

CARTA
(Consortium for
Advanced
Research Training
in Africa)

The second year

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Preface

Report purpose and structure

This report is an annual deliverable for the Wellcome Trust and the Consortium for Advanced Research Training in Africa (CARTA). It aims to balance the multiple information, knowledge and learning interests of both audiences. It is produced by the Evaluation and Learning (E&L) team of the African Institutions initiative. The E&L team's role is to capture the evolution and progress of consortia funded under the initiative, and, over time, to draw out lessons about its African-led and networked capacity building model.¹

The core purpose of this report is to provide a review of CARTA's activities during the second year of the programme (1 August 2010 until 31 July 2011) against the consortium's plans for the period. Annual reports such as this one will feed into the final evaluation of each consortium and of the African Institutions initiative as a whole. It is also anticipated that our interaction with the consortia will enable learning that can assist each consortium to effectively implement their capacity building activities.

Compared to the inception and reports for year one, the date for this and future annual reports are becoming more closely synchronised with the annual operating periods of a consortium.

Chapter One summarises the CARTA vision and key milestones for the second year of activity. This provides background and context for interpreting year two performance information.² This chapter also situates the role of the annual reports within the wider evaluation and learning project design, and makes explicit the caveats. In *Chapter Two* we discuss the evolution and performance of CARTA against their milestones. *Chapter Three* provides a reflection on key aspects of CARTA's evolution in year two and the associated enablers, challenges and their implications. *Chapter 4* shares some wider learning that is emerging from E&L team engagements with the various consortia in the African

¹ As part of the African Institutions initiative, the Wellcome Trust is funding seven consortia, each involving partnerships between universities and research institutes. The concept of collaboration is at the centre of the initiative. The assumption is that a consortia model will enable partners to make the most of limited resources and to share skills and experiences. More details on the key features of the African Institutions Initiative report is available in the inception reports produced for each consortium.

² More detail on the intervention logic that underpins the CARTA programme is provided in the CARTA inception report, Bassford et al (2011) Consortium Report: CARTA (Consortium for Advanced Research Training in Africa), Santa Monica, CA: RAND, PM(L)-3697-WT.

Institutions initiative. It describes some the key developments in the second year of activity across the initiative, and then reflects more conceptually on a number of important factors which have influenced the evolution of the African Institutions initiative, and the reality of implementing institutional capacity strengthening interventions through the highly networked and African-led model.

The information presented in the report draws on a combination of evidence from formal reporting documents provided by CARTA to the E&L team, and less formal discussions between the two parties (through meetings, telephone calls, and email). It is important to note that the evidence presented in this report comes from interested parties - consortium representatives and the source documentation they produced – and a detailed audit of the information is outside the scope of this project.

Despite this caveat, the evaluation and learning project team feel that an open and transparent rapport with the consortium has been established.

We hope that this document will provide a helpful resource to CARTA, as the consortium continues to develop and make progress towards strengthening capacity for public and population health research in Africa. The project team would like to thank CARTA members for their constructive engagement with the E&L team and their contributions to this report. We would also like to thank our quality assurance reviewers for providing helpful comments and suggestions to this report.

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Summary

Key consortium developments in year two

A description and interpretation of CARTA's evolution and performance in year two is presented in the body of the report. CARTA's goals for this second year were focused on delivering the first steps of the capacity-building plans, focused around the Joint Advanced Seminars (JAS) and the first research governance, management and administration (RGMA) training. In addition, continuing to attract additional funding to support the development of the CARTA programme, to build on progress to date and to continue to learn from developments in the consortium remained a key objective. Goals in all categories of effort were kept in sight and were steadily worked towards. These are outlined in more detail in the main body of the report.

CARTA's plans for year two were:

In improving research leadership and contribution to critical mass

- To deliver pre-JAS activities for cohorts 1 and 2 as part of the fellowship selection criteria and in preparation for JAS1.
- JAS1 residential seminar for cohort 1, developing fellows' critical thinking, technical skills and other research competencies

In improving research governance, management and administration (RGMA) capacity

- Consortium baseline narrative report to be solicited by the Secretariat to understand African partner institutions' expectations of CARTA, and to inform the E&L inception report
- Carrying out training programmes for faculty and staff at CARTA partner institutions to improve support for CARTA fellows

In improving physical and ICT infrastructure and capacity

- All partner institutions submit a baseline report on physical and ICT infrastructure to facilitate the prioritisation of CARTA seed funding to best improve infrastructure for CARTA fellows
- Financial and narrative reports on infrastructural investment from all institutions
- Each CARTA fellow is to receive a laptop loaded with NVivo, Stata, Endnote and MS office software

In improving the management and administration of the CARTA consortium

- Monitoring of financial resources allocated by CARTA
- To include potential new partner institutions that add value to the consortium
- To generate new grants to support CARTA program activities towards an estimated USD 20 million (about GBP 13 million) target

Some major developments in year two include the following:

1. **A major achievement of year two activities has been the recruitment of fellows and supervisors from across the CARTA member institutions and the consistent learning of lessons from all activities.** There has been considerable

learning from the selection process, and from fellows,' supervisors' and facilitators' experiences during the four week, residential Joint Advanced Seminar (JAS1) and the inter-JAS activities that are a core component of CARTA activities. Changes are being implemented for the second cohort as a result of this learning from experiences with the first cohort, which begins JAS2 in November 2011, at the beginning of year three of the initiative.

2. **The number of CARTA fellows per cohort has been reduced.** CARTA aims to enrol 20-25 PhD fellows into the programme every year, according to its intervention logic³, in order to build critical mass in human and population health research; this was achieved for the first cohort. However, because many PhD fellows have registered at CARTA partner universities that are not their home institutions, costs associated with enrolment have risen, because of the higher cost of living and tuition fees to be paid by these fellows. This will mean that fewer fellowships (20 rather than 25) will be awarded in the second year in order to maintain the quality of training and support available for CARTA fellows.
3. **Efforts are being made to ensure that CARTA partners' ICT and Physical infrastructure improvements are taking place with attention to timeliness, quality and budget allocation.** The strengthening of physical and ICT infrastructure in CARTA is seen as the main responsibility of the partner institutions, with support from CARTA in the form of seed funding. It can therefore be challenging to differentiate between overall progress (including additional fundraising by partners institutions) and that which has been achieved as a result of CARTA funding in order to improve infrastructure to be used by CARTA fellows and their peers. Some consortium partners experienced challenges in achieving their infrastructural improvement plans, primarily as a result of reporting and CARTA has developed a reporting template will best engage with partners to determine to what extent their plans are on track and the impact that development have on CARTA capacity building.
4. **Partners continue to add value to the CARTA programme, e.g. improvements were made to the CARTA website, which is central to the quality of the programme.** Having been updated and improved in collaboration with Google, the CARTA website was re-launched in advance of the online pre-JAS part one tasks for cohort two, which are part of the selection process for fellows. This was done following CARTA's collaboration with Google.org as part of a pilot project. The website remains central to intra-consortium communication, the dissemination of CARTA activities to external stakeholders, and for CARTA fellows to carry out online tasks. CARTA has shared details of this and similar collaborations with other African Institutions initiative consortia which might benefit from engagement with these organisations.
5. **CARTA's dissemination efforts continue to focus on reaching key stakeholders in the academic, policy and funding worlds. Individual Secretariat and other members' presentations at conferences and meetings**

³ In the initial application to the Wellcome Trust (WT) for the African institutions initiative, it is highlighted that the number of fellows will depend on the extent to which additional funding to that from the WT can be secured.

with potentially interested parties are central to dissemination. CARTA's dissemination plans have remained largely unchanged from those outlined in the proposal to the Wellcome Trust for the African Institutions initiative and since their implementation began. In addition to meetings with external stakeholders and presentations at conferences, a collaborative, peer reviewed article was produced, explaining the rationale behind the CARTA model and its plans for the future. This is seen by CARTA as one way of reaching additional potential stakeholders, a major dissemination goal. CARTA has not set quantitative annual goals regarding the number of publications to be produced, but recognises that publications highlighting the CARTA programme contribute to increasing its visibility and should be pursued. In addition, the program was launched at Obafemi Awolowo and Makerere Universities, although the latter was with less pomp than other launches. The consortium has been approached by funding and academic bodies to contribute to policy documents, thereby increasing the consortium's visibility.

6. **CARTA's governance structure and implementation groups were fully implemented in year two, having been finalised in year one.** Northern partners began to more clearly fulfil their roles in the consortium, being central in finalising and improving the curricula for the JAS and RGMA training, as well as supporting individuals to attend training and short courses at northern institutions.
7. The last member of the CARTA Secretariat⁴ was recruited, completing planned recruitment. The African Population and Health Research Center (APHRC) monitoring and evaluation (M&E) officer took on a concrete role in CARTA as the main evaluation and learning liaison. The CARTA Program Manager resigned his post for personal reasons, leading to a redistribution of elements of his role to other Secretariat members, pending the recruitment of his replacement.

Reflection on overall progress, enablers and challenges

The evidence from year one suggests that, overall, the consortium is broadly on track; with a focus on delivering pre-Joint Advanced Seminar (JAS) elements and JAS1, as well as staff training for research governance and management. The majority of progress so far has been in further building on foundations laid in year one, but with a priority to deliver elements of the training program. To ensure that CARTA can build and maintain critical mass, a key priority is the leveraging of additional funding to those received from the Wellcome Trust, towards the estimated 20 million USD (about GBP 13 million) necessary for the full implementation of the CARTA program. In addition to ensuring the quality delivery of training, this would mean that a new cohort of 25 CARTA fellows could be accepted into the programme every year, the programme would be on sustainable footing

⁴ The CARTA Secretariat consists of the implementation group, which is in charge of the day-to-day running of the consortium and is based at the African Population and Health Center (APHRC) in Nairobi. According to the organisational structure, these efforts are overseen and primarily coordinated by the CARTA Program Manager, with the support of other key APHRC staff. See the CARTA website for a full list of staff: <http://www.cartafrika.org/about-us/carta-staff>. The CARTA committees at each partner organisation are not considered to be part of the secretariat, as they have distinct functions that are different to the overall running of the consortium. The consortium Director and Deputy Director are part of the Secretariat.

and each cohort would complete their PhDs after 4 years. At present, a number of elements of the programme, including staff salaries, are being funded from other sources. CARTA has made progress with fundraising efforts and is actively pursuing additional opportunities, as discussed in detail in the main body of the report; some funding is leveraged by individuals and is used for CARTA activities, while some is entirely for CARTA use and its allocation is controlled by the Secretariat. The strong basis that was established in year one in terms of consortium governance and management processes, procedures and terms of reference for partner engagement have become more apparent in year two, as these have been operationalised. Continuing along the path of critical review and learning, CARTA has ensured that feedback was received on training courses and that necessary changes were made to subsequent JAS and training elements. A few year one milestones that hadn't been entirely met were unproblematically addressed in year two, i.e. launches of CARTA were held at the remaining African universities, Obafemi Awolowo and Makerere, and remaining CARTA Secretariat roles were filled.

CARTA's activities have progressed broadly according to milestones, and the consortium continues to have a good appreciation of the main risks to programme delivery. Some of the factors which seem to have enabled progress are the same as those identified in year one: strong, respected and committed leadership; a structured programme plan and implementation roadmap; and a clear focus on delivering change through well-articulated intervention logic. The E&L team has not identified any major concerns about CARTA's evolution in year two, although the challenges discussed in year one have become more apparent. These challenges include: 1) the fact that a large number of CARTA fellows are registering at partner institutions other than their home institution which potentially raises costs; 2) the great difference in baseline skills of CARTA fellows; 3) providing adequate supervisory and financial support for CARTA fellows; and 4) maintaining collaboration between partners despite their apparently different status and contributions to the consortium. Where such challenges exist, there are often opportunities to be identified. For example, CARTA fellows registering at organisation outside their home institutions also allows them to broaden their networks. In addition to addressing these challenges, care should be taken by both parties to ensure that the good relationship between CARTA and the E&L team continues to evolve by keeping the lines of communication open.

The ambitious vision of the CARTA programme may need to be reviewed in light of year two developments. This does not seem to entail any danger to the high level goals of the consortium, i.e. the development of a network of highly skilled researchers in public and population health, but the reduction in the number of fellows will require that aspects of the intervention logic relating to the distributed capacity building across consortium members will need to be revisited. The implications of large numbers of students electing to register away from their home institutions will need to be assessed. However, it remains true that ensuring that the CARTA programme reflects participation from partner institutions and is building capacity across the network, while driving the programme forward to meet the milestones on the roadmap may present a particular challenge.

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Acronyms used in this report

Acronym	Explanation
AAU	Association of African Universities
ACU	Association of Commonwealth Universities
AfHEA	African Health Economics and Policy Association
Afrique One	One Health Initiative - African Research Consortium for Ecosystem and Population Health
AMANET	Africa Malaria Network Trust
APHRC	African Population and Health Research Center
AusAID	Australian Government Overseas Aid Program
BoM	Board of Management
CARTA	Consortium for Advanced Research and Training in Africa
DC	District of Columbia
E&L	Evaluation and Learning
ESE:O	Non-profit organization based in Santiago, Chile, which works in research capacity building through writing and online environments
EU	European Union
GBP	Great Britain Pound
ICT	Information Communication Technology
IIDP	Research Institute for Infectious Diseases of Poverty consortium
IT	Information Technology
JAS	Joint Advanced Seminar
M&E	Monitoring and evaluation
MLE	Monitoring, learning and evaluation
MoU	Memorandum of Understanding
MSc	Master of Science
NIST/ILU-K	Nairobi International School of Theology/International Leadership University in Kenya
OAU	Obafemi Awolowo University
PAG	Patrons' Advisory Group

Acronym	Explanation
PAF/PaF	Partners' Forum
PhD	Doctor of Philosophy
PI	Principal Investigator
PM	Program Manager
RGMA	Research governance and management
SA	South Africa
SEK	Swedish Kronor
T&C	Terms and Conditions
UCT	University of Cape Town
UK	United Kingdom
UNFPA	United Nations Population Fund
US	United States
USD	United States Dollar
USA	United States of America
WHO	World Health Organisation
Wits	University of the Witwatersrand
ZAR	South African Rand

1.1 This report provides information on the evolution and performance of the CARTA programme in the second year

The evaluation and learning project has three core objectives: (i) to evaluate the performance of each consortium in the African Institutions initiative and ultimately the initiative as a whole; (ii) to extract lessons about this research capacity building approach and share insights with multiple stakeholders; and (iii) to help support collaboration, learning and experience sharing between consortia.

This report discusses the activities and performance of the Consortium for Advanced Research Training in Africa (CARTA) in the second year of consortium activity; covering the period 1 August 2010 to 31 July 2011. The report is an interim deliverable of the evaluation and learning project and has been prepared for the Wellcome Trust and CARTA. Annual reports such as this one enable consortium progress to be captured and reflected on during the life of the initiative (rather than ex-post). This in turn facilitates not only accountability, but can enable learning and responsiveness in real-time. Insights from the interim evaluations will hopefully also assist CARTA in its ongoing planning and management activities, by providing information which can inform any potential adaptations and modifications in action plans.

The timing of CARTA's reporting was revised at the beginning of year two, in order to avoid unnecessary duplication of effort on the part of the consortium. Appendix B provides a reminder of when future narrative reporting information is required from consortia.

1.2 The evaluation uses a range of information sources but has a number of important caveats

It is important to interpret the information contained in this report in the context of the evaluation and learning project's characteristics, both in terms of information sources and in terms of associated caveats and scope. There are three main types of information that have been used in preparing this report.

First, the consortium reported on progress against the objectives and milestones that had been set for key activities, and their associated indicators in the evaluation framework (these indicators are listed in Appendix C). The consortium provided explanations for any differences between the progress achieved and that which had been planned. The

framework of quantitative and qualitative indicators was co-developed with CARTA, drawing on the consortium's intervention logic, and is described in the inception report⁵. It will help to capture and structure an interpretation of the evolution and progress of CARTA in meeting its objectives: what is being achieved and why; whether or not milestones and expectations are being met; which factors influence its intervention logic and implementation plans; and ultimately the extent to which CARTA's assumptions about capacity building are valid. The indicators reflect the multiple reasons for evaluation, including learning, accountability and demonstrating achievements.

Additional insights were obtained through regular telephone and email exchanges. It is important to interpret the information contained in this report in the operational context of the evaluation and learning project, and its associated caveats:

- The data provided by the consortium is self-reported – there is no external audit. We have explicitly sought to use multiple information sources to corroborate information where possible, triangulating evidence between them, and have arranged regular discussions with the consortium to clarify assumptions. These take the form of regularly scheduled quarterly conference calls between the CARTA monitoring, learning and evaluation (MLE) leads and the RAND Europe evaluation and learning (E&L) team.
- The timing of data reporting has now become aligned with the end of the consortium year in July. However, information is received in real time communication with the consortium as well as during scheduled reporting, and it is challenging to incorporate all the information to best present and reflect on the ongoing progress in a concise way.

1.3 CARTA's intervention logic is designed to build a critical mass of African research capacity in public and population health

The key features of CARTA's conceptual approach were discussed in the inception report for the consortium⁶ and the year one report⁷, and are based on information provided by consortium members.

Ezeh et al (2010),⁸ describing the logic behind the CARTA approach, state that CARTA has two primary purposes: *“to strengthen research infrastructure and capacity at African Universities; and to support doctoral training through the creation of a collaborative doctoral training programme in population and public health.”* These objectives are designed to

⁵ Bassford et al, Consortium Report: CARTA (Consortium for Advanced Research Training in Africa), PM(L)-3697-WT, February 2011.

⁶ Bassford et al, Consortium Report: CARTA (Consortium for Advanced Research Training in Africa), PM(L)-3697-WT, February 2011.

⁷ Bassford et al, CARTA (Consortium for Advanced Research Training in Africa): One year on ..., PM(L)-3800-WT, July 2011.

⁸ Ezeh et al (2010) Building Capacity for Public and Population Health Research in Africa: The Consortium for Advanced Research Training in Africa (CARTA) Model. *Global Health Action* 5: 5693 – DOI: 10.3402/gha.v3i0.5693.

realise the ultimate CARTA goal which is to *“build local research capacity to understand the determinants of population health and effectively intervene to improve health outcomes and health systems”*. This article about the consortium is discussed in more detail in the year one report for CARTA.

To achieve its objectives, CARTA has developed a strategic framework and guiding tenets to focus their efforts and target resources appropriately. Table 1 outlines CARTA's overall intervention logic, which has not changed during year two. This is expanded upon in Appendix E, where CARTA's intervention logic in each category of effort is presented. CARTA has chosen to review performance in four categories of effort, namely 1) Strengthening scientific skills and career prospect; 2) Strengthening research governance, management and administration (RGMA) capacities; 3) Strengthening physical and information and communication technology (ICT) infrastructure; and 4) Management, governance and communications of the consortium.

Table 1. CARTA's overall intervention logic

INPUT	PROCESS	OUTPUT	OUTCOME AND IMPACT
<p>What is invested? What resources are you working with? What are your plans?</p>	<p>What are you doing to accomplish your goals and objectives? And are things unfolding according to plan?</p>	<p>What has been produced? What are direct results?</p>	<p>What are the longer term outcomes, and long-term ultimate impacts?</p>
<p>Funding from Wellcome Trust and other funding bodies that will be identified.</p> <p>Qualified faculty in relevant research fields from consortia institutions</p> <p>Initial research governance, management & administration structures to support activity</p> <p>Initial physical and ICT infrastructure which can be tapped into by CARTA members</p> <p>CARTA's strategic plan to guide activities</p> <p>CARTA Board of Management - experience in research capacity building initiatives and fundraising</p> <p>Existing networks between CARTA members and with relevant external stakeholders</p>	<p>CARTA fellows receive PhD training through well-supervised research projects and research skills through Joint Advanced Seminars</p> <p>A supervision and mentorship approach which brings together researchers with different levels of experience, to share experiences and learn from each other</p> <p>Strengthening institutional networks through contributions made by the networks of individual CARTA fellows.</p> <p>Research Governance Management and Administration skills increased through training courses and sharing of good practice</p> <p>Infrastructure and ICT improvements through targeted investments in relevant institutions</p>	<p>New PhDs as future research leaders and mentors</p> <p>A model doctoral programme in research with strong supervision and networking</p> <p>Diversified and enlarged research skills base for CARTA region</p> <p>Increased professional skills among CARTA fellows</p> <p>Mentors and supervisors with enhanced skills and experience</p> <p>Improved networks with policy, funders and academic community</p> <p>Research faculty staff, administrators and managers with new skills</p> <p>Improved infrastructure to support high quality research</p>	<p>Increased retention in African region in research or research-related position</p> <p>Increased capacity to train and supervise PhD students</p> <p>More students are inspired to learn about and adopt CARTA model, i.e. improved 'culture of research' at an institutional level</p> <p>Post-graduation activities – new pool of researchers, teachers and mentors for next generation (from graduated CARTA fellows) at institutional levels</p> <p>Post-graduate CARTA fellows increase international visibility of institution through conferences, publications</p> <p>Enhanced capacity of African institutions to lead globally competitive research and training programmes</p> <p>Improved population health in the region</p>

1.4 From concretising implementation plans and structures to delivering on first steps in building capacity and improving the programme

For year two, CARTA further specified milestones for a few areas of effort that benefited from a clarification of the nature of goals and that had not been fully addressed in year one. This particularly included milestones over which CARTA has little concrete control, but which nevertheless need to be reviewed on a regular basis. An example of this is the use

by partner institutions of CARTA seed money for ICT and infrastructural improvements. This is reflected both in the annual ‘targets’ for quantitative performance indicators in each category of effort (Appendix E) in qualitative information captured in the CARTA road map for the initiative (Appendix F) and associated with the qualitative indicators in the evaluation framework. The main activities planned for year two are summarised in Table 2.

