes, and supports various models of training for researchers. To develop a structured institutional framework of career development for research scientists and faculty staff, the CDGs used the Career Development Framework, developed collectively by the CDGs, to undertake an institution-wide Training Needs Analysis (TNA). Forty-eight participants, including, students, faculty staff, postdoctoral researchers, Principal Investigators, co-ordinators, and managers from thirteen departments across CoM and its affiliates, responded to the TNA.

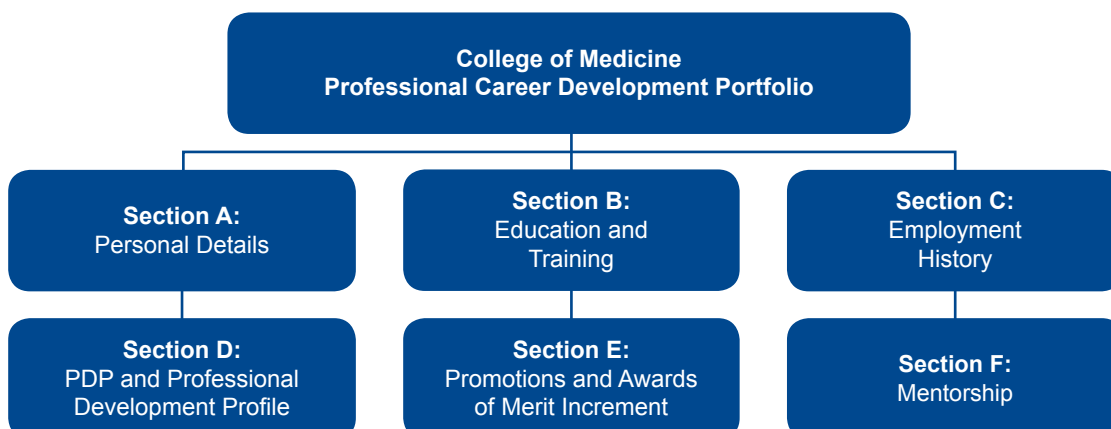
In collaboration with the Research Support Centre (RSC) based within CoM, the findings from the TNA were used to develop a structured training programme to meet the needs of the various groups of researchers and faculty staff at CoM. Some of the main areas of prioritised need were identified as: an ability to produce well-written papers; designing and planning research and protocol development; financial administration; understanding the research environment, and managing public and policy engagement.

Around the same time, the University of Malawi, introduced new promotion criteria for academic and research staff, and this prompted the CDGs to develop a portfolio system that would help individuals become more proactive with their career development and progression.

The CoM Professional Career Development Portfolio is a carefully packaged document that aims to help individuals identify areas that they need to develop, set career and education goals, plan their career development activities, take responsibility for their personal career growth and development, and keep a record of their skills and achievements. Incorporated into the portfolio is Personal Development Planning (PDP) and mentorship, which previously had not been part of the CoM support systems for researchers, except for the researchers on the MCDC programme.

The PDP and mentoring programmes at CoM are designed to complement each other. Self-reflection within PDP helps individuals to identify and plan achievement of their personal and professional development needs, whilst mentoring with support from a mentor helps individuals to realise these needs.

An electronic system was developed at CoM to support the Professional Career Development Portfolio, and the other CDG developments, such as the programmes in PDP, mentoring and research supervision.



18 future plans

Embedding career development support for researchers at the College of Medicine, Malawi

The CDG programme at the College of Medicine has successfully introduced a structured institutional framework and systems to support the career development of research scientists. The programme adopted a strategy of incorporating the CDG activities within existing CoM structures that are mandated to support postgraduate training and research management. This facilitated institutional buy-in of the programme.



Linking the career development programmes and systems such as PDP, mentoring and the Professional Career Development

Portfolio, to individual career progression will help sustain these programmes, as well as promote increased engagement and proactivity by researchers and faculty staff.

The online system to support the career development of research scientists and faculty staff at CoM was developed by the IT officer at CoM, and in collaboration with other stakeholders at CoM. The system is designed in a way that it can be easily migrated to the university server – and using in-house expertise ensures that any on-going maintenance can be carried out by the IT department at the CoM.