Table 2. CARTA: key milestones for year two

Year 2 plans for research leadership and contributions to critical mass	Year 2 plans for improving research governance, management and administration (RGMA) capacity	Year2 plans for improving physical and ICT infrastructure and capacity	Year 2 plans for CARTA management and administration
<ul style="list-style-type: none"> • To deliver pre-JAS activities for cohorts 1 and 2 as part of the fellowship selection criteria and in preparation for JAS1. • JAS1 residential seminar for cohort 1, developing fellows’ critical thinking, technical skills and other research competencies 	<ul style="list-style-type: none"> • Consortium baseline narrative report to be solicited by the Secretariat to understand African partner institutions’ expectations of CARTA, and to inform the E&L inception report • Carrying out training programmes for faculty and staff at CARTA partner institutions to improve support for CARTA fellows 	<ul style="list-style-type: none"> • All partner institutions submit a baseline report on physical and ICT infrastructure to facilitate the prioritisation of CARTA seed funding to best improve infrastructure for CARTA fellows • Financial and narrative reports on infrastructural investment from all institutions • Each CARTA fellow is to receive a laptop loaded with NVivo, Stata, Endnote and MS office software 	<ul style="list-style-type: none"> • Monitoring of financial resources allocated by CARTA • To include potential new partner institutions that add value to the consortium • To generate new grants to support CARTA program activities towards an estimated USD 20 million (about GBP 13 million) target.

1.4.1 CARTA demonstrated an ability to adapt its activities in light of feedback for improvement or following any setbacks

The focus of plans for improving research leadership capacity and a contribution to critical mass was on completing the first residential Joint Advanced Seminar (JAS1) for cohort one, by the end of year two. This was preceded by pre-JAS, part one, which consists of online tasks as part of the fellowship selection criteria, and then pre-JAS, part two activities to prepare fellows for JAS1. Feedback on these

activities was solicited by the CARTA Secretariat from cohort one fellows and their supervisors and this allowed CARTA to make improvements to the curricula and procedures for pre-JAS and JAS1 tasks for the second cohort of fellows. Engagement of CARTA fellows' supervisors with JAS was not as positive as hoped, in that only 11 supervisors attended JAS1, falling short of the goal of 1 supervisor per fellow, so 25 in total. CARTA has made plans for improvements based on this as well and is considering ways to encourage more supervisors to attend. Feedback from the supervisors suggests that the main reason for not attending was competing demands on their time. In addition, the value of attending JAS1 may not have been sufficiently clear to them. Efforts have to be made to have a follow-up meeting with supervisors during JAS2 (year three)

Year two plans in research governance, management and administration (RGMA) capacity enhancement involved engaging with partner institutions to feed back their needs to the Secretariat, thereby ensuring their participation in CARTA activities. Although no directly quantifiable milestones were set by CARTA regarding desirable participation rates, engagement was considered to be successful for RGMA training courses for junior faculty and support staff.

Plans for improving physical and ICT infrastructure capacity proved to be challenging to implement and report on. CARTA's intervention logic supports partner institutions to control how they will use seed money, but this makes it difficult for CARTA to require partner institutions to report on progress, given that most of the money involved in projects is likely to be from non-CARTA sources. In order to monitor the engagement of partner institutions, CARTA will ask partner universities to provide semi-annual narrative reports from year three of the initiative. At the level of the development of CARTA fellows, ICT goals were met, as hardware (laptops and accessories) as well as software was provided and distributed according to plan.

The overall management and administration of CARTA remains a central focus for the consortium, as this is key to disseminating information about the programme and facilitating its wider adoption. This attention to its management and administration remains one of the key facilitators for the consortium as it aims to address a need to reallocate funds in light of CARTA fellows' widespread registration at universities other than their home institutions. In addition, the ongoing goal of raising funds to continue to support 25 CARTA fellows per cohort necessitates high levels of engagement with funders and CARTA patrons.

CHAPTER 2 **CARTA's performance in the second year of activity**

This chapter describes the main activities of the Consortium for Advanced Research Training in Africa (CARTA) during the second year of the African Institutions initiative. The chapter is structured according to the four categories of effort on which the consortium's capacity building is focused: 1) strengthening scientific skills and career prospects; 2) strengthening research governance, management and administration (RGMA) capacities; 3) strengthening information and communication technology (ICT) and physical infrastructure; and 4) management, governance and communications of the consortium. For each category of effort, an introductory paragraph and a summary table of year two developments are followed by additional detail regarding progress.

2.1 CARTA's performance in year two: strengthening scientific skills and career prospects

CARTA's intervention logic addresses the building of scientific skills and career prospects at three levels; 1) that of CARTA fellows (PhD students); 2) that of CARTA supervisors and supervision practices; and 3) capacity building at the institutional level. For CARTA fellows, this is intended to lead to new PhDs becoming research leaders and mentors; CARTA being recognised as a model doctoral programme; networks of locally-trained and internationally recognised scholars; increased numbers of publications; increased professional skills among fellows; and the creation of new collaborations for leveraging grants. During the second year of the CARTA programme, efforts in strengthening scientific skills and career prospects involved the implementation of plans laid in year one regarding the criteria for selection of CARTA PhD fellows. Two cohorts of fellows were selected during the course of year two, with the first cohort completing the first Joint Advanced Seminar (JAS) series and cohort two nominees beginning the pre-JAS as part of the fellowship selection procedure. A table showing cohort one's JAS1 activities can be found in Appendix G: JAS1 lesson plan.

The first cohort of fellows took part in the first JAS hosted by APHRC in Nairobi from March 14 to April 8, 2011. Lessons learned from the experiences with this first cohort influenced amendments to the selection process, fellowship contract and curriculum for the second cohort, which completed pre-JAS, part one at the end of year two (July 2011). Fellows' primary supervisors were expected to attend JAS1, and were given a refresher

course in supervision towards the intervention logic aim of providing them with enhanced skills.

Table 3. A summary of CARTA's progress in its efforts to strengthen scientific skills and career prospects

Activity	Milestone for year two	Actual realised value
Pre-Joint Advanced Seminar (Pre-JAS) activities	- For all cohort one and two applicants to complete pre-JAS tasks	- For cohort one, 49 of 55 participants completed pre-JAS part one activities and all 25 fellows completed part two. - For cohort two, 38 of 47 participants completed pre-JAS, part one activities
Award of PhD fellowships	- To allocate cohort one fellowships - To assign Primary supervisors to CARTA fellows	- Fellowships allocated and each of the 25 fellows assigned a primary supervisor
Joint Advanced Seminars (JAS)	- To assign facilitators for JAS1 - For cohort one to complete JAS and give positive feedback	- Facilitators identified for courses - All 25 fellows (cohort one) completed JAS1 - Evaluation feedback was not entirely as positive as targeted
Inter-JAS	- For all 25 fellows to complete all Inter-JAS 1-2 tasks	- Of the 25 fellows, 12 completed all 7 ESE:O ⁹ assignments
Supervisors' courses	- For all primary supervisors to attend a JAS1 refresher course	- 11 (of 24) supervisors attended

2.1.1 Strengthening scientific skills and career prospects of CARTA Fellows (PhD students); selection criteria for CARTA fellows were amended for cohort two based on learning from experiences with cohort one

The first cohort of 25 CARTA fellows (2010/2011) was awarded fellowships according to selection procedures set up in year one and agreed by the CARTA Board of Management (BoM)¹⁰

Having reviewed all applications for CARTA fellowships internally at each institution, and according to the selection criteria that were shared with the CARTA Secretariat, a total of 55 nominees for CARTA fellowships were put forward by the nine African partner universities by 15 August 2010 for the first cohort of 25 CARTA fellows. As part of the

⁹ ESE:O (<http://www.eso.cl/eng>) ESE:O, based in Santiago, Chile, is a non-governmental organization focused on building capacity in democratic literacy in the global South by supporting the production and dissemination of local knowledge.

¹⁰ A detailed description of the selection process for year one can be found in the report on CARTA's progress in year one, Bassford et al, CARTA (Consortium for Advanced Research Training in Africa): One year on ..., PM(L)-3800-WT, July 2011.

selection procedure, these nominees carried out the pre-JAS, part one, web-based assignments (September 1 – October 1, 2010), which were available on the CARTA website. The pre-JAS consisted of 1) a literacy task, 2) a numeracy task, 3) a critical thinking task, 4) online training in understanding plagiarism, and 5) the Africa Malaria Network Trust (AMANET) basic health research ethics course, consisting of eight modules. 49 nominees completed all tasks and 44 achieved a pass mark (at least 350 out of 500 marks) and were therefore eligible for consideration for the fellowship.

Fellowships were awarded based on merit, i.e. a review of nominees' aggregate scores for their full application (pre-JAS, part one, and their research proposal), and then on considerations of equity relating to good coverage across partner institutions (at least one fellow per institution), diversity of research topics, and gender. Scoring of pre-JAS tasks was carried out by the University of Warwick and APHRC. Research proposals were assessed by three reviewers at institutions other than the nominee's. The final choice of fellows was made by the Partners' Forum (PAF) during its first meeting (October 18, 2010), at the beginning of year two in order to ensure transparency and participation by all partner institutions. This was then approved by the Board of Management (BoM), which met from October 19-20.

For cohort one, special consideration was given to research proposals in sexual and reproductive health because of funding leveraged by CARTA from the Ford Foundation to fully fund three fellows working in these research areas.

In order to adhere to CARTA's intervention logic goal of promoting multidisciplinary research without a focus on any specific diseases or disciplines, it is important for CARTA to continue to ensure that CARTA fellows represent a good selection of disciplines and research topics. However, it can also be seen as a strategy to support the consortium's overarching goal of maintaining cohorts of 25 fellows, leading to the achievement of the consortium's vision of producing *"100 highly-skilled and networked African scholars in the next eight years and [to] enhance the sustainability of the program's efforts."*¹¹ 25 fellowships were awarded for cohort one and were distributed across partner institutions as shown in Table 6 on mentorship and supervision, discussed further below.

Selection criteria were revised for the second cohort of CARTA PhD fellows (2011/2012)

There was significant learning from the experience of the first round of JAS and modifications made to fellow selection and curriculum design. An evaluation of the 1st round of JAS activities was partly based on evaluations by fellows and facilitators. This fed into a redesign of the curriculum which was confirmed by a meeting of the curriculum development group in August 2011.

In addition to the elements of the fellowship application outlined above for cohort one, the second cohort was required to submit a motivational essay, and the focus of the research proposal was amended to emphasise how the study might contribute to policy and practice. With respect to considerations of equity, attention was paid to ensuring that there were no more than four fellows per institution. Despite receiving applications from five private¹² applicants, out of the total of 75 applications across the partner institutions, these

¹¹ From CARTA's "Quarterly Narrative Report 3, May 1, 2011-July 31st, 2011"

¹² i.e. from institutions that are not CARTA partners

were not considered for fellowships. The BoM decided at the October 2010 meeting, to only consider private applicants from the third cohort. The CARTA programme is currently premised on only considering existing staff at partner institutions for fellowships. Fellowship agreements are being amended as the CARTA programme develops and matures, in particular with a focus on ensuring that there is full understanding of the amount of funding available from CARTA for fellows who choose to register at a university other than their home organisation. Moving to Wits, for example, means a higher cost of living than at most other partner universities. In addition, fellows who move are not exempt from tuition fees, as they are at most of their home institutions¹³.

An age restriction for fellowship applicants was applied for cohort two; 40 for men and 45 for women

As discussed at the BoM meeting 19-20 October 2010, a decision was made to apply an age restriction; 40 years old for men and 45 for women. This is to ensure that graduates will still have sufficient time to develop a research career and supervise new PhDs after graduating- the age of retirement in most of the partner institutions is 60 – 65 years of age. The older age limit for women accommodates the fact that they may take maternity leave during their careers. Going forward, decisions to award fellowships will be made based on merit, gender, institutional affiliation and, now, age.

20 fellowships will be awarded for the second cohort, rather than 25, in order to provide better funding for fewer fellowships

In revisions to the CARTA fellowship selection process, it was also decided that only 20 fellowships would be awarded for the second cohort. In the consortium's original application to the Wellcome Trust, fees were not included in the budget, and now need to be accounted for. CARTA would also like to give higher stipends than are possible with the current size of the Wellcome Trust grant, which does not include a provision for scholarships.

Additional funding is needed for fellows in both cohorts who choose to register at partner institutions other than their home institution. While there is a focus in CARTA's intervention logic on ensuring a good distribution in the award of CARTA fellowships across African partner institutions, and a good geographic spread is desirable, fellows are not currently being forced to register at their home institutions. However, the fellowship agreements for the second cohort make it clear to fellows that CARTA cannot necessarily cover tuition fees for those who choose to register away from their home institution. They are more likely to have to pay fees when registering away from their home institution, while fees for fellows registered at their home institutions may be waived.

CARTA is aware that registering at other institutions than their home institutions may have a negative impact on capacity building at promising partner institutions. In order to encourage equitable access to high-quality training, fellows who register at their home institution will be given priority access to overseas short courses over fellows registering away from home, who are likely to already have access to more courses and superior facilities.

¹³ Makerere University, for example, charges their own staff tuition fees.

2.1.2 CARTA Fellows (PhD students); lessons were learned during the completion of pre-JAS, JAS1 and Inter-JAS tasks during year two and improvements to CARTA fellows' courses were implemented

JAS 1: Cohort one completed JAS1 (March 14 – April 8, 2011)

JAS1 was hosted by APHRC in Nairobi, coinciding with the second BoM meeting¹⁴, the first Patrons' Advisory Board meeting, and the first funders' meeting. As planned, all 25 CARTA fellows attended the four week long residential meeting. In addition to the originally planned curriculum, ESE:O, a non-profit organisation, based in Santiago, Chile, led a session on improving reading and writing skills, which was then followed up with inter-JAS tasks. CARTA fellows took part in activities, lectures, group discussions and facilitator-led clinics and workshops; each element having clearly defined expected outcomes in terms of skills to be acquired by fellows. They also had opportunities for reflection, evaluation of each week, and personal time for private study or consultation with facilitator, as well as social film nights. The timetable for JAS1 is represented in Appendix G: JAS1 lesson plan.

The four weeks of the JAS were coordinated and facilitated as shown in Table 4, below. In addition to these elements, a few additions were made to the JAS1 programme that are not shown in the version in Appendix G: JAS1 lesson plan and have been communicated to the E&L team by CARTA. In addition to coordinators and facilitators, resource persons provided additional input for CARTA fellows: Week 2 - Akinyinka Omigbodun led a session on reproductive health; Week 3 - John Harrington delivered a talk on law and ethics.

Table 4. JAS1 coordinators and facilitators

Role	Name	Institution
Week 1: Introduction to Population and Public Health Research		
Coordinator	Donald Cole	University of Toronto, Canada
Facilitator	Alex Ezeh	African Population and Health Research Center (APHRC), Kenya
	Caroline Kabiru	APHRC
	Chimaraoke Izugbara	APHRC
	Donald Cole	University of Toronto
	Göran Bondjers	Sahlgrenska Academy, University of Gothenberg, Sweden
	John Eyers	No institutional affiliation (Formerly London School of Hygiene and Tropical Medicine, UK)
	Makau Ngola	APHRC

¹⁴ This was a virtual meeting, rather than a physical meeting.

Role	Name	Institution
	Ogoh Alubo	APHRC
	Olayiwola Erinosh	Co-chair, TDR/WHO Thematic Group on Health Systems and Implementation Research; President, African Sociological Association
	Stefan Thorpenberg	Sahlgrenska Academy, University of Gothenberg
Week 2: Impacting Population Health		
Coordinator	Kathleen Kahn	University of the Witwatersrand (Wits), South Africa
Resource Person	Akinyinka Omigbodun	Ibadan University, Nigeria
Facilitators	Kathleen Kahn	Wits
	Donald Cole	University of Toronto
	Göran Bondjers	Sahlgrenska Academy, University of Gothenberg
	Frances Griffiths	University of Warwick, UK
Week 3: Sexuality and gender		
Coordinator	Chimaraoke Izugbara	APHRC
Resource person	John Harrington	Liverpool Law School, University of Liverpool, UK
Facilitators	Lenore Manderson	Monash University, Australia
	Gillian Hundt	University of Warwick
	Beth Maina Ahlberg	Uppsala Univeristy, Sweden
	W. Onyango-Ouma	Univesity of Nairobi, Kenya
	Chimaraoke Izugbara	APHRC
Week 4: Policy and Public Health		
Coordinator	Sharon Fonn	Wits
Resource person		
Facilitators	Sharon Fonn	Wits
	Melanie Bertram	Priority Cost Effective Lessons for Systems Strengthening – South Africa (PRICELESS-SA) project.
	Barbara Klugman	Wits

As can be seen from the facilitators' institutional affiliation, facilitation and coordination roles were shared by northern and southern partners in accordance with CARTA's intervention logic. In addition, a number of researchers from non-partner institutions were involved in JAS1. Although this information was not requested from CARTA by the evaluation and learning (E&L) team, it is unclear which agreements for support have been entered into between CARTA and individuals such as Olayiwola Erinosh and Beth

Maina Ahlberg, who do not appear to be affiliated with any partner institutions. John Eyers has ties to Warwick University, a northern partner institution, while Melanie Bertram is involved in the Priceless Project at the School of Public Health at Wits. It is likely that these and other collaborations reflect CARTA's proposed inputs in its overall intervention logic, where "*existing networks between CARTA members and with relevant stakeholders*" are drawn on to build capacity. From available information, we cannot judge to what extent priority is given to finding good facilitators from among member organisation, but the CARTA Secretariat explicitly puts the quality of the facilitators over their institutional affiliation. As outlined in CARTA's proposal to the Wellcome Trust and reproduced in the inception report for CARTA¹⁵, northern partners are intended to contribute to the JAS by providing facilitators, helping to develop the curriculum and providing mentors for supervisors.

Pre-JAS: The second cohort completed pre-JAS, part one, in year two

The pre-JAS curriculum on transferable skills was revised by a team from the University of Warwick, in consultation with the CARTA Secretariat, based on experiences with cohort one and feedback from facilitators and participants. The tasks remained the same, with the exception of including a new set of papers for the literacy task and new questions for the numeracy task.

JAS1: Curriculum revision for JAS1 for cohort two, was carried out by the curriculum review working group (CRWG), based on feedback from fellows and facilitators following JAS1 for cohort one

Curriculum revision and finalisation of plans for JAS1 for cohort one (March 14 – April 8, 2011 in Nairobi) were carried out by the Curriculum Review Working Group. This was coordinated by Lenore Manderson (Monash University, Australia) and comprised in addition three members from northern partners institutions (the Canadian Coalition for Global Health Research and University of Warwick, UK), ten members from African partner institutions, and one member from the University of Cape Town (UCT), South Africa, a non-partner African university¹⁶. Numerous other people were involved in this process, with the four weekly coordinators¹⁷ being in charge of finalising the curriculum for their week.

Facilitators of JAS1 for cohort one provided feedback on the four weeks of the joint advanced seminar¹⁸, as well as short-term and longer-term recommendations. Drawing on this, the JAS1 curriculum was revised for cohort two at a meeting at Wits, held on 14th August 2011¹⁹. A twelve-person-strong group with representatives from Wits, APHRC,

¹⁵ Bassford et al, Consortium Report: CARTA (Consortium for Advanced Research Training in Africa), PM(L)-3697-WT, February 2011.

¹⁶ Reference: CARTA qualitative narrative report for year two, September 2011

¹⁷ Week one: Donald Cole (Canadian Coalition for Global Health Research, Canada); Week two: Kathleen Kahn (University of the Witwatersrand, South Africa); Week three: Chimaraoke Izugbara (African Population and Health Research Center, Kenya); Week 4: Sharon Fonn (University of the Witwatersrand, South Africa)

¹⁸ Reference: document from CARTA Secretariat, "General feedback from JAS 1 – Updated April 15, 2011" from CARTA

¹⁹ Reference: "Draft Notes from meeting to review JAS1. Wits University Sunday 14th August 2011" from CARTA

Warwick, Monash and ESE:O participated in this meeting, either in person and by Skype. One recommendation by facilitators that has already been taken on board by CARTA in future planning is the need for fellows to have a clearer idea of the content of the courses and expectations of them. In addition, they felt that fellows needed more training in critical reading and writing. As part of the facilitation of linkages between fellows and internal capacity building, it was suggested that more peer teaching might be incorporated in future. A key change is that there will be fewer formal sessions each day, allowing fellows to work independently or in groups and to consult with the facilitators.

Inter-JAS1: At the end of year two (31 July 2011) 12 of the 25 cohort one fellows had carried out all inter-JAS 1 tasks to the expected standard, necessitating reflection on how to improve task completion rates before the cohort starts JAS2 in November 2011

Inter-JAS 1 tasks, as defined in CARTA's student pathway (available in baseline²⁰ and year one²¹ reports produced by the E&L team) consisted of fellows completing their literature reviews and research proposals, as well as running a seminar at their home university. These inter-JAS1 tasks are to be completed between JAS1 (March-April 2011) and JAS2 (November 2011). Monitoring of the completion of inter-JAS tasks is carried out by the CARTA committees at each partner institution. At the end of year two (July 2011), of the 25 fellows, 12 had completed all seven ESE:O assignments, five fellows had completed six assignments, two fellows had completed five assignments, two fellows had completed four assignments and four fellows had completed three assignments or less.

2.1.3 CARTA fellows (PhD students); additional training and courses, outside the main JAS curriculum

Cohort one received training from Google.org and ESE:O

Cohort one fellows received training from Google.org on the use of the improved CARTA website and of Google applications. In addition, CARTA collaborated with ESE:O to provide an online workshop for cohort one to improve their academic reading and writing skills. ESE:O is now considered to be a CARTA partner institution.

Individual CARTA fellows attended specialised courses, either wholly or partially supported by CARTA or partner institutions. Joshua Akinyemi, University of Ibadan, Nigeria; Celine Niwemahoro, National University of Rwanda and Nicole de Wet, University of the Witwatersrand, South Africa, attended a summer course on Longitudinal Data Management and Analysis at the University of Colorado, Boulder, USA, partially funded by the University of Colorado. Fresier Maseko, University of Malawi, attended the Cancer Annual Workshop (summer course) at the University of Nicosia, Cyprus.

Training in mentorship theory and skills

Detailed information about building capacity for mentorship was not initially provided by CARTA in reporting on year two developments, but was subsequently made available to

²⁰ Bassford et al, Consortium Report: CARTA (Consortium for Advanced Research Training in Africa), PM(L)-3697-WT, February 2011.

²¹ Bassford et al, CARTA (Consortium for Advanced Research Training in Africa): One year on ..., PM(L)-3800-WT, July 2011.

the E&L team. Mentorship was addressed during JAS1 through leadership training courses for both CARTA fellows and faculty (supervisors), which focused on individual development as a complement to the public and population health and overall research-focused elements of the main JAS programme, described above.

On Saturday the 19th of March, between JAS weeks one and two, and on Saturday the 26th of March, between JAS weeks two and three, Dr Emmanuel Bellon, Vice Chancellor of the Nairobi International School of Theology/International Leadership University in Kenya (NIST/ILU-K), and Professor Eric Aseka, Deputy Vice Chancellor of NIST/ILU-K, carried out a course for CARTA fellows. The details of this course are presented in Table 5, below.

Table 5: JAS1 mentorship training course for CARTA fellows

Main topic	Elements
FOR CARTA FELLOWS	
Sharpening leadership skills and social capital development in research	Strategic Thinking Skills Sharpening Decision-Making Skills Communication and Emotional Intelligence (EQ) Skills Influencing and Conflict Management Skills Developing Social Capital through Leadership Training
Relational thinking and relational work	Developing Relational Thinking Keys to Creating a Relational Work Environment Developing Intellectual Character The Relational Leader and the Four Dimensions of Relational Work
Intellectual mentorship	Definitions of Mentoring and Coaching Mentoring Skills Coaching Skills What do mentors look for? The Role Coaching Plays in Mentoring What is intellectual mentorship? Role Models and Online Mentoring the Value of a Mentor What to look for in a mentor Importance of Mentors in career development
Mentorship for life change	The Mentor-Mentee Partnership Things to Consider as a Mentee: a) Work ethic b) Compatible hours and managing your time as a mentee c) Expectations of the relationship d) A sense of trust and openness e) What one needs developmentally as a mentee

2.1.4 Strengthening scientific skills and career prospects at the level of CARTA supervisors and supervision practices

To increase supervision capacity across the consortium, according to CARTA's intervention logic, all fellows will be allocated one primary supervisor, with additional supervisors being assigned if the primary supervisor is inexperienced or does not provide enough subject-specific expertise. The matching of fellows to supervisors takes place at institution level rather than allocation being carried out centrally by CARTA, but all CARTA partner institutions were required to submit a list of potential supervisors and their CVs to CARTA to allow fellows to select and approach supervisors. This list is made available on the CARTA website, allowing CARTA fellows to identify and request supervision from these potential supervisors. Table 6 shows the numbers of potential supervisors reported by southern partner universities as well as the distribution of cohort one CARTA fellows between institutions. This distribution is presented both in terms of fellows' home institutions and where they are registered.

Table 6: Institutional distribution of potential supervisors and CARTA fellows at southern Institutions for cohort one as of July 2011

Institution	Total number of potential supervisors ²²	Total number of fellows for whom this is their home Institution ²³	Total number of fellows registered ²⁴
University of Ibadan, Nigeria	11	2	3
Moi University, Kenya	14	2	2
National University of Rwanda, Rwanda	8	3	1
University of Malawi, Malawi	8	4	2
University of Dar es Salaam, Tanzania	8	1	1
African Population and Health Research Center, Kenya	4 (Wits/APHRC)	1	0
University of the Witwatersrand, South Africa	15	3	11
University of Nairobi, Kenya	13	3	4
Agincourt Health and Population Unit, South Africa	1 (Agincourt/Wits)	1	0

²² In addition to these supervisors at southern partner institutions, it is expected that staff at some Northern partner universities will be able to provide supervision expertise, but it is unclear from information received whether this has been formally implemented or will be carried out on an ad-hoc basis.

²³ A CARTA PhD fellow's home institution is where they are employed as junior staff at the time of their application to CARTA. They continue to receive their salary from these institutions throughout the course of their fellowship, even if they are not resident at this institution and may be registered elsewhere.

²⁴ The institution at which a fellow is registered tends to be the institution closest to which they are resident and where their primary supervisor is based.

Institution	Total number of potential supervisors ²²	Total number of fellows for whom this is their home Institution ²³	Total number of fellows registered ²⁴ here
Makerere University, Uganda	8	1	1
Ifakara Health Institute, Tanzania	4	1	0
Obafemi Awolowo University, Nigeria	8	3	0

Information from the CARTA Secretariat makes clear that the list of available supervisors is in constant flux, as potential supervisors become available and others are unable to take on additional supervisees

An illustration of this is the updated figure of 23 potential supervisors at Moi university as of November 2011. As it is constantly changing, this information about supervisors is not always accurately reflected on the CARTA website and fellows may find and directly approach supervisors who are not listed here.

Comparing the list of potential supervisors as of April 2011 to the list of supervisors and their respective fellows in cohort one shows that 25 of the 52 supervisors allocated are not on this initial list. For cohort one, eight fellows have only one supervisor, seven have two supervisors, eight have three supervisors, and one fellow has four supervisors. There does not appear to be any pattern regarding the number of supervisors a CARTA fellow has and their home and registration institutions; a fellow from a promising²⁵ university such as Moi University is just as likely as one from an established university such as University of Nairobi to have more than one supervisor.

Table 6, above, clearly shows that a number of fellows are registered at universities other than their home institutions. As research institutes cannot award degrees, all CARTA fellows are required to register at a southern CARTA partner university. The CARTA fellows with research institutes as their home institutions registered at the universities where their primary supervisors are based: the fellow from APHRC registered at the University of Nairobi, while the fellow from Ifakara Health Institute registered at Wits.

11 of the cohort one fellows' primary supervisors attended JAS1, falling short of the aim for all primary supervisors to attend and to take part in a refresher course in supervision. According to the list of expected supervisors attending JAS1, 10 of the 25 CARTA fellows did not have any of their supervisors represented at JAS1, even in some cases where the fellow had more than one supervisor assigned to them. This seems to be a particular issue for fellows who are registered at Wits; of the 11 fellows registered there, seven of them did not have any of their supervisors attend JAS1.

²⁵ The classification of public universities as promising or established is according to CARTA's proposal to the Wellcome Trust for the African Institutions initiative.

Two workshops for cohort one supervisors were held during JAS1, inspiring additional supervisor training outside of JAS1

These two workshops were a refresher session on supervision and a training course on CARTA's online community, facilitated by Google.org. The research supervision refresher course was held on Saturday 2-Sunday 3 April, 2011, during JAS 1, and was run by Lenore Manderson of Monash University, Australia. The aims of the course were to provide an "opportunity to share our experiences, develop skills, and examine the challenges relevant to higher degree supervision,"²⁶.

Table 7: Content of supervisors' training course during JAS1, April 2011

Day	Detailed course content
1	1) rewarding and challenging aspects of supervision 2) choosing or accepting students, co-supervisors and associates 3) negotiating expectations regarding supervisory relationships 4) research protocol development 5) monitoring student progress
2	1) assessing student work and providing feedback 2) supporting a student through data collection 3) problem cases 4) analysis and writing

The shortfall in the number of supervisors attending the JAS1 supervision refresher course has led CARTA to revise incentives for attendance, e.g. providing recognition for attendance at fellows' home universities. In addition, review of the JAS²⁷ may include a greater focus on building relationships between fellows and their supervisors by having joint tasks or sessions. Supervisors and supervisees are required to sign a contract outlining the nature of their arrangement, which may also help to determine roles and expectations and facilitate good supervisor-supervisee relationships.

Based on good feedback on Lenore Manderson's supervision sessions, she was invited by the University of Ibadan to hold a training session specifically for their staff at the university in Nigeria. This was funded by the University rather than by CARTA, and is an example of sharing best practice and building on positive experiences among CARTA partner institutions.

In the last week of JAS1, supervisors who attended chaired and participated in presentations by the fellows

Despite the small number of supervisors who attended JAS1, this session provided an opportunity for closer interaction between supervisors and supervisees. These 15 supervisors represented a range of disciplines. They represented African partner universities as follows: 4 from the University of Nairobi (Kenya), 1 from the University of Ibadan (Nigeria), 2 from the University of Malawi (Malawi), 1 from the University of the Witwatersrand (South Africa), one from Moi University (Kenya), 3 from University of

²⁶ From "RESEARCH SUPERVISION REFRESHER PROGRAM: CARTA, 2-3 April 2011 Lenore Manderson", received from CARTA.

²⁷ Information from CARTA in "Draft Notes from meeting to review JAS1. Wits University Sunday 14th August 2011"

Dar es Salaam (Tanzania), and 1 from Obafemi Awolowo University. Lenore Manderson (Monash University, Australia) also took part.

Feedback from JAS revision meetings suggests that cohort one students may not be receiving adequate support from their supervisors

Feedback from ESE:O regarding inter-JAS tasks suggests that a reason for some fellows not completing these tasks adequately or at all is that they have not yet been assigned a supervisor or that they are not receiving sufficient support from their supervisor for those inter-JAS tasks where this might be beneficial.

Training in mentorship theory and skills

As well as providing training for CARTA fellows, Dr Bellon and Professor Aseka of Nairobi International School of Theology/International Leadership University in Kenya (NIST/ILU-K) also provided a course for CARTA staff (supervisors) between Monday, April 4th and Friday, April 8th, outlined in Table 8, below.

Table 8: JAS1 supervision and mentorship training course for staff (supervisors)

Main topic	Elements
FOR SUPERVISORS (STAFF)	
Responsibilities and roles of supervisors	Abusive Supervision Supervising as Parenting Ways of Supervising Supervisor's Self-Assessment Survey Goal-setting in supervision Personal Productivity Supervision as Leadership Supervision as Management
Diversity Management and Mentorship for life change	Managing Cultural Diversity Mentoring in Diversity Leadership Valuing Diversity Facing Diversity Core Aspects of a Diverse Workplace - stereotypes, prejudices etc Mentoring to improve gender, age, ethnic and racial differences
Personality Dynamics, Attitudes and Challenges of supervision	Multi-cultural Competence in Supervision - challenges and opportunities Supervision as a medium of Teaching Client-centred Supervision
Forming knowledge communities	Cultivating communities of practice Effective learning in knowledge communities Knowledge community as an emergent form of multiple interactive enterprise Knowledge community as a product or a new research

The two tables show how CARTA is working to improve CARTA fellows and staff ability to make the most of mentorship in order to address the potential challenges that the

consortium has identified in the multidisciplinary nature of the CARTA programme. This is discussed in detail in the CARTA inception report²⁸.

2.2 CARTA's performance in year two: Strengthening research governance, management and administration (RGMA) capacities

In order to strengthen partner institution buy-in and engagement with the CARTA programme, it was considered important in year two to capture baseline information about institutional capacity and expectations. In addition, in line with plans, the first training sessions for faculty and junior staff were completed. Feedback was solicited from course participants in order to allow CARTA to improve the next set of RGMA courses.

Table 9: A summary of CARTA's progress in efforts to strengthen RGMA

Activity	Milestone for year two	Actual realised value
Consortium baseline narrative report	- To develop narrative baseline report from each CARTA African university partner, in part to inform the evaluation project's baseline reporting	- Narrative report on capacity in participating PPH departments and institutional expectations was received
Training programmes for faculty and staff	- Develop curricula collaboratively - Hold training courses according to needs and number of participants identified by partners	- Curriculum for RGMA training session in March 2011 developed by representatives of five African universities and University of Warwick - Training workshop held 9-11 March, 19 faculty members and 22 administrators participated

2.2.1 Narrative baseline information on RGMA capacity and training expectations was received from all of the nine African partner universities

In November 2010, CARTA partner universities completed a survey to determine their baseline capacity, as well as to provide input for the Secretariat and consortium partners on their expectations regarding RGMA training. The CARTA Secretariat emphasised that the nature of the training provided would depend on the partner institutions' needs. Unlike the intervention logic for the other categories of effort, for CARTA, strengthening capacity in RGMA is focused at the institutional rather than the individual level so that staff, administrators and managers gain new skills through training and the sharing of good practice about RGMA between partner institutions. This should lead to increased capacity

²⁸ Bassford et al (2011) Consortium Report: CARTA (Consortium for Advanced Research Training in Africa), Santa Monica, CA: RAND, PM(L)-3697-WT

and commitment to lead, manage and support research initiatives, as well as to more efficient research practice.

2.2.2 According to plan, a training workshop was held (March 9-11 2011) in Nairobi, at the same time as JAS1 for cohort one, for staff and junior faculty nominated to participate by African partner universities

The training workshop²⁹ consisted of a number of joint sessions for both groups, as the overall aim of the RGMA training for both is to strengthen doctoral training; strengthen university-wide systems to support population and public health research and training; as well as the creation of hubs of research excellence. Detail of these training sessions is provided in Table 10.

Table 10: Content of RGMA training sessions during JAS1, March 9-11 2011

Group	Detailed course content
Junior faculty	1) identifying sources of research funding 2) writing grant proposals 3) thesis supervision and mentoring 4) teaching skills
Administrative staff	1) institutional research strategy 2) research governance and management 3) management administration and monitoring of research grants 4) information and knowledge management and its application to institutional research capacity 5) recruitment and enrolment of postgraduate students

CARTA partner institutions provided the Secretariat with a list of their nominees to take part in the training. Three members of administrative staff involved in postgraduate education and three junior faculty members (i.e. holding teaching or research positions and having completed their PhDs within the last 5 years) and from Population and Public Health (PPH) departments were nominated from each institution. A total of 22 members of support staff took part in the workshop, consisting of a combination of administrators, librarians and finance officers. Apart from the University of the Witwatersrand, a librarian took part from all universities.

Three junior faculty members took part from Moi and Obafemi Awolowo (OAU) Universities and from University of Ibadan. Two faculty members took part from Makerere University, the Universities of Malawi (Unima) and Nairobi and from Wits. Only one faculty member took part from the National University of Rwanda (NUR) and from the University of Dar es Salaam. For the administrators, there were three participants each from the Universities of Nairobi and Ibadan and from Obafemi Awolowo and Moi

²⁹ Source document: CARTA-Delphe Faculty Programme.pdf

universities. Unima, NUR, Makerere, Wits and University of Dar es Salaam each sent two members of their administrative staff. CARTA did not have quantifiable goals for the number of staff to participate, because this was left up to the partner institutions, based on their assessment of their training needs. However, the call for nomination of 3 individuals from each group is evidence of a general aspiration in terms of the numbers of participants, and this has largely been met.

The RGMA training sessions were facilitated by 17 facilitators from CARTA partner institutions, and one facilitator from Organization Systems Development, based in South Africa. Eight facilitators were from APHRC, which hosted JAS1, with one facilitator each from Obafemi Awolowo, Moi, Ibadan, Nairobi, and Warwick universities as well as from the University of the Witwatersrand. Both quantitative and qualitative feedback about the workshop was gathered from facilitators and the two different groups of attendees, and CARTA plans to take this into account in implementing future workshops. Overall, the faculty training course was rated very highly, with six ratings of “excellent” and 12 of “very good” out of a total of 25 responses. In particular, plans to include more “breathing space” in the schedule for reflection on what is being learnt and interaction with other participants is being taken on board. This feedback mirrors that from CARTA fellows regarding JAS1.

2.3 **CARTA’s performance in year two: Strengthening physical and ICT infrastructure**

For CARTA, strengthening physical and ICT infrastructure takes place at multiple levels. At the level of CARTA fellows and other individuals involved in CARTA, there is a focus on increasing capacity through improving the availability and use of software, as well as through increased online networking, access to expertise and to information. At the institutional level, improved physical and ICT infrastructure capacity is intended to lead to high quality research, improved networking and collaboration as a result of increased networking and resource sharing between consortium partners.

Table 11. A summary of CARTA’s progress in efforts to strengthen physical and ICT infrastructure

Activity	Milestone for year two	Actual realised value
Reporting on Physical and ICT infrastructure	- All partner institutions to submit a baseline report on physical and ICT infrastructure	- Baseline narrative reports received from all institutions
	- Partners to prepare financial reports on infrastructural investment from all institutions	- Financial reports received from 6 out of 9 partner institutions
	- Partners to provide the CARTA Secretariat with narrative reporting on infrastructure improvements	- Narrative report on improvements received from all African Universities except University of Obafemi Awolowo as of August 2011
Provision of software to	- Each CARTA fellow is to receive a laptop loaded	- Each of the 25 fellows received a laptop with software

CARTA fellows	with NVivo, Stata, Endnote and MS office software	<ul style="list-style-type: none"> - Training session for EndNote was conducted at JAS1 - Feedback received from fellows on the usefulness of software training sessions
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2.3.1 Improvements to physical and ICT infrastructure have been challenging for CARTA to carry out and monitor

There has been substantial progress in this area but investment in physical and ICT improvements at CARTA partner universities and getting accounts of that investment has provided some challenges in year two. The logic behind all of CARTA's investments is that they should result in improvements for CARTA fellows and their peers. For example, at the University of Ibadan, some physical infrastructure improvement relates to improved facilities for the hosting of Joint Advanced Seminars, for which there is a concrete deadline. CARTA's baseline report, included as an appendix in the evaluation and learning (E&L) team's inception report (Bassford et al. 2011) on the consortium, shows the significant differences in baseline infrastructure, as well as in planned improvements. For example, the University of Dar es Salaam needs to install an internet connection and has purchased small numbers of ICT equipment, while established institutions such as University of the Witwatersrand (Wits) and African Population and Health Research Center (APHRC) are using CARTA funds to contribute to large-scale infrastructural improvements in the form of a new School of Public Health for the former and construction of new corporate headquarters for the latter. Nevertheless, CARTA stresses that Wellcome Trust funding constitutes a very small percentage of the total cost of the improvements at Wits and APHRC.

According to CARTA, in general, delays in implementing physical infrastructure and ICT improvements are the result of challenges in complying with the systems that have been set in place to ensure accountability in the use of funds. A logistical challenge with respect to funding of physical and ICT improvements that is highlighted by the Secretariat is the requirement of an independent bank account confirmation letter from partner institutions' banks to the Wellcome Trust, to be sent through the CARTA Secretariat. For the University of Wits, for example, although the necessary paperwork is in order, a second instalment of funding cannot be released by the CARTA Secretariat until the go-ahead is received from the Wellcome Trust.

Reports on year two progress from institutions further show that coordinating the use of CARTA funds has on occasion been problematic. The University of Malawi (UNIMA) has had difficulties coordinating infrastructure development because UNIMA's five constituent colleges are on different campuses across Malawi, up to 330 kilometres apart. However, CARTA reports that the first instalment of funding has been used to procure IT equipment for the five colleges. According to its reporting, Ifakara Health Institute has yet to spend any of the money allocated, and planned to be used in the second year. National University of Rwanda, University of Ibadan, University of Malawi and University of Nairobi have all reported delays and other problems with the procurement of equipment or physical infrastructure construction, although details of the nature of these delays have not been requested by the E&L team and so have not been provided by CARTA. There is some emerging information in reports from CARTA on improvements as a result of

CARTA seed investment, such as the improvement in ICT services at Agincourt following the installation of a new server, but it is too early for any other evidence to be available.

CARTA's learning in this category of effort could benefit from additional detail in information on developments from partner institutions to the extent that it is possible to get this detail. Semi-annual narrative reports from African universities aim to address this.