CDG Team Members



CDG Senegal

19

Faculty of Medicine, Pharmacy and
Dentistry; Faculty of Science and
Technology, University Cheikh Anta Diop
(UCAD), Dakar

Contact:

Prof Jean Louis Ndiaye

Professor of Parasitology, University of Thies
CDG Lead – Personal Development Planning
jlniaye@yahoo.com
www.ucad.sn

Prof Oumar Gaye

Professor of Parasitology, Head of Department, UCAD
CDG – Head of Career Development

Prof Ousmane Faye

Professor of Medical Entomology, UCAD
CDG Lead – Mentoring

Prof Mamadou Sarr

Professor of Physiology, UCAD Director of Quality
CDG Lead – Postgraduate Supervision

*The CDG work provides an
opportunity to strengthen
and fill the gaps in the
existing career development
programme at UCAD*

key CDG activity

Developing supervision and mentorship in UCAD, Dakar

The CDGs contribute to improving the scientific coordination of the Department of Parasitology within the division of Biology in the Faculty of Medicine. Their work provides an opportunity to strengthen and fill the gaps in the existing career development programme at UCAD – which aims to equip PhD and postdoctoral researchers with the skills needed to become more independent and self-confident in building their own career development. In addition to developing support systems that will benefit the researchers at UCAD, space for PhD students, postdoctoral researchers and alumni has been authorised by the Dean of the Faculty of Medicine and refurbished.

The CDG activities are highly appreciated by the University authorities. The CDG action plan for supervision and mentoring has been presented to the Higher Committee, and the activities have been incorporated into the on-going capacity building programme at UCAD.

- The supervision programme at UCAD has been strengthened by the CDG supervision group – and include the following developments:
- Validated guidelines and standards for supervision
- Implementation of a supervision plan
- A supervisory monitoring and evaluation platform developed, with identified indicators and progress monitoring
- Identified training for supervisors

The mentoring programme at UCAD is part of the CAMES* programme and supports faculty staff with their career development. The CDG mentorship group uses the existing programme to create a formal mentoring programme to meet the needs of PhD students and postdoctoral researchers. With this programme, these researchers will choose their own mentors and will be more independently guided and advised in their different issues faced, and in conflict resolution. Mentors will also be identified and trained in a different manner.

In the mentoring programme, the CDG activities include:

- Developing and validating standards for mentoring
- Identifying potential mentors
- Developing a mentoring guide
- Developing mentor profiles
- Orientation workshops for mentors and mentees
- Selection of mentors by mentees

Evaluation of the CDG activities are incorporated into the monitoring and evaluation undertaken as part of the CAMES programme at UCAD.

A web-based monitoring and evaluation system has been set up for all training programmes, and it is mandatory for all training programmes to be accredited following the CAMES recommendations. All CDG activities will be built on the existing programmes in UCAD for faculty members and early and mid-career researchers.

*CAMES - Conseil Africain et Malgache pour l'Enseignement Supérieur / African and Malagasy Council for Higher Education

Ensuring sustainability in UCAD, Dakar

Sustainability will be ensured by the Departments of Biology in the Faculty of Medicine and the Faculty of Science, and with the commitment of the regional universities of Saint Louis and Thies. A collaboration within these departments has been set up and a common agenda in terms of career development has been agreed. A contract of performance, signed by all the universities and funded by the world bank has five major components oriented to, improving the environment, the quality of training, and career pathways.

Following MCDC, UCAD will lead the Malaria Research Capacity Development (MARCAD) consortium, funded by the Wellcome Trust's Developing Excellence in Leadership, Training and Science (DELTA) Initiative. MARCAD aims to develop internationally-competitive research groups in malaria control and elimination in five countries across West and Central Africa. These include: Senegal, The Gambia, Mali, Ghana and Cameroon.

From Prof Abdoulaye Samb - the Vice Dean of Faculty & Director of the Doctoral School of Health, Environment and Life Sciences

"The future of our PhDs is an ongoing concern for UCAD and its doctoral schools. We have PhDs who will integrate within the education sector and public or private research institutions, and some who will integrate within the world of industry. Our university, which is a university for development, must support the growth of business and industry through research and innovation.

After their PhDs, our students are not very operational in the field of research, education or entrepreneurship. We must mentor them to be operational, hence the importance of this MCDC initiative. This project is of interest, especially to the selected students, but what really interests us, the top management at UCAD and at post graduate level, is to take advantage of this project, and expand the concept from the Health, Environment and Life Sciences doctoral school to the other six doctoral schools at UCAD."