In summary, narrative information provided by universities on activities and investments is often concrete; for example, detailing the purchase of a specific number of computers or the renovation of specific rooms/buildings. However, reports can miss out the proposed timeline of investment, deadlines for completion or how exactly CARTA seed money is contributing to a more strategic vision. In year three, CARTA plans to get semi-annual narrative reports on progress in all categories of effort from CARTA university committees at all partner universities. The tool for this purpose is presented in Appendix H: CARTA narrative monitoring tool for University Committees' reporting. It is clear that not all university contributions and investments will be precisely quantifiable but it would be helpful towards understanding how partner institutions' investments support CARTA's strategic goals if narrative accounts gave a more comprehensive idea of how member institutions are using the seed money and opportunities being offered by CARTA.

The CARTA Secretariat has had to balance the aim of increasing ownership of physical infrastructure and ICT improvements by providing only seed money with the need to monitor progress in achieving these planned improvements and continues to stress that the amount of money received from CARTA by most partner universities is very small.

The case of Obafemi Awolowo University (OAU) usefully highlights the potentially complicated nature of allocation of CARTA funds for physical and ICT improvements, of accountability for their use, and of multiple funders' reporting needs. No information was received from OAU on the use of CARTA funds because 1) their representative was unable to obtain a visa to attend the Partners' Forum (October 18-20 2010), where this information was presented and, 2) CARTA seed funding for OAU is drawn from funding from the Ford and Carnegie Foundations and not from the Wellcome Trust. Technical support from Google.org was provided to set up the re-launched CARTA website and online learning portals.

The improved CARTA website was re-launched prior to pre-JAS, part 1 for cohort one and feedback was gathered on its use and usefulness. The in-kind support for additional improvements is valued at 1 million US dollars (USD) by CARTA and Google³⁰. The website is key for communication between CARTA fellows, as well as for the completion of online tasks. Following pre-JAS, additional informal feedback on the use and usefulness of the website was solicited from fellows and CARTA committees at partner institutions by the CARTA communications officer via e-mails. Although only a few e-mails responses were received, they show that the website is viewed positively. Nevertheless, a few suggestions for improvement were made, e.g. contact information for key consortium members.

³⁰ Additional information about funding leveraged in year two is provided in section 2.4.4.

2.3.2 Information Technology (IT) milestones for individual CARTA fellows, towards facilitating the use of the CARTA online environment, were achieved

All 25 CARTA fellows in cohort one received laptops with software packages as planned. Fellows' training in the use of EndNote referencing software began, and their feedback on this was received and reviewed by the CARTA Secretariat. Upon beginning JAS1, all fellows signed for receipt of information technology (IT) hardware, consisting of a laptop, a laptop security lock, a flash disk, a modem and headphones. In addition, the improved CARTA website was used for pre-JAS, part one tasks, the scoring of which contributed to the assessment of fellowships nominees for cohorts one and two in year two.

Concrete steps were taken in year two to facilitate the development and use of the CARTA online environment:

- Fellows were assigned CARTA e-mail addresses which gave them a CARTA identity
- A mailing list created within the CARTA domain ensures constant sharing of information among the fellows and between the fellows and the CARTA Secretariat
- News about the fellows and occurrences in their institutions is posted on the CARTA website, which encourages fellows and CARTA institutions to make the Secretariat aware of this information so that it can be further disseminated

Although it is possible to measure the number of hits received on the website and to gauge interest in the consortium based on these, as was done by CARTA in year one, this does not appear to have been done systematically in year two, and it is therefore not entirely clear to what extent CARTA fellows actually use the website for collaboration with each other outside of formal requirements during group exercises.

2.4 CARTA's performance in year two: Management, governance and communications of the consortium

It is important to CARTA that the consortium maintains four separate categories of effort in capacity-building. The running of an effectively managed consortium, continued fundraising, and raising the consortium's profile through widespread dissemination are particularly important aspects of CARTA's intervention logic. As such, some of these aspects are discussed in relation to the three other categories of effort, discussed above, but are here discussed in relation to the higher-level goals of the consortium.

Table 12. A summary of CARTA's progress in its efforts to strengthen management, governance and communication within the consortium

Activity	Milestone for year two	Actual realised value
Resource allocation	- To monitor financial resources allocated by CARTA	- Grant agreements are audited annually as part of APHRC's audited reports.
Governance	- To activate those elements of CARTA's	- The Patrons Advisory Group was inaugurated in March 2011.

Consortium expansion	governance structures not implemented in year one	- CARTA funders held their joint conference call in January 2011 and met in person in March 2011 in Nairobi.
	- To review the inclusion of potential new partner institutions that add value to the consortium	- Collaborative agreements signed with the Sahlgrenska Academy at University of Gothenburg
Staffing	- To generate new grants to support CARTA program activities	- Kampala University indicated interest in being a part of CARTA
	- To fill all administrative and management positions.	- No private students from partner institutions sought admission into the CARTA program
Continued fundraising	To continue fundraising towards the estimated 20M USD for full implementation of the CARTA programme.	- 64 students from non-participating universities have sought registration into the CARTA program.
		- All administrative and management positions filled. CARTA's Program Manager (PM) left the program in April 2011 and had not yet been replaced at the end of year two (July 2011).
Dissemination	For all launches at African universities to be held by JAS1 (year one milestone) To improve networks by continued dissemination	- Carnegie renewed funding to CARTA for US\$ 2.5 Million
		- Wellcome Trust awarded CARTA a supplementary grant of £25,000 to support engagement with the independent evaluation project specifically
		- Joint proposal to support CARTA activities was submitted to the Nuffield Foundation by the University of Warwick in January
		- Achieved
		- The CARTA program has been presented at several fora by the CARTA team
		- One paper published in Global Health Action

2.4.1 **CARTA's management structure, which was finalised in year one, was fully operationalised in year two, with additional focus on increasing engagement with and from key stakeholders and funders**

Both the CARTA Funders' group and the Patrons' Advisory group (PAG) held inaugural meetings in year two. Both of these groups are intended to increase CARTA's profile among external stakeholders and to help leverage additional funding for the consortium. Potential PAG members were recommended by members of the CARTA Board of Management (BoM) and were invited to become PAG members at the beginning of year two (August 2010). The first Patrons Advisory Board meeting held in Nairobi on March 2011, to coincide with JAS1 for cohort one. In year two, there were nine PAG members, as detailed in Table 13, below. They are intended to provide advice, serve as CARTA ambassadors, support fundraising and ensure high-level visibility of the CARTA programme among policy makers.

Table 13: PAG members in year two

PAG member	Affiliation
Hon. Bob McMulaan	Australian Politician, Parliamentary Secretary for International Development Assistance Program
Hon. Clare Short	Former Member of Parliament for Birmingham Ladywood
Prof Jimmy Whitworth	Wellcome Trust, UK
Prof Hannah Akuffo	Head of team of the Research Secretariat of the Swedish International Development Cooperation Agency (SIDA)
Dr Hassan Mshinda	Director General, Tanzanian Commission for Science and Technology (COSTECH)
Dr. Joyce Moock	International Development Consultant
Prof Adebayo Olukoshi*	Director of the UN African Institute for Economic Development and Planning (IDEP), Dakar, Senegal
Prof Mthuli Ncude*	Chief Economist at the African Development Bank (AfDB)
Prof. Omotade Aina*	Carnegie Corporation of New York

*Absent from the PAG meeting, with apologies

2.4.2 Both virtual and face-to-face funders' meetings took place in year two

A virtual funders' meeting (teleconference) was held on January 12, 2011, allowing funders to discuss ways to streamline their reporting and to learn from each other's approach to funding. Six CARTA Secretariat and management members and representatives of four funders participated in this virtual meeting. A face-to-face meeting was then held in Nairobi on 23-24 March, where funders and PAG members met. This coincided in time and location with JAS1. Of the six CARTA funders in year two, the Wellcome Trust, the Carnegie Corporation of New York, the Ford Foundation, Google.org, the MacArthur Foundation, and the Bill and Melinda Gates Foundation, and DelpHE-DFID the first four took part in both the conference call and the meeting, with the MacArthur foundation representative only attending the face-to-face meeting. The Gates Foundation and DelpHE-DFID were not represented at either. Main points raised by the funders for discussion during the March meeting concerned CARTA's expectations of funders; the role of Northern partners in CARTA; plans for the mitigation of the risk of fellows dropping out of the programme; additional fundraising plans; the role of professional and leadership training in the JAS; as well as plans for expansion of the PAG and its relevance for CARTA. The minutes of this meeting suggest that, despite many areas of overlap in reporting, uniform narrative reporting to all funders may be challenging, as funders' have divergent views of the detail needed in reports. In addition, the fact that the MacArthur Foundation is providing funding specifically for CARTA fellows from the University of Ibadan rather than to CARTA as a whole, means that the Foundation requires different reporting to the other funders.

A key focus of these meetings was to allow these key stakeholders to observe JAS1 in practice and to meet CARTA fellows and staff. In year three, it is likely that funders' meetings will be ad-hoc, based on funders' desire to interact with each other.

2.4.3 **The registration of 11 of 25 fellows in cohort one at the University of the Witwatersrand (Wits) has made it necessary to review the funding of the fellowships**

Discussions at the March 2011 BoM meeting included a focus on the need to re-assess the funding of CARTA fellowships (tuition fees, stipends, and course tuition) in light of almost half (11 of 25) of the fellows' registering at Wits. The potential for these issues to arise was already flagged during the October 2011 BoM meeting. The current stipend for fellows of USD 500 per month is inadequate to cover living costs in Johannesburg. While there are some funds available for an additional stipend of USD 4,000 for fellows registering outside of their home institution and they will continue to receive their salaries, the high number of fellows wishing to do so has put a strain on funds. In addition, although this is a common occurrence in CARTA partner universities, it is unclear what effect paying salaries to staff who are not available on site to fulfil the requirements of their salaried positions is having on these home institutions. As an incentive to stay at their home institutions, fellows who do so will be prioritised for funding for short courses overseas. The CARTA BoM recognises that these financial re-assessment may necessitate the reduction of the number of fellows in subsequent cohorts, jeopardizing the possibility of achieving a critical mass of researchers to create research hubs at some home institutions. Final decisions about these funding issues will have been taken at the next BoM meeting in August, 2011, at the beginning of year three. At this stage, it is unclear to what extent individual CARTA institutions are informed about and involved in decision-making about future courses of action, but the Partners' Forum, which coincides with the next BoM meeting is likely to involve the discussion of these issues by representatives of all CARTA partner institutions.

2.4.4 **CARTA's overall intervention logic rests on the leveraging of additional funding for the programme to that provided by the Wellcome Trust and this is likely to become even more important in future years as fellows' funding requirements increase and the funding environment potentially becomes more precarious**

During year two, CARTA's fundraising and funder coordination initiatives were stepped up with the aim of ensuring continuity of all core elements of the CARTA programme, including the attainment of the goal of enrolling 25 new fellows per annual cohort of PhD fellows entering the programme. The key focus, however, is on ensuring a high-quality experience for however many fellows it is possible to support given the level of available funding. Additional funding is being sought to address the shortfall in funds for a number of elements of the CARTA programme such as monitoring, learning and evaluation; salaries of CARTA administrative staff for CARTA-specific work; financial support for CARTA fellows' supervisors; sufficient scholarships for CARTA fellows; and for significant investment in individual partner institutions.

CARTA's interventions regarding funding and funders are related both to facilitating networking and sharing between its existing funders and the search for additional funding. The former was made possible by the establishment of the Funders' Meetings; one teleconference for funders, held on January 12, 2011 and a subsequent face-to-face funders' meeting in Nairobi on 23-24 March, which allowed funders to interact with the CARTA Patrons Advisory Group (PAG) and to discuss matters of mutual interest. This engagement with funders, advisors and policy-makers is intended to take advantage of existing networks to raise the profile of CARTA and to leverage high-level funding from the Association of Africa Universities (AAU) and the World Bank, for example.

Additional funding leveraged by CARTA in year two includes both funding being mobilised and administered from the Secretariat, and in kind support, allocated to individuals but used for CARTA-related activities. Table 14, below, shows the amount of funding leveraged by the Secretariat in year two.

Table 14. A summary of funding leveraged and administered by the CARTA Secretariat in year two

Funder	Detail	Amount (original currency)	Approximate amount (British Pound (GBP))
Carnegie Corporation of New York	Renewal of CARTA's funding	United States Dollars (USD) 2.5 million	1.6 million
Wellcome Trust	to supplement Monitoring and Evaluation (M&E) activities	GBP 25,000	25,000
Google.Org	technical support in setting up the CARTA website and online learning portals	USD 1 million	642,573
TOTAL			2,267,573 GBP

In April 2011 of year two, CARTA's funding from the Carnegie Corporation of New York was renewed (USD 2.5 million/GBP 1.6 million). In addition, the Wellcome Trust awarded a supplementary grant of GBP 25,000 (USD 39,000) to support engagement with the evaluation and learning project. This was a supplement to the initial African Institutions initiative grant of GBP 3,398,400 (USD 5,311,163), awarded in July 2009 for a period of sixty months, starting on 1 August 2009. The yearly allocation is GBP 679,680 (USD 1,062,210), which is a third of the amount additionally leveraged by CARTA in year two for administration by the consortium Secretariat.

Table 15. A summary of in-kind funding allocated to individuals and used for CARTA activities in year two

Funder	Detail	Amount (original currency)	Approximate amount (British Pound (GBP))
University of Gothenburg	Supported a CARTA staff to visit Sweden and speak about the program to faculty of the University of Gothenburg and the Nordic School of Public Health, Sweden Participation of two of its faculty who served as facilitators for JAS 1	This support is expected to cost the University of Gothenburg over 100,000 Swedish Kronor (SEK) in the next 2 years. Assumption of 50,000 SEK in year two.	4,600
University of Colorado	Full support to one CARTA fellow and partial support to two CARTA fellows to attend a course on Longitudinal Data Management and Analysis at the University of Colorado, Boulder, USA, July 11-22, 2011	Valued at over USD 12,000	7,700
Claude-Leon-Wits Distinguished Scholars funding (Wits)	will support Margaret Thorogood's residence in Johannesburg to coordinate the planning and delivery of JAS 2; a four-week	75,000 South African Rand (ZAR)	5,800

Funder	Detail	Amount (original currency)	Approximate amount (British Pound (GBP))
	methodology course which begins in November 2011		
Team Award of the Vice-Chancellor's Academic Citizenship Team Award of the University of the Witwatersrand	Won by CARTA Deputy Director Professor Sharon Fonn of the University of the Witwatersrand School of Public Health, and Prof Kathleen Kahn of Rural Health in Transition and Agincourt Research Unit	40,000 South African Rand (ZAR)	3,000
APPROXIMATE TOTAL			21,100 GBP³¹

Table 15 shows the distribution of in-kind funding received in year two and used for CARTA-related activities. CARTA partner institutions, the Universities of Gothenburg and Colorado provided full and partial support for a total of four CARTA members (fellows and staff) to attend training short courses that these institutions hosted. In addition to institutional support for CARTA, individual members donated money towards the programme, Margaret Thorogood (University of Warwick) was awarded the Claude-Leon-Wits Distinguished Scholars funding (75,000 South African Rand) which will be used in year three towards her support of JAS2 activities, while Sharon Fonn (Wits) and Kathleen Kahn (Agincourt) donated their 40,000 South African Rand prize from the Team Award of the Vice-Chancellor's Academic Citizenship Team Award of Wits to support CARTA activities at this university.

Communication from CARTA makes it clear that there is a great opportunity cost involved in fundraising, as a number of CARTA funding proposals to the European Union have involved significant effort to produce, but have been unsuccessful. The outcome of a number of funding proposals that were submitted in year two had not been decided by the end of the year: in the last quarter of the second year, a concept note was drafted for the Australian Government Overseas Aid Program (AusAID), seeking full funding for twenty CARTA fellowships; and a funding proposal was submitted to the Nuffield Foundation by the University of Warwick in January 2011.

CARTA's goal of leveraging 20 million USD (approximately 12.9 million GBP) for the full implementation of the CARTA programme according to plan remains a clear focus in year two and beyond, although a quantifiable yearly fundraising target has not been set. It appears that little substantial progress towards this goal was made in year two, in terms of actual funding leveraged. CARTA's annual narrative report does not provide a total amount of funding leveraged in year two as the sources, currencies and recipients are very diverse, but an approximate estimation of funding leveraged in year two is provided in the two tables above, based on information provided by CARTA. The funding that was leveraged is evidence of the multiple and divergent sources that are being drawn on by CARTA but also highlights the need for intensive fundraising effort going forward. These efforts, while important, also represent an opportunity cost for CARTA in that significant

³¹ USD 3,280

effort can potentially be used for unsuccessful proposals, as is the case with CARTA applications for funding from the European Union (EU).

2.4.5 Decisions about consortium expansion were taken by the Board of Management, with a decision made not to expand the consortium further until year 3 and to focus on strengthening existing collaboration

In discussing Brown University's expression of interest in joining CARTA, the decision was made at the BoM meeting on 19-20 October 2010 to maintain the current number of partner institutions and to focus on engaging with existing partners for the time being. The university, located in the US, would be a northern partner. A decision was made to limit the number of African partner institutions to 15. Kampala University (www.ku.ac.ug), a private university with a main campus seven kilometres outside Kampala, Uganda, expressed interest in joining CARTA through an e-mail to the CARTA Secretariat and emphasised its existing links to another new, private university, the University of East Africa in Kenya. However, as well as not accepting individual private students, the CARTA BoM has decided not to accept any new partner universities, whether private (not government funded) or public, into the consortium at this stage. Although all CARTA partner institutions are intended to contribute to the consortium's capacity building plans, the CARTA approach to collaboration and inclusion seems to be evolving in year two to become very pragmatic, consisting of formal collaborations as well as more ad-hoc associations with potential partner institutions that can add some value to CARTA's plans. Elements of this are discussed above, regarding contributions to JAS and faculty training activities provided by members of non-partner institutions.

2.4.6 Members of the CARTA Secretariat continue to develop their own capacity through training and to learn from developments in the consortium but some changes in staffing of the Secretariat may be important for the running of the consortium going forward

In accordance with plans laid out in year one a program accountant was recruited in November 2010 to fill the last vacant position. In addition, CARTA staff members continue to develop their expertise, both in collaboration with the University of Warwick, the CARTA northern partner that has been most engaged in year two, and through external training opportunities. For example, APHRC's webmaster and the CARTA Communications Officer visited the University of Warwick Medical School from 19-26 August, 2010, at the beginning of year two, to learn about the delivery of online programmes at the Health Sciences Research Institute. In November 2010 the CARTA Communications Officer also attended a 2-day training workshop on Open Access Publishing, organised by Kenyatta University in collaboration with BioMed Central, where case studies were presented by organisations with experience of open access information sources. It has become clear that APHRC staff have already been using open access publications, and this will be built on going forward.

A potentially serious development was the resignation of the CARTA Program Manager (PM), whose family was negatively affected by the religiously-motivated killings during the Jos crisis, and who consequently returned to Nigeria in April 2011. The program manager's tasks were re-allocated to other Secretariat members while a decision is made regarding how to address the change. The central position of the PM in CARTA could potentially make it difficult to replace him. It is not apparent at the end of year two which

impact this has had on CARTA management. The vacant position was advertised in *Daily Nation*, a leading Kenyan Local Daily newspaper, on 6 July 2011, as well as on the APHRC website, www.aphrc.org, without an application deadline.

2.4.7 Linkage and exchange

Intra-consortium communication may need to be strengthened in order to ensure adequate engagement from and with African partners in CARTA

Delays in the delivery of requested information to the CARTA Secretariat (baseline information on ICT and infrastructure, and lists of supervisors, for example), suggests that the Secretariat may need to revisit plans for engaging with CARTA focal persons and teams at partner institutions going forward. This will build on the groundwork laid by the CARTA launches, and is in line with the learning and revision already being undertaken in engagement with CARTA fellows and their supervisors.

Interaction with Makerere University in the first two years of the African Institutions initiative has proven to be more challenging than that between the CARTA Secretariat and other partner institutions. Discussion at the March 2011 BoM meeting suggests that the university's interaction with CARTA had not been a top priority during this time. There has been significant upheaval at the university, culminating in its closure in September 2011 (the beginning of year 3), which is reported on CARTA's website. This turbulence resulted in a delay with the CARTA launch at the university. There has been significant improvement in relations between the CARTA Secretariat and Makerere University, especially as a result of a face-to-face meeting at the university in May 2011 to discuss engagement. At the time of writing this year two report, engagement with Makerere University is good; the university is very responsive to the Secretariat and has participated in both Partners' Forums. This is a good example of how the Secretariat adjusts to developments in the consortium and sets a good precedent going forward, even though it appears to have been a somewhat lengthy process, requiring the use of significant resources.

2.4.8 Dissemination and publicity

The final CARTA university launch posed some challenges, leading to delays, but this has proved to be a learning experience regarding engagement with partner institutions

Two launches were held in year two, at Obafemi Awolowo University (OAU) on August 17 2010 and at Makerere University in January 2011 (originally planned for November 2010). The launch at OAU was funded by CARTA but was held later than those at other universities because OAU was not one of the original CARTA partner institutions, having joined in 2009. Although the final CARTA launch, at Makerere University, was delayed relative to the other launches carried out at African university partner institutions, a low-key launch was nevertheless held, as intended, before JAS1. The launch was held during a visit by CARTA leadership to the University's School of Public Health. Minutes from CARTA's Board of Management meetings and the narrative reporting for the last quarter of year two (May 1st to July 31st, 2011) suggest that more interaction with Makerere was necessary than with other partners, including a trip to Kampala for face-to-face discussion with the institution's CARTA committee. This was necessary in order to clarify uncertainties around the funding of CARTA fellows and that of Makerere staff involved with CARTA. A team from the Secretariat visited the University's CARTA committee on May 13, 2011 to clarify issues regarding Makerere's participation in the CARTA program

and the fellowship agreements. Feedback from the committee indicated that the visit was very useful..