CDG Team Members



CDG Tanzania



Kilimanjaro Christian Medical University College (KCMUCo), Moshi, Tanzania

Contact:

Dr Jovin Kitau

Lecturer and Research Scientist , KCMUCo
CDG Lead – Personal Development Planning
jvnkit@gmail.com
www.kcmc.ac.tz



Dr Blandina Mmbaga

Senior Lecturer in Paediatrics and Child Health, Director of Kilimanjaro Clinical Research Institute, & Adjunct Associate Professor, Duke Global Health Institute
CDG – Head of Career Development

Ms Elizabeth Msoka

Lecturer of Health Systems & Policy Research, KCMUCo
CDG Lead – Mentorship

Dr Rune Philemon

Lecturer of Paediatrics, KCMUCo
CDG Lead – Mentorship

Dr Jaffu Chilongola

Senior Lecturer of Medical Biochemistry and Immunology, KCMUCo
CDG Lead – Postgraduate Supervision



...CDG members have been appointed to the college quality assurance sub-committee, which is mandated with recommending sustainable measures for quality education at the college

key CDG activity

23

Engaging institutional stakeholders at many levels at KCMC in Tanzania.

The Kilimanjaro Christian Medical Centre is made up of three semi-autonomous institutions, a university college, a hospital and a research institute. Kilimanjaro Christian Medical University College (KCMUCo) is involved in teaching medical and allied health sciences, and currently has over 1500 students registered for diplomas through to PhD. Kilimanjaro Christian Medical Centre (KCMC) is a consultant referral hospital with over 400 beds and receives patients from all over the country, while Kilimanjaro Clinical Research Institute (KCRI) conducts research.

Despite the complexity in formation and roles of these individual institutions, there is massive and apparent interconnection and interdependence between their activities. For example, students registered at the college receive clinical training in the hospital, and tutors work on consultancy tenures for the college. Similarly, all KCRI scientists have teaching and/or service delivery roles at KCMUCo and KCMC respectively. Consequently, the Career Development Group (CDG) needed to be made up of members from the individual institutions if implementation of activities was to intersect and therefore meet the specific needs of all of the institutions.

In order to harmonize Career Development (CD) activities at KCMUCo as well as its training partners (KCRI and KCMC hospital), and develop policies which will be implemented across the institutions according to the KCMC strategic plan, a baseline survey on aspects related to postgraduate training at the college was conducted to collect the views and opinions among all PhD students and key KCMUCo faculty members. The survey tool captured views on four main domains: supervision, mentorship, Personal Development Planning (PDP) and administration from the Directorate of Postgraduate Studies (DPS) at the College. The anonymous survey was organized in collaboration between the CDGs and the director of postgraduate studies, and involved participants from all three partner institutions. Sensitization workshops were held, and a self-administered questionnaire was given to participants at the beginning of each workshop.

Findings from the questionnaires were summarized and feedback was shared with the participants during the second half of the workshop for their comments and way forward. The discussion was opened for further elaboration on the responses in order to come up with recommendations for possible ways to mitigate the shortcomings that were identified.

Results obtained from these surveys served as the basis for a brainstorming workshop with senior management to discuss integration, implementation, co-ordination and sustainability of the CDG activities at KCMUCo.



Following on from this meeting, the college has engaged the CDG in helping to plan the harmonization of postgraduate training activities and has appointed a CDG member as the Deputy Director of Postgraduate Studies, to help advise and assist in the restructuring of the postgraduate training at KCMUCo – to focus on students' career development and personal development goals.

24 future plans

Ensuring sustainable career development activities at KCMC in Tanzania

The MCDC career development initiative assisted in the formalization of career related activities, including PDP and mentorship programmes. As a result of the initiative, career development (CD) activities have been embedded at KCMUCo through meetings with various stakeholders including students, college management and faculty. For sustainability purposes, there has been a general understanding and acceptance for the integration of CD activities into the college framework.

As a consequence of this general agreement, and as a step forward in facilitating this integration, the college has nominated one member from the CDG as Deputy Director of Postgraduate Studies. The deputy director will facilitate CD activities, which are under the directorate. Additionally, CD activities will be housed in a quality assurance sub-committee, which has been established. CDG members have also been appointed to the college quality assurance sub-committee mandated with recommending sustainable measures for quality education at the college. With this base almost fully established, the CD activities will be part-and-parcel of the day to day running of the college machinery.

An important future plan is to establish a system for monitoring and evaluating CD activities and a framework for giving feedback, in order to strengthen the directorate of postgraduate studies. Another important future plan is to develop a detailed career progression and promotion guide to assist new and current staff with information needed for their career navigation at KCMUCo.



CDG Team Members



CDG Uganda

25

The College of Health Sciences (CHS),
Makerere University, Kampala, Uganda

Contact:

Harriet Nambooze
hnambooze@gmail.com
www.chs.mak.ac.ug

Dr James Tumwine

Professor of Paediatrics and Child Health, MakCHS
CDG – Head of Career Development

Dr Damalie Nakanjako

Associate Professor of Medicine, MakCHS
CDG Lead – Mentoring

Dr Dan Kaye

Associate Professor of Obstetrics and Gynaecology, MakCHS
CDG Lead – Personal Development Planning

Dr Elialilia Okello

Senior Lecturer, MakCHS
CDG Lead – Postgraduate Supervision

Dr Nakimuli Annette

Senior Lecturer, MaKCHS
CDG member and departmental focal person

Dr Akena Dickens

Lecturer, MaKCHS
CDG member and departmental focal person

*The Career Development
Programme was launched as a
college-wide agenda to improve
faculty career progression,
productivity and retention*

key CDG activity

Developing an institutional research engagement database at MakCHS, Uganda

CDG at MakCHS embarked on development of an institutional research engagement database for sustainable career tracking of MakCHS faculty researchers and research productivity. The CDG has generated evidence on research engagement by faculty over the last 15 years – including the areas of research, funding sources, departments involved, research leadership, and various levels of authorship on published research articles. Our hypothesis is that feedback to faculty on the status of individual and departmental research engagement would motivate them to create respective career development goals that would be met with support from already established institutional support functions like the structured career development programme and the research support centre.

Picture right: CDG Team Members.

The MakCHS CDG's faculty research needs' assessment was used to inform the subsequent faculty training activities. Therefore, this database will act as a benchmark for monitoring and evaluating the impact and sustainability of subsequent career development interventions on faculty research engagement and productivity. Going forward, the research engagement tracking database will be updated annually and used to support pre-award grant applications by faculty in the relevant fields of interest. Without it, the work that the CDGs have undertaken so far would almost become a one off activity and a lost opportunity to implement a sustainable way to engage faculty staff in their research career development and progression.

The content of the database will be essential to help inform: (a) individuals in developing their personal development plans (PDPs); (b) a faculty / institutional research development strategy/ needs document, and (c) an annual training programme of research and academic support. Similarly, the content of the MakCHS faculty research engagement database will inform functions of the institutional research support structures that support faculty skills development in core research methodology, statistical methods, as well as pre- and post-award fund management, and the structured career development programme that supports mentoring, personal development planning and postgraduate supervision.

Picture right: Departmental scientific writing workshop for anaesthesia faculty



Embedding career development in MakCHS, Uganda

At Makerere University College of Health Sciences (MAKCHS), faculty career development has been embedded within institutional structures to ensure sustainability of the programme.

At its inception, members of the Career Development Group (CDG) were nominated by the Principal, with representation from different departments. Subsequently, CDG activities were coordinated through departments in the School of Medicine, and delivery of CDG activities were scheduled at already existing monthly departmental meetings that are called by respective Heads of Departments.

Several departments have been supported to develop their faculty-specific career development priorities, which are then supported through CDG activities. Similarly, lunch hour sessions were scheduled for the existing lunch-hour seminars, which are called by the Dean's office.

In addition, the Career Development Programme was launched as a college-wide agenda to improve faculty career progression, productivity and retention. The career development goals and strategic plan has been discussed during proceedings of school board meetings as an essential part of all institutional and collaborative capacity building programmes. Even without a stand-alone career development centre, which is our future goal, this approach has been overwhelmingly welcomed by faculty at MakCHS. The monitoring and evaluation framework will also be embedded into the institutional periodic reporting and feedback to the department. This will promote sustainable involvement, enable the evaluation of impact, and ensure that innovations to maintain relevance of the institutional Career Development Programme will continue through the next decade.