Dissemination of the call for applications for CARTA 2011-12 fellowships (cohort 2, year 2), the CARTA newsletter, and networking efforts of individual CARTA fellows meant that the consortium's progress was more widely advertised than in year one

The call for applications for CARTA cohort two was advertised online on the CARTA website, three partner institutions' websites (Makerere University, University of the Witwatersrand, APHRC), and on Info Scholarship.net as well as the Polytechnic Environmental Science and Technology Facebook page. This selection of sites suggests that the dissemination approach is still developing, and remains pragmatic. The call for applications was also circulated in print in the form of brochures and posters sent to partner institutions and other groups already engaged with CARTA (funders and Patrons' Advisory Group)³². It was also placed in news media – *the East African*, a leading East African circulating weekly publication widely read in Kenya, Uganda, Tanzania and Rwanda.

Two CARTA newsletters were published (on the website and in print) in year two, one in March 2011, and one in August 2011. The newsletter serves to provide information about developments in CARTA to interested parties, including other African Institutions initiative consortia, and include the publication of awarded fellowships. A decision was taken by the Secretariat following the publication of the second newsletter, to reduce the frequency of publication in year three from quarterly to twice a year, given that there weren't enough newsworthy developments in the consortium for a quarterly publication.

There is some evidence of individual cohort one fellows increasing their networks by engaging in regional conferences, i.e. in Burkina Faso, Senegal and South Africa, laying the groundwork for further collaborations and the development of research hubs at their institutions.

There has been a strong CARTA focus on regional dissemination of the CARTA programme by strengthening ties and information sharing with other African Institutions initiative consortia

CARTA has been active in regional dissemination activities, as described in section 2.4.7, and has been involved in productive engagement with other consortia and external stakeholders. Engagement with other consortia seems to be driven by personal interaction between lead personalities in CARTA and other consortia. For example, CARTA reports that ongoing discussions are being held between Prof Sharon Fonn, CARTA's deputy director, and Margaret Gyamong and Pascale Allotey, respectively the director and a principal investigator (PI) in the Research Institute for Infectious Diseases of Poverty (IIDP). In addition, CARTA contacted the Afrique One consortium to explore formal collaboration for training programmes in particular. Although plans for concrete engagement have yet to be finalised, CARTA recognises the opportunities for sharing information and best practices with at least these two consortia because they have identified common aspects of their approaches to capacity building. In addition to

³² Source: CARTA Monitoring Learning and Evaluation Quarterly Narrative Report No.2, February1, 2011 – April 30, 2011.

preliminary discussions about future collaboration, the CARTA Secretariat has shared information about positive developments in CARTA. Leaders of other African Institutions initiative consortia have been encouraged to engage independently with ESE:O, as CARTA has done, for support with reading and writing training and with Google.org regarding their pilot project developing websites and online learning portals. Google is expected to discuss wider collaboration with the African Institutions initiative with the Wellcome Trust. Memoranda of Understanding (MoUs) have been signed between CARTA and ESE:O and Google.

Dissemination of the CARTA programme beyond the African Institutions initiative is aided by presentations at conferences and contributed to by key figures in CARTA receiving awards and being approached by other organisations for collaboration

Compared to year one, knowledge of the CARTA programme appears to be more widespread, and dissemination is being carried out in line with plans for year two. Key members of the CARTA Secretariat, as well as the Director and Deputy Director made presentations about the consortium to external interested parties such as the United Nations Population Fund (UNFPA), the World Health Organisation (WHO), and Columbia University Medical Center (in the US). Professor Donald Cole submitted an abstract about CARTA for the Montreal Global Health Conference, to be held in November 2011 (year three of the initiative). Professor Sharon Fonn and Prof. Kathleen Kahn were awarded the 2011 University of the Witwatersrand Vice-Chancellor's Academic Citizenship Team Award for their work in CARTA. A paper by Ezeh et al³³ discussing CARTA's intervention logic, was published in *Global Health Action*³⁴ in October 2010, at the beginning of year one. Details of this paper are discussed in the year one report³⁵.

CARTA was approached by the Association of Commonwealth Universities (ACU) to provide input for their recommendations on the AusAID Research Strategy 2011-15 and Australia-Africa Research Partnerships Programme. In particular, to explore the current priorities and needs of African research organisations and users to understand what they would value in Australian support, and possible links with Australian research centres. This request came about through Monash University's involvement in CARTA. Other collaboration with external bodies included the preparation of a paper with another member of the ACU to be submitted to *Research Global Magazine*. In year two, presentations on CARTA were made at the Population Association of America Annual Meeting (March 31- April 2, 2011, Washington, DC, USA) and at the African Health Economics and Policy Association (AfHEA) meeting (March 15-17, 2011, Saly, Senegal).

³³ Ezeh et al (2010) Building Capacity for Public and Population Health Research in Africa: The Consortium for Advanced Research Training in Africa (CARTA) Model. *Global Health Action* 5: 5693 – DOI: 10.3402/gha.v3i0.5693.

³⁴ This is a peer-reviewed, open access journal affiliated to the Umeå Centre for Global Health Research (UCGHR) at Umeå University, Sweden, and published by Co-Action Publishing. See <http://www.globalhealthaction.net/index.php/gha>.

³⁵ Bassford et al, CARTA (Consortium for Advanced Research Training in Africa): One year on ..., PM(L)-3800-WT, July 2011.

This chapter reflects on CARTA's performance during year two in terms of the progress made towards achieving the consortium's objectives and vision. It covers the enablers and challenges to progress, with a view to learning from this experience and informing performance in future years. The chapter also considers the engagement of the consortium with the evaluation and learning project.

3.1 Examining developments in the context of CARTA's intervention logic

In this section we reflect on CARTA's year two performance against core aspects of its intervention logic, as summarised in Appendix D: CARTA's capacity building approach and overall intervention logic and presented in detail in Appendix E: CARTA's intervention logic in each category of effort.

3.1.1 **CARTA continues to build on and adapt its solid plans to strengthen scientific skills and improve career prospects. The consortium is continually acting on lessons learned to improve its training programme, its fellowship agreement with CARTA fellows, and its engagement with supervisors.**

- **CARTA has shown continued adaptiveness and responsiveness to learning from prior experience in developing its training programme.**

CARTA has used the experience of recruiting the first round of fellows and organising the initial Joint Advanced Seminars (JAS) to further develop its approach and practice. Concerns about the low number of CARTA cohort one fellows carrying out all JAS1 tasks to the required standard has led to some rethinking of the programme already, and will necessitate a careful consideration of the design of future JAS activities. This has already begun and CARTA's own review and evaluation of the performance of fellows and curriculum development have led it to rethink aspects of its operations. This includes extensive feedback solicited from JAS participants and facilitators which has led to the revision of the curriculum, but also to guidelines for and interaction with fellows. The ambitious nature of CARTA's plans and the inherent difficulties of working across such diverse institutions made it extremely likely that there would be issues and problems in activities to strengthen scientific skills across institutions.

Review and evaluation work was conducted with fellows themselves, with facilitators and with broad engagement from North and South partners on

curriculum review. The University of Warwick seems to have played a useful role in evaluating the recruitment process.

- **A large number of CARTA fellows are opting to register at universities other than their home institutions, which could impact on efforts to build capacity in the less established partners**

One issue which CARTA will need to give due consideration to is the impact of a large number of students opting to register at universities which are not their home institutions, and the E&L team has been informed that this was resolved at the BoM meeting in August 2011, the beginning of year three. The resolution will therefore be discussed in the report on progress in year three. This situation has led to a decrease in the number of fellowships on offer (so far from 25 CARTA fellows in cohort one to 20 in cohort two). This decision was taken in order to maintain the focus on CARTA's intervention logic aim of a high quality programme for fewer, fully funded fellows, who will now need more financial support than initially envisaged. The alternative, to lower the quality of support for each fellow but to maintain the total number of fellowships, would be at odds with the intervention logic.

These developments could nevertheless still have an impact on key aspects of CARTA's intervention logic. CARTA aims to create vibrant interdisciplinary hubs across member institutions and has constructed its activities on the basis of building up capabilities and activities across institutions. This could be undermined by students choosing to cluster around a limited number of well established universities. CARTA has introduced incentives to students that may make it more appealing for them to remain in their home institutions (e.g. priority for financial support to attend courses overseas). Depending on whether or not this move succeeds, CARTA may need to take further action and possibly rethink how it creates dispersed research capacity across its partner centres. There are a range of possible approaches that could be considered and that will need to be thought through in light of how they support CARTA's overarching intervention logic. CARTA is also looking to increase supervisor involvement in JAS and it will be important to reflect on this front as JAS2 progresses. CARTA is led by thoughtful and experienced research leaders and it is likely that different approaches to these issues will receive critical appraisal over the coming year.

- **Progress in building capacity in supervision and mentorship is less evident in year two than might be desired.**

According to its intervention logic, CARTA aims to develop partner institutions' supervision capacity by assigning a primary and a secondary supervisor to each CARTA fellow. The less experienced supervisors will then be able to learn from their more experienced counterparts. JAS attendance for supervisors was clarified in year two, such that only primary supervisors were required to attend JAS1 and to take part in a refresher course in supervision. As discussed in Chapter 2, courses for both CARTA fellows and supervisors during JAS1 aim to provide information about best practice in supervision and mentorship and to strengthen relationships between supervisors and supervisees. It is not yet clear, however, to what extent

supervision and mentorship practices have been improved in year two. Neither is it entirely clear who is intended to provide and receive mentoring or how this will be encouraged in practice and measured.

- 3.1.2 **Partner institutions will continue to be responsible for prioritising future efforts in building institutional capacity in physical and ICT infrastructure, aiming to maintain and focus their engagement in CARTA, in line with the intervention logic. The extent to which CARTA support for infrastructure strengthening is being utilised effectively remains an area of attention for the coming year.**

Narrative information provided by universities on activities and investments is often concrete for example, detailing the purchase of a specific number of computers or the renovation of specific rooms/buildings. However, reports can miss out the proposed timeline of investment, deadlines for completion or how exactly CARTA seed money is contributing to a more strategic vision. It is clear that not all university contributions and investments will be precisely quantifiable but it would be helpful if narrative accounts gave a more comprehensive idea of how member institutions are using the seed money and opportunities being offered by CARTA. It is important that this type of account exists as it would allow for critical reflection on the way different institutions, in very different circumstances with regard to ICT infrastructure, are using the money.

- 3.1.3 **Some anecdotal evidence is emerging of improved institutional level research governance, management and administration practices as a result of the training workshop and communication of best practice between CARTA partner institutions**

This type of feedback is primarily available through Partners' Forum discussions and ad-hoc personal communications of e-mails on progress from partner institutions. As discussed in chapter two, plans are in place for formalised annual reporting to the CARTA Secretariat from all African university partner institutions regarding their progress. These reports will then be discussed at the annual Partners' Forum meetings, drawing out lessons learned and examples of best practice. CARTA is already capturing some of this intangible evidence regarding the impact of training and information sharing in narrative reporting to the evaluation and learning (E&L) team.

- 3.1.4 **In line with its intervention logic, the consortium remains centrally led by the African Population and Health Center (APHRC) and the University of the Witwatersrand but the active involvement of existing and new partners is more evident than in the first year. Nevertheless, challenges with engagement from a minority of partners continue.**

CARTA communication channels are now well established. The engagement of all institutions in core activities is sought and encouraged by the Secretariat through the development of structured narrative and financial reporting. Not only are students from all institutions participating in core CARTA training but there is buy in from administrative and support staff from all universities. There has been active engagement in review or activities and the evolution of CARTA plans.

Communication with Makerere University has been challenging but the increased number of applicants from the university to cohort two provides an opportunity to consolidate relationships and to increase CARTA's profile at Makerere during year two of the African Institutions initiative.

In accordance with guidelines for the inclusion of new partner institutions and ultimate approval by the Partners' Forum, one northern institution joined CARTA in year two, the Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden. In addition, ESE:O (see section 2.1, above, on the JAS) is now considered a partner institution. These institutions contribute specific capacity building support in scientific skills. Professor Donald Cole from CCGHR coordinated the first week of JAS1 for cohort one, for example.

Facilitators for workshops (with administrative staff and faculty) and for the JAS are drawn from a range of partner institutions but also from institutions outside CARTA. For example, a facilitator for the faculty and staff training workshop was engaged from Organization Systems Development, a South African non-profit organizational management institution. Jane Bennett of the University of Cape Town (UCT), South Africa, is a member of the 16 person strong curriculum review working group for JAS1 and JAS2, despite UCT not being an official CARTA partner institution. CARTA's narrative reporting on year two activities suggests that its approach to strengthening its network within the academic community builds on existing relationships between individuals at the African Population and Health Center (APHRC) and the University of the Witwatersrand (Wits) in particular and other organisations or individuals. It is clearly wise to build on already established networks but this needs to be balanced with the overall aims of CARTA member institutions and with a view to building new networks and partnerships through CARTA activities.

The engagement with institutional authorities within the CARTA consortium by the Secretariat and consortium leadership appears to be positive. This is mainly judging by anecdotal narrative evidence from Board of Management (BoM) and Partners' forum meetings as relayed in CARTA's narrative reporting. However, there does not appear to be any focused engagement to ensure continued buy-in from institutional authorities, such as the year one efforts comprising the signing of memoranda of understanding and the CARTA launches. In addition to ensuring engagement and participation of partner institutions' CARTA committees, interaction with leaders of partner institutions may need to be revived. This engagement could then possibly be used as another approach to widening the reach of CARTA by encouraging institutional leaders to spread the word about the consortium's vision and activities to members of their networks.

3.2 Learning from the past to inform future practice

3.2.1 Overall progress and enablers

The evidence from year two suggests that, overall, the consortium is on track, adjusting to the changing funding landscape and its ramification; with a focus on delivering training and workshops.

The traffic lights in Appendix A give a snapshot view of CARTA's progress in year two, but as explained in more detail below, these cannot be taken out of context, and are likely to be influenced to a certain extent by the subjective interpretation of the evaluation and learning (E&L) team.

As discussed in the inception and year one reports, there are a number of factors related to consortium strategy, leadership and management practices that continue to enable the **consortium's progress**. These same aspects continue to enable CARTA's progress during year two and year two developments are summarised below.

- **Strong leadership and effective management: This facilitates the development of consortium-wide networks based on individuals' networks and focused efforts**

CARTA's high-level management as well as its operational management team continues to be engaged and driven in ensuring that the consortium remains on track. The input of individual CARTA representatives has been sought to help inform policy (e.g. by AusAID, the Australian Government's International Development body) and to highlight the role of a consortium like CARTA in regional capacity building through mentorship, presentations, and papers. This suggests that individuals and the CARTA programme as a whole are well respected and are effectively raising their profile in regional and international population and public health circles.

- **Structured programme management with demonstrated flexibility and responsiveness: It is likely that this will be a core facilitator of the consortium's sustainability as it continues to mature**

In year two CARTA has clearly shown that its programme management and governance structures enable a degree of flexibility in adjusting to changing inputs and contextual factors that will have an impact on the programme's ability to build capacity in line with its intervention logic. In particular, the setback of the Programme Manager's departure has apparently been taken in stride through the initial re-allocation of tasks among members of the Secretariat.

Another example is CARTA's response to addressing late responses to requests for information from partner institutions. A diversified strategy of follow-up e-mails, phone calls, and the possibility of on-site visits has been used to apparent effect. The particular case of Makerere University highlights potential challenges in engaging with partner institutions whose priorities may not initially be fully aligned with those of CARTA. As discussed in the inception phase of evaluation and learning engagement, critical conditions for the successful implementation of the intervention logic require a balance between high-level buy-in from partner institutions and individual (implementation team) commitment to CARTA. Although Makerere has committed to CARTA membership, it may be necessary for CARTA to reflect on the costs and benefits of its strategy with respect to ensuring "*adherence to governance and management policies and procedures and agreements between partners*", as defined in the detailed intervention logic. At the end of year two, Makerere was fully committed to the CARTA programme at both a senior and implementational level (i.e. buy-in from the University leadership as well as engagement from and with the CARTA committee). These

reflections apply to engagement with all current and prospective partners, both in the North and the South.

- **Clear focus on delivering change that reflects the intervention logic:**

CARTA's focus on the practical details of the intervention logic in each category of effort (Appendix E: CARTA's intervention logic in each category of effort) and its detailed road map (Appendix F: CARTA's road map -revised) ensures that the consortium consistently revisits its progress and goals in light of developments. This will increase the likelihood of a focused development of consortium activities despite potential setback such as funding restructuring by other CARTA funders than the Wellcome Trust.

3.2.2 **Challenges and areas for further attention**

Challenges were also experienced on some fronts and provide insights into areas CARTA should consider going forward. Narrative reporting and other communication with the CARTA management team shows that there is awareness of these challenges, and that steps are being taken to address them and to minimise any potential negative impact on the CARTA programme. Most of the challenges below were highlighted based on progress in year one, but they continue to be challenging in year two. As problems are brought to light, steps are taken to address them. Regarding feedback from JAS and training facilitators and participants, for example, this involves amending the content and structure of the curricula for future courses. However, it will be necessary for CARTA to revisit and possibly change aspects of its detailed intervention logic in order to prioritise the achievement of its overarching capacity building goals.

- **Building critical mass in research: CARTA will need to reflect on the implications of unexpectedly high numbers of fellows wishing to register outside their home institutions, on efforts to build research capacity across the network, including at less established partners**

The problematic nature of defining and measuring critical mass was discussed in the year one report³⁶, but in light of year 2 developments, CARTA may need to redefine its approach to critical mass. As laid out in its approach to capacity building (Appendix D: CARTA's capacity building approach and overall intervention logic), *"CARTA has a focus on the local production of networked and skilled researchers to create a critical mass across Africa"* in order to create hubs of research expertise. The fact that a large number of CARTA fellows in cohort one chose to register at universities other than their home institutions suggests that the detail around the process of capacity building in scientific skills and career prospects, e.g. the *"assignment of location and supervisor to the student,"* might need to be amended.. Information from CARTA suggests that this is being addressed at the beginning of year three. The fact that CARTA fellows remain members of the faculty at their home institutions means that

³⁶ Bassford et al, CARTA (Consortium for Advanced Research Training in Africa): One year on ..., PM(L)-3800-WT, July 2011.

there are strong incentives to return there after they have completed their PhDs.

- **Differences in JAS participants' starting points and skills: This makes it necessary to spend a lot of time ensuring that all fellows are up to a similar initial standard before their skills can be improved significantly.**

The fact that CARTA fellows have different skills, disciplinary backgrounds, and expectations of PhD courses is apparent in feedback received from both JAS facilitators and participants and this poses a challenge in increasing the professional skills of JAS participants while maintaining a broad thematic focus. Prior to and during JAS, attention needs to be paid to the baseline point of fellows, e.g. regarding critical reading skills and familiarity with methodological and theoretical approaches in population and public health research, for example. As discussed in CARTA's reports on the JAS, improved expectation management may be needed to ensure that CARTA fellows and other course participants know what is expected of them. Although no evidence has been shown to support this claim, a lack of information and/or understanding may be one of the reasons for non-completion and dropping out during pre-JAS, part one, and could be a risk to PhD completion rates going forward. CARTA continues to gather feedback and to make improvements to the JAS curriculum based on this.

- **Emerging information about the shortfall in supervisory and financial support for CARTA fellows needs attention: Plans to improve supervision will need to be carried forward in order to achieve high quality research and researchers while funding will need to be pragmatic**

Through a review of supervisor participation rates in JAS1 and feedback from fellows and facilitators, CARTA has recognised the need to further engage with and incentivise supervisors in order to give CARTA fellows the best possible support. This will need to be a priority in year three, as cohort one begins JAS2 and cohort two completes JAS1. In addition to academic support, financial support of fellows has arisen as an area needing attention in year two, as additional strains on funds from fellows' relocation has led to a need for a reallocation of funds for future cohorts. Fundraising remains a key concern of the CARTA consortium and the fundraising approach may need to be revisited or solidified in order to continue to raise necessary money to fully support CARTA fellows, as according to the consortium's aims.

- **Maintaining cohesion and collaboration across a diverse consortium: Additional focus on the roles of African partner institutions in the consortium may allow for a focus on their positive contributions**

Compared to some of the other African Institutions initiative consortia, CARTA appears to have been relatively untouched by the impact of political instability on partner institutions. Nevertheless, this is one aspect of the diverse nature of the consortium's members that may need to be borne in mind. While CARTA hasn't provided any information about the impact of the need for additional engagement with the Makerere CARTA Committee by the Secretariat, it might be worth reflecting on this. Being an established institution with good physical and

intellectual resources for developing Public and Population health capacity, Makerere may be seen to be receiving unnecessary preferential treatment by other, promising institutions. Narrative reporting by partner institutions may profitably be restructured in order to focus on elements of learning and positive development that can be shared between consortium partners.