MakCHS launched an institutional faculty career development programme

Monitoring and Review

The ESSENCE framework [2011] was adapted and used to monitor and track the programme activities and goals, and Kirkpatrick's Four Levels of Evaluation framework [2005] was adapted to provide evidence to review the CDG programme and activities.

All monitoring, reviewing and evaluation of the CDGs' institutional activities is undertaken as part of the institution's own monitoring and evaluation processes.

Included in the CDG's institutional action plan is how the impact of their work might be evidenced and used to support wider institutional uptake post MCDC involvement.

The CDG review looks at how the concept of working in structured groups and using a “bottom-up” approach to develop sustainable, institution-led career development support for researchers might work in reality. It uses a framework to review process as well as outcome at four levels.

Evidence collected from structured feedback, annual meeting discussions, narrative reports, and a final programme survey, captures the thoughts and experiences of the CDGs, lessons learned and ways in which the programme might be improved if repeated with other groups in the future.

Level 1 – Reaction to the CDG programme

The CDG structure worked well for most groups, and on average groups met formally around once a month. The time involved with CDG activities varied between groups, ranging from 3 – 8 hours per group per week and where appropriate, all CDGs were able to count this work as accreditation towards their promotion.

Key lessons learned were:

- Do not attempt to re-invent the wheel, look at what is available and repackage the functioning structure to make it more user-friendly
- There is a need for a competent and committed CDG activities co-ordinator
- Synchronize your job calendar with the CDG responsibilities
- Understanding the institutional structure, interest, policy and politics is essential

“Institutional enthusiasm and acceptance for the CDGs” is reflected in commitment to buy in to the programme, formally recognising CDG work as accreditation for promotion and supporting CDG staff appointments.



“...team work with a shared vision works best”

Level 2 – Learning gains as a result of engaging with the programme

The CDGs found working within their institutional groups and coming together annually with the other institutional groups, a good way of supporting learning, sharing ideas, resources and experiences, and feeling part of a Community of Practice.

Key learning gains were:

- Managing a (CDG) group, and recognising personal gain in mentoring others
- Realising the gap in career development and training for researchers and staff
- Gaining expertise, knowledge and skills in various areas, and a new approach to career development
- Navigating the institutional administrative processes to achieve buy-in
- The importance of documenting CDG activities such as mentorship and PDP to enhance personal reflection of individual career goals and objectives

“...the realisation that having a formal career development programme is important for faculty productivity”



Level 3 - Application of learning to practice

Application to practice is evident by what is being done differently within the institution as a result of the work of the CDGs, and these include:

- A more co-ordinated and structured approach to provision of researcher and faculty staff development and CPD within the institution
- Increased engagement and pro-activity by researchers and faculty staff to plan and manage own career development and progression
- Institutional commitment and increased involvement by Graduate Schools, Deans of PG Studies, Heads of Departments, Research Directors in the institutional management of career development support and training for researchers and faculty staff

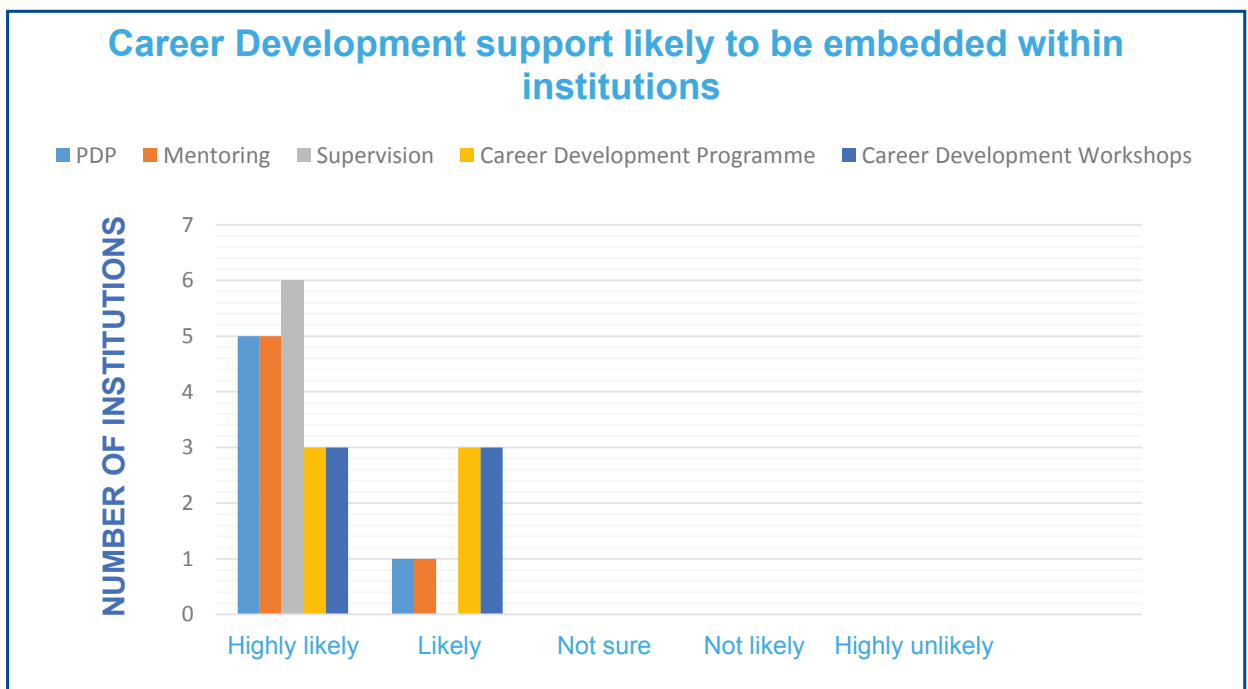
“...harmonising research training and reducing duplication of effort”