- **Evolving relationship between the E&L team and the consortium: The CARTA Secretariat and leadership continues to engage with E&L in a positive manner, providing timely, accurate and detailed information, as well as quickly providing any clarification that may be needed.**

Following the production of the year one report, towards the end of the second year of the initiative, changes in the evaluation and learning (E&L) team have led to a transition in the interaction with CARTA. As of the beginning of year three (August 2011), Professor Joanna Chataway is the main E&L contact for CARTA, taking over this role from Dr Matt Bassford. Dr Sonja Marjanovic (who is the PI across different consortia in the African Institutions initiative) continues to be actively engaged and supported by Janice Pedersen. Communication of this transition took place in conference calls with the CARTA Secretariat (on 4 August 2011) and with the director and deputy director (10 August 2011). These provided an opportunity to assess communication to date and going forward, and it was agreed that narrative reporting from CARTA would take place twice a year from year three, rather than every quarter, as in year two. The new reporting dates are recorded in Appendix B: Reporting timelines.

This transition is not expected to have any detrimental effects on the good relationship between the E&L team and CARTA but communication about any clarifications or confusions that arise should be prioritised. Jo Chataway has been closely involved in the African Institutions initiative since its inception and has been brought fully up to speed with developments in CARTA to date.

In this chapter we aim to provide an overview of initiative-wide activities in the second year and to identify some of the key learning points from consortia experiences.

Interactions between the evaluation and learning team, the African Institutions initiative consortia, and the Trust have put forward a number of emerging insights as well as important questions about effective models of research capacity building, and their implications for policy and practice.

Section 4.1 describes some the key developments in the second year of activity across the initiative, drawing on the evidence communicated by consortia in their annual reporting to the E&L team. The section is structured to analyse developments in the core areas of capacity building that the initiative is supporting. In section 4.2 we reflect more conceptually on a number of important factors which have influenced the evolution of the African Institutions initiative, and the reality of implementing institutional capacity strengthening interventions through the highly networked and African-led model. In this section, we build on an understanding of capacity-building as multidimensional – i.e. it is a process which entails both doing new things; creating conditions which enable individuals and institutions to enhance skills, capabilities and knowledge; as well reflecting, learning and adapting platforms over time, as a result of learning from experience.

4.1 Overall key developments in year two of the initiative

The African Institutions initiative aims to empower individuals with the skills, competencies and credentials needed to continue to pursue research careers Africa, and to strengthen research institutions. The initiative is providing support for the implementation of a mix of unique and common activities (across consortia), to: *build capacity in scientific skills and establish sustainable career pathways* (e.g. through the development and delivery of training courses; fellowships and studentships; improved supervision and mentorship arrangements; advocacy efforts); *strengthen research management and governance in institutions* (e.g. through embedding transparent and rigorous structures, systems and reporting processes in consortia; training courses in research management; funding of dedicated management and administration posts in consortia implementation groups); and *improve the physical and ICT environment in which research takes place* (e.g. through limited financial support for procuring equipment, refurbishing laboratories, website maintenance).

During the first year, consortia prioritised activities to ensure award T&Cs were met, and to consolidate collaboration arrangements. Key incubation activities across the initiative had included establishing and cementing relationships between partners; refining operational plans; implementing core academic and financial governance and management structures needed for release of funding (at lead institution level); specifying plans for training programmes; and maturing processes for selecting and appointing trainees and supervisors. Incubation periods had in many cases taken longer than was originally expected by both award recipients and the Trust³⁷, and as a result many consortia entered the second year slightly delayed in terms of their original schedules, but with plans in place to address delays.

In the second year, considerable progress and momentum was gained with implementing core capacity building interventions across the initiative. There have been delays on some fronts and other challenges (as discussed below), but on the whole these have not stopped consortia from conducting core activities, which are broadly on track. In most cases contingency plans to address delays were made, reflecting proactive leadership and management decisions.

4.1.1 Recruiting postgraduate trainees

Progress with empowering individuals for research careers in Africa was broadly on track across the initiative, with consortia registering postdoctoral, doctoral and masters level trainees across their networks, in some cases establishing research groups with trainees across the career pathway, and developing and delivering new training programmes. There was diversity in the uptake of training opportunities at different stages of the career pathway, in most consortia. For example, in one consortium there was strong interest in PhDs and MScs opportunities and many applications received, but relatively low interest in postdoctoral opportunities. According to a consortium representative, this was thought to relate to a historical absence of postdoctoral training and career opportunities in partner institutions. In another consortium fewer masters studentship were awarded than planned at one of the less established partner institutions, due to a lack of suitable candidates meeting selection criteria. Recruitment of MScs in another consortium was also somewhat behind schedule due to the prioritisation of doctoral and postdoctoral recruitment, combined with a theme and group-based research programme approach where MScs are being recruited around doctoral and postdoctoral trainee needs. **These developments allude to the importance of considering the priority needs of distinct institutions, in terms of capacity building at specific stages of the research career pathway, and given unique baseline capacities.**

³⁷ In year one, the reasons for delays varied. Establishing requisite financial management and reporting systems for the release of Trust funding took longer than was anticipated; particularly in sub-awardee institutions. Recruitment processes were another area where some consortia experienced challenges in identifying suitable candidates for certain management and administration posts, gaining approvals for various aspects of consortia activity from institutional authorities, ensuring partner agreement on appropriate courses of action in capacity building efforts, or in respective responsibilities and roles

A key development across the initiative has been the appointment of postdocs in institutions lacking a history of these positions. Consortia have engaged in advocacy efforts and sustained dialogue with senior institutional authorities to try embed these positions in the career tracks of African universities. It remains to be seen to what extent postdoctoral positions will be sustained and embraced by universities, beyond the life of this specific initiative. The postdoctoral position is widely accepted by consortia and funder as a potential key legacy of the African Institutions initiative. Continued dialogue with both university authorities and wider stakeholders (e.g. national ministries of science, education and finance) are likely to be important for the sustainability of these posts for the longer term.

Strengthening the position of postdocs and role of health research more widely, in African Universities, is closely linked to a need for targeted dialogue around merit-based promotion procedures for researchers, accreditation of research training programmes, agreements on credit transfers, and facilitation of shared appointments between universities, and between universities and research institutes. These are medium to longer term ambitions for consortia, and could contribute to a cultural shift in the way by which research competitiveness in Africa evolves. In addition to targeting university level barriers through communication (e.g. to inter-organisational collaboration, to protected research time for academic staff), it will be important for consortia leadership to consider how the national policy environment (e.g. research policy, funding environment) and global funders, and regional stakeholders (e.g. African Union, Association of African Universities) can support these capacity-building efforts towards tangible, tractable and reliable step-change.

A number of consortia adapted their original recruitment plans slightly, in light of learning from experience and changing circumstances. Whereas a well-specified roadmap and strategic plan has been important for pursuing capacity-building interventions, funder openness to change and adaptation has proved to be important. For example, one consortium substituted a PhD for a postdoctoral fellowship post at a partner organisation (due to the absence of a PhD programme there), but also engaged in advocacy for the establishment of a PhD programme in the future, successfully attaining institutional agreement to establish this. In another, a large number of PhD fellows elected to register at a university other than their home institutions. This has implications for capacity-building at less established institutions, and the consortium is trying to establish incentives for fellows to register in their home countries (e.g. priority status in applications for awards for overseas travel). In isolated instances, a consortium had selected a number of MSc and PhD trainees (to provide modest financial support for field work to) but could not actually disburse funding due to sub-awardees not having required financial systems in place. This consortium also decided to offer modest support to many trainees (as opposed to substantial financial support to a limited number of trainees) but is planning on revisiting the effectiveness of the strategy in the years ahead.

In a minority of cases, consortia are not directly supporting trainees from the Wellcome Trust budget or are doing so to a very limited degree (i.e. through partial funding), but have leveraged some external funding to support trainees in the consortium's area of activity. Others succeeded in appointing more fellowships than planned with Wellcome Trust support (e.g. at one consortium - due to a large proportion of applications coming

from staff who managed to remain on university payrolls for salaries, and hence only direct research costs needed to be covered by the Trust grant).

4.1.2 Improving training programmes

A number of consortia are also investing in improving the quality of taught postgraduate programmes (course-based), at masters or doctoral programme levels. Across the initiative, key year two activities on this front included the development and finalisation of course curricula and course roll out. For example, (i) a new MSc in epidemiology and biostatistics was established and rolled-out by one consortium; (ii) an interdisciplinary course in molecular biology combining medical and veterinary perspectives was developed, approved by the institution where training will take place and rolled out by another consortium, and another interdisciplinary course in analytical epidemiology finalised and ready for roll out in year three; (iii) modular residential courses for doctoral programmes covering topics such as critical thinking, technical skills such as referencing software, and research specific topics (e.g. introductions to public and population health) were developed and delivered in another consortium.

Take up of all opportunities was high, and in most cases training programme development and delivery is broadly unfolding as planned, with some exceptions. An exception would be in one consortium where progress was behind schedule and a planned multidisciplinary training programme not yet finalised due to budgetary and planning challenges (which were being addressed at the end of the second year). Other smaller challenges with the training programmes were experienced in the initiative, but were in most cases being addressed. For example, in one consortium, the intention was for an MSc programme to be led by an African senior researcher, but no suitable candidate could be identified for the leadership position. Instead the consortium delegated this responsibility to a researcher from a northern partner institution, and chose to train a local researcher in epidemiology and biostatistics skills so he/she could take on a leadership role in the future. In another consortium, small delays were experienced with programme launch, but caught up on by year end. Feedback from students indicated that the courses delivered on their interdisciplinary premise but were somewhat less international than they had been marketed as (this was due to budget constraints). **Some challenges were experienced due to different starting points, skills and backgrounds of training course participants. This has implications on the need to potentially adapt curricula somewhat for future trainee cohorts in the initiative, and raises wider questions around how appropriate curricula are developed in networked models of capacity building which bring together researchers and institutions at different levels of baseline research capacity.**

4.1.3 Supervision and mentorship

At the onset of the African Institutions Initiative, most consortia identified a need for improving supervision and mentorship practices across the region. During the course of the second year, progress was made in identifying and appointing supervisors for trainees. However, there is a lack of evidence for many consortia, on the respective roles of different supervisors and/or mentors (e.g. primary, secondary, African-based, northern) and on how supervision arrangements are unfolding and being delivered on in practice. Information from some consortia representatives (though anecdotal) suggests that the levels of supervisor engagement are variable across the initiative (both within and across consortia): (i) Some consortia have encountered difficulties in

identifying appropriate secondary supervisors for their trainees in terms of matching skills to trainee needs; (ii) others have found it challenging to mobilise engagement from northern partners given incentive structures, and this relates also to the extent to which potential supervisors from northern partner institutions are co-located and concentrated within a specific institution and department³⁸.

A number of consortia are also investing in supervision training courses or workshops and delivered these in year two or drafted course contents. Given the importance of high-quality supervision in consortia capacity building strategies, it could be worth capturing feedback from students on the nature and quality of supervision they receive, in an anonymous manner. One consortium highlighted that institutional supervision procedures and protocols influence the supervision arrangements they are able to pursue. A number of consortia also identified a need for the funder to revisit and reflect on financial incentives for northern partners to engage with supervision of trainees in African institutions.

4.1.4 Continuing professional development opportunities (CPD) in scientific skills and research management and administration related skills:

Across the initiative, consortia have been reflecting on professional development needs and identifying opportunities for short course delivery to trainees and staff at partner institutions. Northern partners have been heavily involved in the development and delivery of training courses and workshops, and in two consortia, designated training programme management and administration posts were recruited at central secretariat levels to oversee and coordinate the development and implementation of the CPD programme.

Consortia have been making use of existing training courses available across partners (at times tailoring and adapting content) and external training opportunities. Substantial momentum was gained on this front, in comparison to the first year. In the second year, the most common training opportunities were in supervision and mentorship, scientific writing, grant writing, and research methods. There is unexplored potential for inter-consortia collaboration in the coordination of and widening access to professional development training to participants across the initiative. This could contribute to efficient utilisation of limited resources. Other examples were courses in research ethics, statistics, reference management, data management, study design, epidemiology, modelling, GIS training, communications, fundraising skills, grant management and administration, and training in financial management (the latter delivered by Trust staff). The core audience for professional development opportunities continued to be scientific staff in most cases, and training in research management and administration skills geared specifically at support staff was modest, with some exceptions (e.g. one consortium had specific training for management and administration staff, and to a lesser extent a second consortium did too). In a minority of cases, delivery on original CPD training course plans for year two were somewhat behind schedule (at least on some fronts). This was a result of either downstream effect of

³⁸ According to a consortium representative, centralisation appears to be important for northern partner incentives – if many potential supervisors are working within the same faculty or partner, then - given compensation mechanisms- the importance of consortia activity is escalated.

delays in appointing trainees, or due to a deliberate decision to revisit the CPD strategy so that learning from the experience of postgraduate taught courses, or the results of detailed needs mapping exercises could be incorporated into the development and roll out of a CPD strategy. Most of the courses were funded through the Trust, but some consortia also made use of externally sponsored training opportunities which consortia members benefited from.

4.1.5 Research governance, management and administration arrangements:

During year two, most consortia stabilised the governance and management arrangements which were established in the first year and finalised recruitment to management and administration posts (e.g. programme managers and coordinators, evaluation officers, ICT specialists, administrative staff). Overall, the consortia adhered to grant terms and conditions, and core governance and management structures, policies and procedures (e.g. management committees, policies for trainee selection or infrastructure funding distribution, annual meetings) appear to have worked well. For example, annual consortium meetings unfolded as planned in most cases and face to face interaction at these meetings was seen as crucial for addressing areas of unclarity or disagreements, sustaining momentum and progress with capacity-building interventions. Most committees were fully operational by the end of the second year, across consortia and helped support consortium activities (e.g. transparent processes for selecting trainees and distribution funds). In general, evidence on the role of Deputy Directors is lacking however. There are early signals of research governance and management capacity strengthening in some consortia, which are also evidence of acting on evaluation findings from the first year, and signal also effectiveness of Wellcome Trust support in research management areas. Examples include better documentation systems for recording and tracking publications and grant activity, clearer delegation of management, administration, evaluation and coordination responsibilities.

However, challenges were encountered in some areas, in particular as they relate to financial management and the timeliness of evaluation reporting. In general, partners across consortia were by the end of year two more comfortable with and trained on Trust financial procedures than in the first year, but adherence to Trust financial requirements was not straightforward. According to consortia representatives, areas of particular difficulty include the opening of separate project accounts at some sub-awardees (especially if the funding they are receiving from the Trust is small); delivering on programme aims within the constraints of quarterly fund disbursement; and providing financial information and evaluation information on time. In some consortia, the inability to meet the financial management requirements of the Wellcome Trust affected progress with capacity building interventions, for example delaying the disbursement of funds to trainees.

As raised earlier in the chapter, negotiating training programme credit transfers between institutions and agreeing on standards and joint appointments (particularly between research institutes and universities) remain a challenge but simultaneously represent an opportunity for strengthening research governance and management practices at the *regional* level.

Finally, consortia governance and management arrangements have generally demonstrated resilience and efficiency when consortia needed to respond to unforeseen circumstances, such as political unrest for example. In this case, a combination of (i) lead institution experience with operating in times of conflict, (ii) some established cooperative partner relations, (iii) frequent discussions between the lead institution and the funder, and (iv) an established risk-management plan enabled resilience.

4.1.6 Strengthening physical and ICT infrastructure:

Infrastructure support in the African Institutions initiative is modest, and the use of infrastructure funding in year two varied across the funded consortia. In most consortia, a part of this funding is being channelled towards improving ICT needed for research activities and collaboration between remote partners, and towards laboratory upgrades. In one consortium, decisions on use of funding allocations outsourced to partner institutions and the Wellcome Trust support is seen as seed funding. Some consortia revisited strategies for allocating Trust infrastructure funding early in the second year. For example, one consortium decided to move from a system of open competition in allocating infrastructure funding to a system with institutional quotas based on a set of assessment criteria³⁹ and this was implemented in the second year. Another decided to invest more than originally anticipated into the development of an intranet to help address challenges which have been experienced with intra-consortium communication and information exchange.

In general, progress with infrastructure upgrades broadly unfolded as planned, although take up of existing opportunities was fragmented in some cases. In one consortium, only half of the partner institutions applied for infrastructure funds in the second year, and in another ICT funding was not made use of despite continuously reporting a need for improvements on this front. The reasons are not clear, but they may relate to institutional bureaucracy. Overall, even if modest, infrastructure support is seen to be important in demonstrating tangible benefits from capacity building efforts early on to institutional authorities (e.g. a better equipped lab, new computers and software, better power supplies) and for facilitating research activity. **Consortia have also identified a need to train researchers on the use of newly established infrastructure.** There is also a need to address barriers to the sharing of resources between different projects within an institution. This applies both to physical infrastructure, as well as wider support infrastructure (e.g. the capacity of research management and administration offices).

4.1.7 Intra-consortium linkage and exchange:

Across the initiative, it is evident that partner relations are continually and gradually strengthening. Partners are engaging with each other on research, training, fundraising and dissemination activities. Intra-consortium collaboration has been

³⁹ Under this system, each institution is allocated a proportion of the available infrastructure funding, but is required to submit an application to the consortium Management Board. This is then evaluated based on the resources available across the consortium network and nationally, institutional infrastructure and trainee's project needs. The application process and selection criteria were finalised in the first year, and require the trainee researcher and the research group he/she is a member of, as well as the institutional management to agree on a common priority need

enabled through multiple mechanisms across the initiative, including: annual meetings, remote communications and web-based portals, opportunistic discussions at conferences, linkage and exchange during training courses, joint proposal activity, and seminars on consortia activity to institutional authorities.

However, some formal interventions which are meant to facilitate more intensive collaboration between partners are behind schedule across the initiative (e.g. student/staff exchanges, sabbaticals, lecturer buy-outs, cross-appointments). The reasons for this, as communicated by consortia, are generally low-interest and take-up at this point in time. They have explained this be at least partially related to the early stages of research activity.

Most consortia have demonstrated a consortium (networked) identity and the fundamental premise of the African Institutions initiative as a networked initiative continues to be materialising in practice. In isolated instances however, there are concerns about the extent to which a consortium is functioning as a collaborative initiative, as opposed to a collection of partners working independently and in relative isolation of each other. Despite continually strengthening relations, coordination of activities and information exchange between sub-awardees and a lead institution, and central secretariat oversight of network efforts continues to be particularly difficult for some consortia. **This is generally attributed to ICT infrastructure limitations and costs, competing time demands on network members, the presence or absence of a history of collaboration prior to this initiative, and in some cases the size of the network and benefit distribution arrangements.** In trying to strengthen coordination, information and knowledge management, some consortia are investing into systems for building organisational memory. This includes improvements in documentation systems for recording and tracking publications and grant activity, which are also signs of acting on evaluation evidence. Others are investing in creating new virtual platforms to better facilitate intra-consortium linkage and exchange (e.g. an intranet space by one consortium, or finding ways to organise additional face-to-face consortium meetings in another.

4.1.8 Networking with other consortia and external stakeholders

Networking between different consortia in the initiative, and with external stakeholders, has also gained momentum in the second year. Although the scale of inter-consortia networking is still relatively limited, consortia are increasingly showing initiative in linking up in areas such as making use of joint training opportunities, resource-sharing, conference organisation, development of joint proposals, supervision and mentorship, sharing information on publications, and sharing information on training courses.

In comparison to the first year, consortia also escalated efforts to engage with external research, policy and funder communities through active conference participation, fundraising, web-presence, engagement with the media, and in some cases a newsletter and ad-hoc meetings. Publishing activity was limited, given early stages of research programmes. In most consortia there has been a substantial increase in the number of website hits compared to the first year, but it remains unclear whether the visits are by consortium members or external parties. There are some early signs that networking with institutional authorities and external stakeholders is already having an

impact on health policy. For example, in one consortium, the Tanzanian government adapted its national vaccination programme in response to findings from the consortium's work.

Consortia invested in mobilising high-level institutional support (e.g. from Vice-Chancellors, Deans) for research activity through a range of mechanisms (including meetings and presentations), and early signs of success in this regard emerged throughout the second year. This is manifested for example in general approvals for training programmes and postdoctoral positions across the funded consortia; in the case of one consortium commitment from institutional authorities to attend next consortium meeting; through some institutional financial support for training activities. One consortium held discussions with the Association of African Universities and sought to learn from the experiences of the East African Community with respect to setting up MoUs for the transfer of course credits and another one has secured commitment from the African Union to attend their next annual meeting. One consortium also influenced its lead institution to establish a Grants and Contracts Committee, with prospects for this committee model to be replicated more widely across the university in the longer term.

4.1.9 Fundraising

All but one consortium engaged in some fundraising activity in the second year, and most consortia had early fundraising successes. However there is diversity in the extent to which fundraising is happening at the level of a consortium as a united entity, as opposed to individual partner institutions in a consortium independently raising funds. The one consortium which did not submit proposals has set in motion activities which should enable fundraising in year three (e.g. small grants for proposal writing). To illustrate fundraising activity with some examples: Two consortia attracted additional funding for PhDs and MScs from non-Trust sources, another reported seven grants leveraged by PIs with a value in total of GBP 8,000,000, although the exact relationship of these grants to consortium activity is not clear at present (i.e. what the influence of having the Trust award was). One consortium was particularly active having submitted 18 proposals and won six. Another is focusing not only on raising new funds but on better coordinating the investments and agendas of its multiple funders. They have mobilised the interest of multiple funders for the initiative, with the largest investment in year two being a renewal of a US 2.5 million grant from the Carnegie Corporation of New York.

4.1.10 Enablers and challenges experienced across the initiative

Across the initiative, consortia are pursuing a mix of common and unique interventions and models for managing capacity building efforts in the network. Whereas it is too early to draw conclusive evidence on enablers and barriers, consortia have communicated through the progress evidence that has been reported to the evaluation team insights on variables affecting their capacity-building trajectories.

A number of factors appear to have enabled consortia progress in the second year. As a high-level overview, these include:

- Well respected and experienced leadership, recognised in national and international circles and motivated partners

- A history of prior collaboration between individuals
- A well specified five year work-plan and road map for delivery facilitating a clear sense of direction and momentum with delivering change through a well-articulated intervention logic
- Continuously strengthening partner relations (repeated interactions, collaboration in course development and delivery, an ability to promote multiple mechanisms of linkage and exchange, and to make the most of externally-created opportunities for networking)
- Improvements in internal knowledge management systems facilitating better information sharing and organisational memory – e.g. grant documentation systems, publications monitoring
- Clear lines of management and administrative responsibility in some consortia
- Commitment to evidenced-based decision-making to tailor investments and opportunities to needs (e.g. one consortium is conducting a needs assessment to inform research management training course development and delivery; at another, gap and needs assessments are at the core of its model)
- Willingness of more established partners to provide flexible solutions to emerging challenges (e.g. assisted in procurement of equipment to address institutional bureaucracy; hosted teleconference calls to assist in intra-consortium communications);
- Flexibility and responsiveness to changing circumstances and emerging needs: nimbleness and adaptability. This has been manifested in numerous ways across the initiative, for example: adaptations to postdoctoral fellows' research plans to ensure they are feasible within budget, flexibility in the types of studentships offered to meet institutional needs, such as substituting one type of a studentship for another when more appropriate, responsiveness and sustaining activities during political unrest; acting on student feedback and adapting training curricula; responding to communication challenges by trying to create improved virtual platforms
- Active dissemination and advocacy activities by most consortia, contributing to raising the profile of the initiative, and a growing recognition of the importance of research in African science, education and policy circles

The initiative is pursuing ambitious plans, and challenges along the way are also inevitable. Some particularly common ones experienced during the second year include:

- Challenges in coordinating linkage and exchange between partners (affected by competing time demands on participants, ICT infrastructure limitations and costs, network size and history of collaboration – or lack of it)
- Delays in financial reporting and challenges to managing programme activities within quarterly disbursement procedures of Trust

- In isolated instances, uneven division of responsibilities between northern and African partners which can overshadow the initiative shown by key African partners
- In isolated instances, partners operating as a set of independent institutions rather than a single consortium –i.e. lack of consortium identity due to range of issues related to leadership, governance, management, and competing time demands
- Staff turnover and implications on maintaining effective management processes (including the importance of succession planning)
- Lack of knowledge management systems compromising the building of organisational memory and efficient sharing of information
- Poor ICT infrastructure as a barrier to virtual collaboration
- Implementing governance structures in practice in some cases
- Some institutional and wider government structures were reported to lack flexibility and compatibility with planned timelines for consortium activities (e.g. for the timely procurement of equipment, and to be compatible with Wellcome Trust financial requirements)
- Lack of clarity on how supervision models are working in practice and support high quality training, on how contributions of dispersed individuals in a supervisory team will be coordinated, what the respective roles and responsibilities of individual members of a supervisory team are, and to what extent they are being delivered on (common area of attention)
- In a minority of instances, dependence of formal plans on external funding is proving somewhat challenging and is accompanied by realisation that original plans may not materialise within the currently secured budget.

4.2 Reflections on key themes for capacity building policy and practice: areas for further exploration

Interactions between the evaluation and learning team, the African Institutions initiative consortia, and the Trust have led to a number of emerging insights and important questions about effective models of research capacity building, and their implications for policy and practice. We hope to study these further as the project evolves, but important evidence is being gathered on how multi-partner networks are built and how their success is dependent on building individual and institutional level capacity within partner institutions.

Evaluation evidence has identified a number of associated challenges, core strategic concerns, dilemmas and trade-offs being experienced in the initiative and affecting the day-to-day reality of capacity building in the funded consortia, as well as ways they are being addressed. A number of experimental approaches and enablers of capacity building reality (as being implemented by the consortia) are also surfacing. Some early reflections on examples on important policy issues are described below. We hope to learn more about these and other issues as the project evolves.

4.2.1 **Strengthening institutions and mobilising the support of high-level university authorities– why is it needed, what are the challenges, how does it play out in reality**

There is relatively little information on the roles and responsibilities of senior institutional authorities in creating research-friendly environments in African universities, especially on how to mobilise their engagement (i.e. the challenges and enablers associated with the process).^{40 41}

According to the Directors of consortia in the African Institutions initiative, **engaging high level university authorities in efforts to create sustainable research career pathways has been essential from the very onset of capacity-building efforts.** For example, consortia needed early support and buy-in of vice-chancellors and deans of faculties to establish **memoranda of understanding and collaboration agreements**, ensure **approvals for various posts** (e.g. to accept and recognise postdoctoral positions as more than a temporary measure) **and for training curricula** (e.g. accreditations for both new longer-term postgraduate programmes and for shorter training modules). Their support was also important in efforts to **reduce administrative delays** associated with institutional bureaucracy and to **ensure adherence to transparent and accountable management and governance processes** (e.g. agreed on selection criteria for allocating fellowship or infrastructure funding).

All of the initiative Directors also recognise the key roles that university vice-chancellors, deans and deputy deans could play in (together with researchers) **lobbying to help raise the profile of African science in political and policy circles** (including with ministries of science, finance and education), and through their influence mobilise greater commitment to national funding streams, regional research collaboration, and also to the practice of evidence-based policy making. These are seen as crucial issues for the longer-term sustainability of African science.

However, in many of the consortia, **establishing and sustaining support from high level university authorities has been a time and relationship intensive processes.** African research leaders recognise both funding and political will to be important incentives for senior university authorities to **embark on reforming universities to embrace research as a more central activity.**^{42 43} There is a recognition that university reform would entail significant operational and administrative challenges.⁴⁴ Despite these

⁴⁰ Barrett, A. M., M. Crossley, et al. (2010). International partnerships, Collaboration and Capacity Building in Educational Research: The EdQual Experience. EdQual Working Paper, EdQual Research Programme Consortium, led by the University of Bristol.

⁴¹ The Africa Unit (2010). Good Practices in Educational Partnerships Guide: UK-Africa Higher & Further Education Partnerships, UK Department for Business Innovation and Skills, UK Department for Employment and Learning; and the Association of Commonwealth Universities.

⁴² Barrett, A. M., M. Crossley, et al. (2010).

⁴³ The Africa Unit (2010).

⁴⁴ Lansang, M. A. and R. Dennis (2004). "Building capacity in health research in the developing world." Bulletin of the World Health Organization 82(10): 764-770

challenges, the scale of the African Institutions initiative presents a unique opportunity for a concerted effort to change the standing of research in universities in the region. We believe that the initiative could also shed new light on the effectiveness of different means of advocating for and attaining high-level support for research system strengthening. **Early insights from consortia representatives already indicate that there are a number of important enablers:**

- Demonstrating reputational gains from research activity for an institution early on (e.g. engaging national and regional media, holding press-conferences, producing news-releases and in some cases ‘marketing’ their efforts and institutions through TV broadcasts, early features in academic journals, fundraising)
- Demonstrating tangible impacts on institutional infrastructure as an early and ‘quick win’, - investing in improvements that have use within educational and training remits. (Coupled with this is a need to explore how resources can be shared between projects and departments)
- Close and amicable relationships between individuals who are leading advocacy efforts and senior authorities.
- A degree of equitable benefit distribution across partners

As the initiative continues to evolve, further efforts to negotiate merit-based promotion processes for research career tracks in universities, shared appointments between universities and research institutes and between different universities, and agreements on standards and accreditation are likely to gain prominence in efforts to raise the profile of research with university authorities, national ministries and regional associations.

4.2.2 Strengthening professional practices in universities and research institutes: research governance, management and administration – why is it needed, what are the challenges, how does it play out in reality

According to both the Wellcome Trust and to consortia leadership in the African Institutions initiative, further enhancing the credibility of African institutions in terms of their ability to govern, manage and administer research grants in a transparent and accountable manner is central their attractiveness to external research funders, as well as for more efficient and effective research operations locally. The assessment of baseline research capacity across partner institutions, conducted as part of the evaluation project, indicated that strengthening research governance, management and administration capacity is needed across the region, although dispersed examples of good practice in specific areas do exist particularly in well-known research institutes that have historically received external funding, as well as in some of the more established universities. One of the challenges for the initiative as a collaborative effort rests in embedding good practices more widely and systematically, across organisations at different levels of development and across west, east and southern African regions. According to consortia representatives, this is not straightforward, given disparate incumbent practices, the financial resources and timelines needed for institutional change, as well as a need to work within a system and specific institutional context, while attempting to evolve it.

As part of the African Institutions initiative award terms and conditions, all of the funded consortia have needed to establish systems which could demonstrate African ownership, control and accountability and ensure that all partners in a consortium (not only the leading and more established institutions) are represented and included in decision-making structures and processes. The consortia are implementing a mix of centralised and devolved coordination mechanisms with decision-making bodies at secretariat, national, research theme and functional levels. These are being operationalised through a mix of committee meetings, annual management and advisory board meetings and remote communications on an as needed basis.

Close communications and repeated interactions between consortia with both the funder and with senior authorities at African institutions have been essential for establishing these requisite research governance, management and administration arrangements.⁴⁵ For example, embedding financial management procedures required for the release of Trust funding has been particularly novel, time-consuming and challenging for some institutions. Establishing separate accounts in subawardee institutions has been an intense capacity – building process, and it appears that the size of received funding, embedded institutional processes, and baseline capacity in research governance and management significantly influences the speed and feasibility of separate account arrangements across partners in the initiative.

Although consortia have ring-fenced parts of their budgets for management, coordination and administration posts (e.g. programme officers, finance officers, communications and IT officers, administrative assistants) at central secretariat levels and in some cases also across partner institutions), a number of senior consortia representatives have highlighted a need to embed management and administration functions as permanent posts in organisations, rather than as temporary positions within projects and programmes of limited duration. Within the initiative, one consortium is trying to address this through a strategy of establishing institutional research support centres, with the aim of recovering costs through future successful grant applications, in order to be self-financing and sustainable in the long-term. According to consortia leadership, institutional investments of this nature are likely to happen more widely, only if and when the importance of research in university agendas is raised. There are further questions related to the role and extent that external funding agencies can target funding specifically at fostering sustainable change in professional practices at institutions, as well as questions related to feasible processes for sharing experiences of good practice across the region.

In capacity building through networked models, the scope for coordinating efforts to strengthen research management and administration skills is important for effective utilisation of limited resources. This raises questions related to the potential need for initiative wide coordination posts and bodies, and information brokerage to identify and share opportunities. Most consortia are investing in research management and

⁴⁵ However, many consortia have communicated that the sharing of experiences and information through remote communications has been impeded by both ICT infrastructure limitations and costs (e.g. teleconferencing), a matter we return to.

administration training in what they have identified to be priority areas (grants management, financial management, project management, ethics, publication writing, and supervisory skills in particular). African partners are often doing this in collaboration with their counterparts in developed countries, who have existing courses of this nature to build on and adapt to African needs. Opportunities for training are increasingly available externally as well.

4.2.3 **Strengthening the physical environment for research: ICT, equipment and lab facilities – why is it needed, what are the challenges, how does it play out in reality**

Literature highlights that physical infrastructure at African institutions might further limit the possibilities for supporting and engaging in capacity building measures,^{46 47} but there remain gaps in our understanding of the extent of infrastructure challenges and ways of achieving maximum benefit from infrastructure investments in research capacity-building in African contexts. Drawing on the findings from our baseline assessment, African institutions see improvements in ICT infrastructure a very high capacity strengthening priority across the region, as essential for competitiveness in research and research collaborations, with current limitations being a significant barrier. Access to requisite laboratory facilities and equipment varies widely between different institutions - with some very well equipped and some highly under-resourced establishments. According to the leadership of two consortia in particular, the challenge rests not only in upgrading infrastructure in the regions universities, but in encouraging ways to share access to existing facilities and ensure better coordinated resource utilisation.

Consortia widely perceive support for infrastructure improvement in the initiative to be modest, but acknowledge that infrastructure strengthening is not the core purpose of the programme. Despite this, **some consortia have noted that their early investments into improving the environment for research have been crucial for securing partner commitment to the initiative at early stages, and for ensuring support from high level authorities in institutions.** A refurbished lab, biosafety improvements, new computers and enhanced ICT server capacities, new laboratory equipment or the purchase of independent power generators were examples given of ways of demonstrating visible change and benefits from research funding early on.

A number of consortia have since early stages attempted to find creative ways to address ICT limitations. This has included experimenting with open source software platforms, using free services such as skype, and fundraising for further infrastructure upgrades, with some early successes. Drawing on their experiences, many senior researchers in the African Institutions initiative also emphasised the importance of tailoring infrastructure investments to the unique needs of specific institutions more widely: this

⁴⁶ The Africa Unit (2010).

⁴⁷ Volmink, J. and L. Dare (2005). "Addressing inequalities in research capacity in Africa." *Bmj* 331(7519): 705.

includes addressing infrastructure needed for delivering a university's educational remit, and not just a particular project funded by the initiative. In this context, some of the consortia implemented detailed institutional infrastructure gap assessments early on.

An important issue for capacity-building relates to addressing institutional barriers to the sharing of access to existing infrastructure in an institution (e.g. between researchers and projects), and between institutions in the same country. According to consortia representatives, this requires a cultural shift in perceptions of ownership and the incentives for resource sharing and collaboration. A number of consortia are trying to promote strategies of sharing access to already existing facilities and equipment available across the network, and within participating institutions in a specific country (e.g. through student and staff visits, exchanges and sabbaticals). Decision making models for how infrastructure funding is used vary across the initiative. Some consortia have opted to decentralise decisions to partner institutions. Others require applications to be made to a central secretariat, with justifications of need for the project in question, institution and region to be outlined. They see this as a way of ensuring better coordinated use of regional resources.

4.2.4 Better understanding the roles and responsibilities of the funder in African-led networked initiatives

The real – time evaluation of the African Institutions initiative is unique in that the funder has agreed to be evaluated: the Wellcome Trust wants to learn about how they can most effectively engage with the initiatives they fund, to maximise chances of successful outcomes and the efficiency of the capacity-building process. **The experience of establishing and incubating the African Institutions initiative has exposed some interesting insights on funder roles and engagement avenues at early stages of capacity-building, and accentuate the importance of funder roles in facilitation.** The set up and 'incubation' phase of networks has been suggested by some to be critical to providing for sustainable long term success in capacity building, particularly to develop trust, transparency, opportunities for mutual benefit, shared responsibility, and shared information.⁴⁸ This again raises further issues around the potential roles and responsibilities of the funder in the initial stages of a networked initiative, (in addition to ongoing activities).

As introduced earlier, consortia have found it challenging and time-intensive to establish the relatively stringent financial reporting and management systems which have been required for the release of Wellcome Trust funding (e.g. releasing funds three months prior to use, detailed profile and spend reports, separate accounts)⁴⁹, although they widely appreciate them to be necessary not only in terms of meeting formal funding requirements, but as a pathway to strengthening financial management capacity internally. These requirements accompany what the funder sees to be a particularly high-risk and novel

⁴⁸ Maselli, D., J. A. Lys, et al. (2006). "Improving impacts of research partnerships." Swiss Commission for Research Partnerships with Developing Countries, KFPE. Geographica Bernensia, Berne.

⁴⁹ Source: personal communications with programme managers, finance officers and consortium Directors

initiative - in providing *direct* funding to lead African institutions (as opposed to historical models where funding distribution is controlled and managed by a developed country partner).⁵⁰ Lead institutions have found it particularly complex to establish requisite structures and process in the less-developed sub-awardee partner universities,⁵¹ but even in lead institutions, establishing requisite governance and management systems took longer than was originally anticipated by consortia leadership or the funder. Some, but not all consortia managed to find ways around delays in the release of funds by initiating activities with money from other sources, and then reimbursing.

In response to the difficulties that were being experienced, the Wellcome Trust engaged its internal financial management staff to provide training and work with funding recipients to implement the requisite systems. Consortia Directors, finance officers and programme managers have communicated that this was well received and led to calls for further engagement of the funder in training activities in the initiative. Most lead institutions across the different consortia have suggested that direct funder engagement with sub-awardees could assist them in ensuring efficient and effective practice in not only financial management issues, but in general adherence to award terms and conditions more broadly. Both the funded consortia and the funder recognise that this has implications on the internal resources funders would need to devote to managing (yet not micromanaging) grants, but that it also holds potential to improve the effectiveness of investments and may lead to reputational gains for a funder. It also raises policy-relevant questions about the additional roles funders may need to play in capacity-building through networked models, when compared to models which fund a distinct unit or centre.

Consortia representatives also identified lines of communication between a funder and recipients as an important variable in networked capacity-building processes. For example, many consortia have invited Trust staff to participate in their annual meetings, which helped create channels for dialogue between participants from different institutions within a consortium (and not just the lead institution and Directorate) with the funder. Consistency and clarity in the messages funders convey to funding recipients was also identified as an important factor for developing a shared understanding and appreciation of expectations. A number of consortia also see funders as partners in their efforts to raise the profile of science in Africa: funding agencies may have an important role to play in advocacy for research support through direct engagement with high-level authorities in African universities, and over time possibly also with regional research associations and policy bodies.

Donor coordination is another policy issue African researchers have been keen to raise. The leadership of most consortia in the initiative has (to varying degrees, and

⁵⁰ The Trust's risk 'ratings' incorporate both institutional risks and wider political and socioeconomic risks and uncertainties in the region.

⁵¹ At present, the assumption is that lead institutions who are themselves building capacity in grants management simultaneously train and build-up such capacity in less established partners.

generally informally) called for exploring ways by which the financial reporting and evaluation requirements of different funders could become more synchronised or streamlined. If a move towards more African-led models of research collaboration and capacity-building increases in scale, and if different funders and awards all come with their own oversight approaches, there is a risk that African scientists, managers and administrators spend unnecessary amounts of time on duplicative reporting processes. Although a challenging task, the Wellcome Trust has been engaging in such dialogue with other funders, including with the NIH and with funder networks such as ESSENCE. Funder coordination may be all the more important in an institutional capacity strengthening agenda, given the likely spillover effects and complementarities between diverse funding streams. One consortium has also taken initiative in bringing multiple funders together to discuss coordination and complementarities, for example through a funder's forum.

4.2.5 Funding distribution decisions: merit or equity, and critical mass?

An important question in research capacity-building policy and practice relates to the nature of funding allocation: Should funding decisions emphasise merit or equitable empowerment? How might decisions on these matters impact on the extent to which capacity-building occurs within a broader context of mutual learning and experience-sharing (i.e. as part of a collaborative endeavour in both practice and on paper), as opposed to in relative isolation from partners, (i.e. within the auspices of a specific institution).

There is a general consensus in academic literature that mutual benefit, outweighing the costs of participation, is required to support long term, sustained engagement.^{52 53 54 55 56}

However, ensuring mutual benefit has not necessarily been straightforward in research capacity building networks, particularly given historical North-South power asymmetries and the scarcity of pan-African collaboration. **The strategies for allocating funding for capacity-building within the African Institutions initiative – and in particular for fellowships, studentships and infrastructure - vary across the funded consortia, but most are combining merit-based procedures with some quotas for African member**

⁵² Costello, A. and A. Zumla (2000). "Moving to research partnerships in developing countries." *Bmj* 321(7264): 827.

⁵³ Nchinda, T. C. (2002). "Research capacity strengthening in the South." *Social Science & Medicine* 54(11): 1699-1711.

⁵⁴ Reddy, P., S. E. Taylor, et al. (2002). "Research capacity building and collaboration between South African and American partners: the adaptation of an intervention model for HIV/AIDS prevention in corrections research." *AIDS education and prevention* 14(5 Supplement): 92-102.

⁵⁵ Bradley, M. (2007). "North-South research partnerships: challenges, responses and trends; a literature review and annotated bibliography."

⁵⁶ Nakabugo, M. G., E. Barrett, et al. (2010). "Best practice in North-South research relationships in higher education: The Irish African partnership model." *Policy & Practice: A Development Education Review* 10: 89-98.

organisations. This is rooted in a perceived need (by African leadership) to build capacity with due consideration and upholding of both academic standards and social norms, recognition of the different states of research competitiveness across participant organisations and the need to distribute resources in a manner that is bespoke to the priority capacity building needs of a partner (e.g. specific stages in a career pathway). For example, according to consortia leaders, some of the less established university partners in the initiative would be unlikely to compete successfully for studentship support purely on merit-based funding at present, and would therefore be excluded from opportunities to develop and strengthen individual and institutional research capacity without some quota-based provisions. However even within quota based approaches, the type of support offered to a specific institution is being tailored to their unique needs. For example, not all institutions need postdoctoral support at this stage, but may need masters scholarships instead. Equally, some consortia are focusing on full funding for a limited number of individuals, while others have chosen to provide partial support to a wider pool of trainees. We do not at this stage have evidence on the respective impacts of such strategic decisions.