Level 4 – Effect of the CDG programme on the department / faculty / institution

The long-term aim of the CDG programme is to embed sustainable career development support and training for researchers and faculty staff within the institution, so that provision eventually becomes institution rather than programme-led.

While the two-year programme time frame is too short to expect total achievement of this aim, there is evidence to show some gains towards this.



Key challenges

- Scoping the work to fit it into the short programme time frame
- Forming working groups with limited institutional human resource capacity
- Getting staff and researchers, with heavy workloads and commitments, to attend seminars, workshops, and engage in support programmes such as PDP and Mentoring
- Scaling up the CDG programme from faculty to the wider institution
- Sustaining funds and interest to ensure that the momentum of developing research and researchers within the institution is not lost post MCDC

Lessons learned

- Linking support and training programmes to career progression helps to promote engagement and uptake
- It is essential to get senior management and other stakeholders on board from the outset
- Protected time is needed for CDGs to engage in activities of developing, implementing, monitoring and evaluating career development programmes of training and support
- Implementing the CDG activities was more challenging than anticipated
- The CDG approach is a catalyst for change, and it requires motivation and drive to ensure success

conclusion

The CDG programme has been a stimulus for change in the way career development support and training for researchers and faculty staff is managed within the MCDC African partner institutions.

With CDGs now established and supported by their institutions, there is greater potential for continued development of sustainable, institution-led approaches to career development support and training for researchers post MCDC.



The Career Development Groups.

We see ourselves as “...agents for sustainability ... becoming experts in PDP, mentoring and strengthening postgraduate supervision... advocates for facilitating best practice... and catalysts for change and improvement”

References

ESSENCE (Enhancing Support for Strengthening the Effectiveness of National Capacity Efforts) 2011, Planning, Monitoring and Evaluation Framework for Capacity Strengthening in Health Research. Geneva, TDR/ESSENCE/ 11.1

http://apps.who.int/iris/bitstream/10665/70699/1/TDR_essence_11.1_eng.pdf

Kirkpatrick, D. (2005) Evaluating Training Programmes: The Four Levels. (3rd Ed.). Williston. VT. USA: Berrett-Koehler Publishers Inc.

Acknowledgements

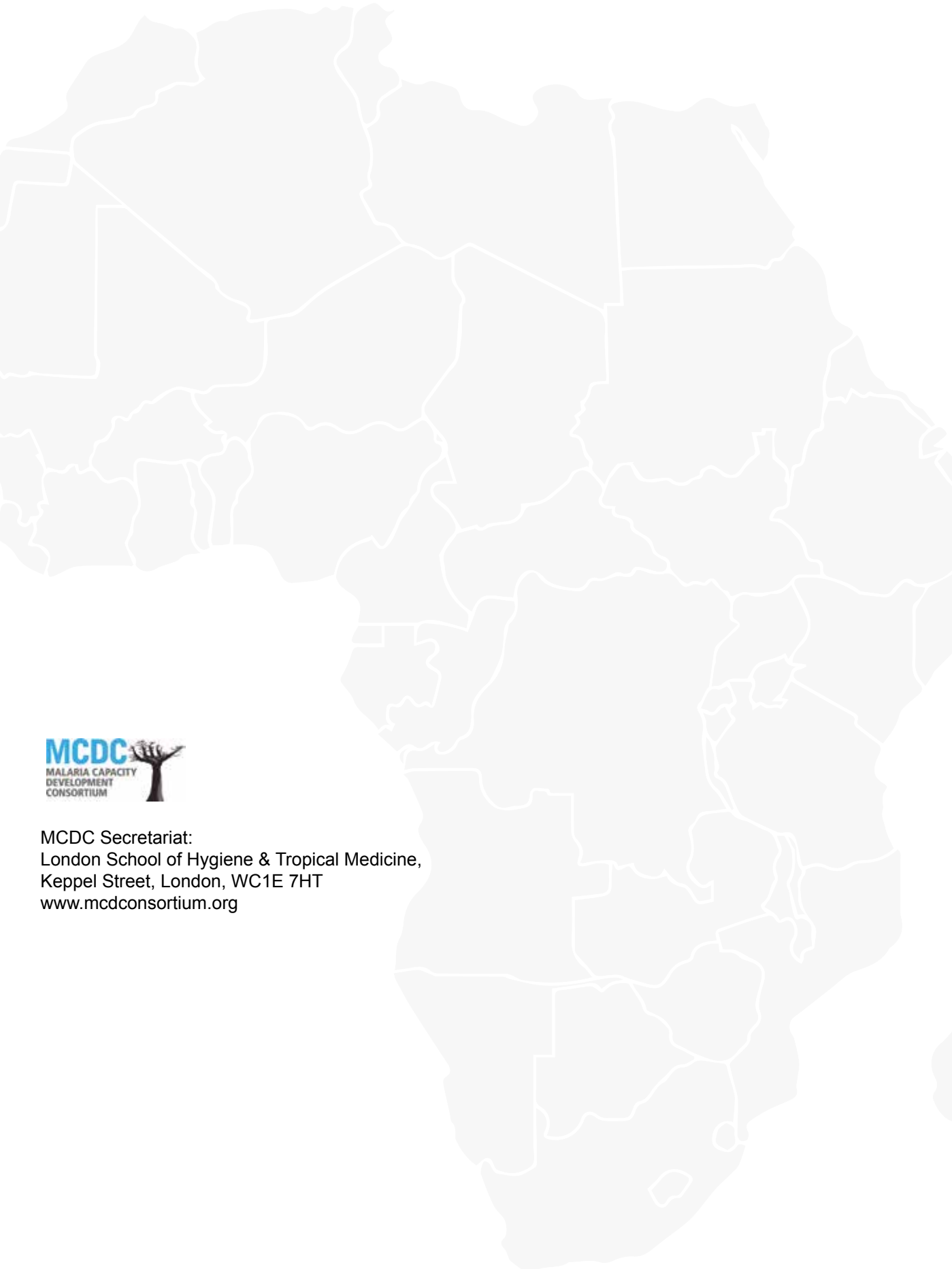
We are grateful to the Wellcome Trust, UK and the Bill & Melinda Gates Foundation for the financial support that enabled this work to be undertaken.

We also thank the many individuals involved in this programme for their contribution and support in making it work. This includes the all the CDGs, the senior managers, deans, principals, provosts, academics and researchers in the MCDC African partner institutions and the MCDC affiliated institution.

Thank you also to the MCDC partner institutions and secretariat, and the CDG writing group: Millicent Boateng (Ghana), Isabella Oyier (Kenya), Gertrude Chapotera (Malawi), Jean Louis Ndiaye (Senegal), Jovin Kitau (Tanzania), Damalie Nakanjako (Uganda), Hazel McCullough and Dalia Iskander (UK).

More information

For further information on this programme and report, please contact: hazel.mccullough@lshtm.ac.uk



MCDRC Secretariat:
London School of Hygiene & Tropical Medicine,
Keppel Street, London, WC1E 7HT
www.mcdconsortium.org



MCDRC is funded by: **wellcome**trust

BILL & MELINDA
GATES foundation