Consortia have established selection criteria for fund allocation in a participatory manner during their first year, and decisions tend to be reached through peer review processes. One consortium highlighted that the process of reaching agreement on resource allocation principles has contributed to relationship building its network. **The experiences of consortia leadership suggest that a degree of equitable opportunity in the form of ring-fencing some awards for specific institutions is important for all member organisations to see the benefits of participation in the network and for sustaining commitments.** In its absence, and particularly in large networks bringing together partners with different levels of research capacity, relational tensions can emerge and need to be delicately managed (e.g. through early consensus-building processes and continual relationship nurturing). However, an awareness of the trade-offs in terms of the comparative quality of research that capacity-building funds are supporting exists. This is in line with wider discussions raised in the literature about the trade-offs between investing in excellent research (with capacity-building as a potential spillover) versus investing specifically in capacity-building focused initiatives.^{57 58}

In the context of funder policy, these types of decisions also have implications on efforts to establish a critical mass. Undoubtedly, critical mass in research is hard to define (although it is easier to recognise its absence). One way to see it is as the minimum capacity (e.g. staff, research units, equipment, money, management and governance systems and practices) needed to compete effectively at an international level in a given area of research. It will vary from one area to another: For example contributing to social science theory or philosophy may be successful with much smaller units or networks than primary research in molecular genetics. **Thus, critical mass has both scale and scope**

⁵⁷ Bautista, B., M. C. Rose, et al. (2001). "Comparative study of the impact of donor-initiated programmes on research capacity in the South: international report."

⁵⁸ Young, J. (2001). "Building Capacity in Southern Research: A Study to Map Existing Initiatives."

considerations,⁵⁹ and decisions around who receives funding and for which areas of research and capacity-building activity will influence pathways to critical mass. Some consortia have emphasised that a degree of equitable distribution is in line with a scalability agenda and with efforts to create critical mass across the region, rather than in a small number of established organisations. They argue that wide-spread regional coverage has multiple benefits, including: creating new opportunities for capitalising on established relationships, while also developing new ones; sharing of scarce resources in the region; and increasing impact from research activities, not in the least through strengthening the influence of a collective African voice on policy and practice. However, others have noted that diluting resources across too many partners can raise the risk of hindering commitment and sustained involvement by all partners, and accentuates coordination costs. This raises the importance of carefully considering the comparative benefits and limitations of alternative network sizes and structures when designing capacity building strategies and proposals. It also raises wider questions about the potential staging of decisions on network concentration or expansion over time.

4.2.6 The potential for impact: Investing in a narrow or broad thematic focus, and into single-discipline or multi and interdisciplinary approaches, across the network
Another important (but under-researched) issue for both capacity-building practitioners and funders has to do with the trade-offs between a tight focus on a specific research area, or a strategy of thematic diversity in funding distribution?^{60 61} What might the effects of strategic decisions on this issue be on efforts to achieve critical mass? And how are these decisions made? A related set of questions exists around decisions to do with inter- and/or multi-disciplinarity. These discussions also require consideration of what is meant by critical mass in research.

There is debate in the academic literature on whether specialisation within an institution, or building capacity across multiple disciplines is more effective and sustainable.^{62 63 64} There is diversity in the African Institutions initiative in terms of a broad or narrow focus, and in terms of the levels of emphasis on multi and/or inter-disciplinarity.

⁵⁹ Grant, J, Ling, T., Potoglou, D. and Culley, D M. (2011). Appendix C. Critical mass: unpacking the issues for research policy. In A rapid review of the Greek research and development system. RAND Europe DB-631-MEGR.

⁶⁰ Chataway, J., J. Smith, et al. (2005). "Science and technology partnerships and poverty alleviation in Africa." International Journal of Technology Management and Sustainable Development 5(2): 103-123.

⁶¹ Smith, J. (2005). "Context bound knowledge production, capacity building and new product networks." Journal of International Development 17(5): 647-659.

⁶² Chataway, J., J. Smith, et al. (2005).

⁶³ Smith, J. (2005).

⁶⁴ Bradley, M. (2007). "North-South research partnerships: challenges, responses and trends; a literature review and annotated bibliography."

Some consortia have chosen to focus on a specific research field and/or more tightly defined area (e.g. infectious diseases the interface of animal and human health), whilst others are pursuing capacity-building across public-health areas, without pre-specified themes. Drawing on evidence from consortia leadership, some are concerned with the complementarity between different research themes. Others far less so, and seek to support the most promising early career researchers, regardless of their fields of interest (as long as they align with regional health research priorities). **Although it is too early to draw evidence of effectiveness, consortia with a broad thematic focus suppose that there will be the potential ‘multiplier effect’ from their broad investments:** in other words, their strategy is premised on the assumption that every additional staff member trained to a PhD level for example, will over the longer term be able to supervise future PhD students in his/her chosen area and grow that area of research activity. According to the Director of one such consortium, Africa’s health research priorities are so diverse and multiple, that institutional flexibility and engaging the best scientific minds in health priorities may lead to more regional impact (overall, and in a collaborative lens) than directing researchers towards a specific field. **Consortia with a more narrow and/or tightly defined topic approach argue that focusing on a particular research theme is expected to reduce the dangers of funding being dispersed too widely (across too many different health challenges) which could limit opportunities for critical mass and real impact in any particular area, or potentially call for longer timescales for demonstrable impact.**

Literature highlights that decisions on thematic areas of focus and disciplines to involve tend to be made with due consideration of the priorities of specific institutions, regions as well as (senior) researcher interests and areas of expertise, and that this is important for sustainability of the built capacity.⁶⁵ Interest across multiple stakeholder groups can be complementary or contradicting. In this context, the relationships between researchers in an institution, senior university authorities and political powers are an important factor in agenda-setting and prioritisation of research and capacity building strategies. Similarly, according to stakeholders in the African Institutions initiative, it is important to empower researchers with the skills needed to involve ministries and local authorities in research planning, so that research portfolios are more demand driven. Training researchers in science communication is one way through which such skills could be enhanced.

The extent to which vice-chancellors and deans of universities of different institutions in a region have similar or divergent views on thematic priorities, and general institutional interest (or disinterest) in research activity could strongly influence the strategic choices on broad or narrow thematic focus, and the structure of collaborations that emerge. To varying degrees, research leaders of the consortia which received funding conducted consultations with institutional authorities and in some cases also ministry representatives, to identify needs and frame research proposals and topic areas around agreed upon health research priorities and interests. This was in part facilitated by ‘seed funding’ the Wellcome Trust provided shortlisted applicants for funding, to facilitate communications between partners in further proposal development and idea maturation. However, it is important to

⁶⁵ Chataway, J., J. Smith, et al. (2005).

emphasise that in a number of partner institutions, needs were identified by principal investigators and without much involvement of senior university authorities. In some cases this occurred because research was not high up in the agenda of authorities, and in others because the senior researchers involved were well trusted to represent their institutions. The former issue (i.e. of institutional disinterest) and its impacts on the direction of research, critical mass and sustainability merit further study.

4.2.7 Linkage and exchange within African-led networks

The African Institutions Initiative has fundamental features of a strongly pan-African network embedded also in a collaborative structure with northern partners. **The experiences of the initiative's set up raise a number of important questions around how African-led networked research communities can thrive and prosper for the long term. More specifically, how can dispersed individuals and institutions, working across geographies and disciplines be brought together into vibrant African research communities, embedded in global scientific landscapes, and with sufficient critical mass? How can this be done in a context of new relationships, changing power-dynamics, and resource disparities between partner institutions and ICT infrastructure limitations?**

Evaluation evidence from early phases of the initiative provides insights on the diversity of relational opportunities and challenges that African-led research capacity-building networks can experience as they establish their identity. It also highlights some of the drivers of these challenges. It also identifies potential ways of managing challenges and developing resilience, as perceived and articulated by African capacity-building practitioners and drawing from their own prior experiences. Although partners in the African Institutions initiative consortia (both African and northern) have by and large successfully established early working relationships and worked together on a range of issues; leadership, programme managers and evaluation officers across the initiative have communicated challenges in maintaining regular communications between participants from different African partner institutions. These were said to relate both to limitations in communications infrastructure (e.g. power cuts, internet service reliability – a matter we return to later in the paper), and to the extent to which a consortium is forming new relationships (i.e. to the absence of a history of collaboration and trust, a topic discussed widely in literature on research and development collaboration).⁶⁶ All of the consortia are building on some established links, but the strength of these links varies, and by and large a vast number of new collaborative relationships are being developed, tried and tested.

Capacity-building interventions were (to varying extents) decided on through processes of consultation and needs assessments by African leadership and with African researchers and policy-makers across partner countries. Northern partners were to varying degrees a part of the consultation and proposal development process, but in more advisory roles in the majority (though not in all) cases. As the initiative has moved

⁶⁶ Wagner, C. S. (2008). The New Invisible College: Science for Development. Washington, D.C., Brookings Institution Press.

towards implementation, traditional power asymmetries are being reconfigured, and changes in roles and responsibilities between northern and southern partners are being accompanied by changes in attitudes and behaviours. Evidence from the evaluation and learning project suggests that at this stage, decision-making seemed to be more markedly African-led in some networks than in others. But overall, the basic premise of the initiative as African-led continues to be demonstrated. The experience and reputation of senior consortium leadership appears to be important in this regard, including for internal cohesiveness and respect from all partners. In addition, senior researchers in the initiative have needed to take on new roles and responsibilities (e.g. involvement in research management capacity strengthening in institutions, advocacy and lobbying for research support).

The lack of a critical mass of researchers and support staff has also raised a number of challenges related to a need to avert potential over-reliance on a single individual or small number of individuals for progress with initial activities, or a strong centre of gravity around the lead organisation or one or two partners, at early stages of evolution in some consortia. Ensuring that all partners are fully engaged in the programmes as they are driven forward is central to the initiative's ethos. At the same time, some consortia (in particular those where the majority of partners do not have a prior history of collaboration), have found the process of establishing relationships and reaching consensus on roadmaps and plans of action for capacity-building activities particularly laborious and negotiation-intensive (as well as delayed by institutional bureaucracy), but at the same time essential and beneficial for building up a functioning and viable collaboration in both spirit and substance. An associated area where linkage and exchange have proved essential but challenging relates to identifying and engaging supervisors and mentors from multiple institutions in the programme. **This issue is related to wider questions about the capacity of institutions to effectively absorb the scale of trainees being recruited into the landscape, in a manner that ensures high-quality support for postgraduate empowerment.**

The roles, incentive and reward structures for northern partners also differ to historical practices. Literature highlights that northern partners in international collaborations have historically played roles in their management and governance.⁶⁷ ⁶⁸ **In the African Institutions initiative, most of the northern partners are engaged in supervisory, mentorship, course delivery and advisory roles, and there is a need for further exploring the diversity of their contributions and associated incentives. This could enrich the evidence base on most effective and sustainable contribution mechanisms in African-led networks.** There are also important questions emerging around issues such as the types of skills and capacities northern institutions need to develop in order to engage as partners rather than leaders of research collaborations.

⁶⁷ Maselli, D. and B. Sottas (1996). *Research partnerships for common concerns*, Lit Verlag.

⁶⁸ Fuest, V. (2007). "German-African research co-operation: practices, problems and policies." *africa spectrum*: 483-505.

Sustaining the commitment, enthusiasm and delivery by all partners in the network is a key variable in the viability of a networked model. **As part of risk management plans which consortia developed at early stages (in process facilitated by the learning and evaluation project), principal investigators from all partner institutions, central consortium leadership and in many cases management and support staff engaged in a consultative process to identify strategies actions which could help in efforts to mobilise and sustain partner commitment and delivery on roles and responsibilities. Drawing on an analysis of risk-management plans from consortia across the initiative, they include:**

- setting up multiple communication mechanisms, both formal and informal;
- ensuring that all partner institutions are involved in decision making processes at senior levels and that this is reflected in governance and management processes and structures
- establishing formal collaboration policies and agreements outlining terms and conditions
- developing entry and exit criteria and procedures for partners as well as succession plans
- internal monitoring of adherence to agreed commitments at secretariat levels;
- development by consortia partners (and implementation of) a code of conduct that addresses incentives and penalties
- efforts to work within university systems to the extent that is feasible and appropriate to mitigate against challenges to partnership activity that could emerge if partnership policies conflict with incumbent institutional procedures;
- implementing some institutional quotas for funding allocations (benefit distribution);
- documentation of activities and strategies to ensure their wide-spread accessibility;
- inter-institutional team-work models to minimise over-reliance on specific partners;
- establishing clear and agreed upon work-plans and road maps from the onset to provide a sense of direction and enable momentum to be sustained across a network;
- pursuing interventions where continual training and professional development exist and can act as incentives for sustaining individual commitment;
- encouraging members who leave to maintain informal links if appropriate, or to established different types of formal links to a consortium.

As revealed in the baseline assessment of the African Institutions initiative and confirmed in the literature⁶⁹, ICT infrastructure across Africa is far from ideal. Yet African researchers see it as crucial for facilitating remote communications in their geographically dispersed networks. **So how does learning, linkage and exchange unfold in reality and what types of operational interventions are needed for communications to flow in research networks across Africa?** There is very little evidence on these matters.

⁶⁹ The Africa Unit, (2010).

In order to facilitate collaboration in practice, consortia are supporting a number of interventions. These include remote communications (e.g. email, skype, teleconferences and some early efforts to create virtual communities of practice), but also support for face-to-face linkages through a variety of complementary mechanisms. Common mechanisms include: student and staff exchanges; conferences; annual meetings; residential training bringing together scholars from different locations; efforts to create more open training networks through credit-transfer provisions; cross-appointments; mini-sabbaticals for staff at partner institutions; the translation of core materials into multiple languages; and the development of online resources which can be widely accessed (e.g. newsletters, registers of training opportunities, funding calls). **Consortia are also finding creative ways to deal with limited communication budgets.** A number of researchers communicated that they often use opportunities for travel provided by funding for the purposes of one project, to meet with collaborators on other projects who might be at the same location. It is too early to make deductions about the scale and nature of ‘real-world’ versus ‘virtual world’ interaction that is needed for efficient collaboration or about the comparative take-up, benefits and trade-offs of different linkage and exchange strategies. However, this is an area which merits further exploration. **Early evidence from African institutions consortia suggests that a relatively balanced mix of both real-world and virtual interactions is likely to be important over time, and a pragmatic approach.**

Lastly, given the early stages of the initiative, consortia have prioritised the establishment and maturation of internal networks. However, some notable effort to explore linkages with other consortia, and external stakeholders in research, policy and funder communities have also surfaced (as highlighted in section 4.1). As the initiative continues to evolve, we hope to learn more about how priority areas of collaboration are enabled and barriers addressed. This applies to aspects such as raising the profile of and support for research activities from universities and national ministries, coordinating the efficient sharing of resources (both physical infrastructure, human resources through joint appointments for example, and training curricula and standards), ensuring step change in the sustainability of research career opportunities, promotion trajectories and of support systems for such endeavour.

Appendix A: Traffic lights – a high level reflection on progress

To provide a general overview of progress thus far, the evaluation and learning (E&L) team has developed and applied a traffic light system with high-level snapshot indicators of how a consortium is progressing in a given area. Having been excluded from the year one reports for consortia, these traffic lights have been reintroduced at the request of the Wellcome Trust.

Table 16 provides a summary with definitions of what constitutes green, amber and red scores ('lights'). It is important to emphasise that this traffic light system is only a very general overview, can include an element of subjectivity based on the perceptions of the E&L team, and should not be used in isolation from more detailed evaluation and learning project information which is discussed above. The information in this appendix needs to be viewed on a computer screen or printed on a colour printer.

The traffic light scores fall into five categories. The first three are core and most directly relate to the evaluation project priorities, while the last two are supportive categories:

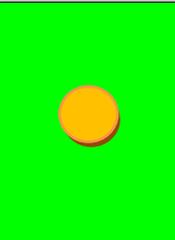
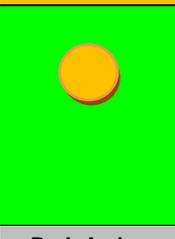
- capacity building in scientific skills and improving career prospects
- capacity building in research management, governance and administration
- capacity building in physical and ICT infrastructure
- capacity building in strengthening CARTA management and administration
- engagement between the evaluation team and consortium (this is important for operationalising the evaluation)
- linkage, learning and exchange

Table 17 presents an overall summary of the traffic light picture for CARTA, based on activities and engagement as of the end of year 2 in July 2011. Brief justifications for the traffic light colour are provided in each table.

Table 16. Definitions of traffic light scores

Traffic light	Considerations in scoring
Green	<p>On track, no major current issues or concerns: <u>Robust plans for delivery are in place, progress against plans is going well overall</u> <u>Consortium is proactively addressing challenges with feasible and effective responses, learning from experience</u> <u>Member organisations are delivering on respective commitments and taking responsibility</u></p>
Amber	<p>Broadly on track, but some concerns <u>Consortium is broadly on track with progress against plan, some areas of concern exist, but consortium is aware and can address them</u> <u>Consortium has some capacity to address challenges, is working towards plans for this, but this capacity might not apply equally to all organisations in the consortium that are affected</u></p>
Red	<p>Substantial issues and/or risks, little evidence pointing to resolution plans and capacities <u>Little or no contingency planning</u> <u>Little evidence of capacity to address issues and/or learn from experience</u> <u>Over-reliance on one or two key organisations/individuals</u></p>
White	<p>No evidence at this stage</p>
	<p>Circles within a block indicate pockets of exception in an overall picture</p>

Table 17. Overall traffic light snapshot for CARTA

CATEGORIES 1-4: PROGRESS IN THE 4 CATEGORIES OF EFFORT		
1	<p>Progress with activities related to consortium efforts for capacity building in research leadership</p> <p><u>Changes in the funding of fellowships as a result of fellows registering at universities other than their home institutions has led to a reduction in cohort size and may affect current capacity building plans focused on the development of research hubs across partners in the network. In addition, engagement with and participation from supervisors and mentors has fallen short of plans in year two.</u></p>	
2	<p>Progress with activities related to improving research management and governance.(RGMA)</p> <p><u>Partners appear to be engaging well with research governance, management and administration plans and training and also providing feedback for further improvements overall. Training for support staff was also delivered, with participation from all African partner institutions.</u></p>	
3	<p>Progress with activities related to improving consortium physical and ICT infrastructure</p> <p><u>Although broadly positive, it remains a challenge to engage with all partners in order to determine how CARTA funds are concretely contributing to developments and whether improvements are timely, of good quality, and within budget.</u></p>	
4	<p>Progress with activities related to strengthening CARTA management and administration</p> <p><u>The CARTA Secretariat was fully staffed going into year two, with staffing changes being made to adjust to the needs of the consortium. The consortium is very well and transparently run. However, the resignation of the Program Manager may be a set-back, despite the reallocation of tasks to other Secretariat members.</u></p>	
CATEGORY 5: ENGAGEMENT BETWEEN E&L TEAM AND CONSORTIUM		Red, Amber,

		<u>Green status</u>
5	<p><u>Effective relationship between the E&L team and the consortium</u></p> <p><u>This relationship has been strengthened in year two and concrete plans for interaction should allow it to remain strong through regularly scheduled interaction.</u></p>	
6	<p><u>E&L team have a good understanding of the consortium intervention logic</u></p> <p><u>Recent changes in financial support for CARTA fellows may lead to changes in CARTA's intervention logic, which the E&L team will need to review with the consortium to better understand the impact going forward.</u></p>	
7	<p><u>Consortium engages well with the E&L project approach and method</u></p>	
<u>CATEGORY 6: LINKAGE, LEARNING AND EXCHANGE</u>		
8	<p><u>Networking, sharing experiences and adoption of good practice within consortium (between member organisations)</u></p> <p><u>Clear plans are in place for narrative reporting on progress from partners at the Partners' Forum, and narrative information from meetings suggests that there is learning from best practice between consortia, as those that do less well in terms of fellow selection work to improve their fellowship nominees' skills. Engagement by partners appears to be primarily with the CARTA Secretariat rather than between partner institutions directly.</u></p>	
9	<p><u>Consortium is networking and sharing experiences with other consortia under the African Institutions initiative</u></p> <p><u>CARTA has clear plans to do so, and is proactively engaging with other consortia in an informal way, laying the basis for possible formal engagement in the future. The fact that more has not been done to date is a reflection of the still developing cross-consortia learning element of the African Institutions initiative as a whole, which affects all consortia.</u></p>	
10	<p><u>Consortium is networking and communicating with external stakeholders</u></p> <p><u>This is of primary importance for CARTA as shown by the Funders' and Patrons' Advisory Group meetings and plans for continued engagement with existing and new partners and funders as well as with some initial engagement with policy bodies.</u></p>	
11	<p><u>Consortium is strengthening internal evaluation capacity</u></p> <p><u>Some additional funding received from the Wellcome Trust has been put towards monitoring, learning, and evaluation. Some narrative information suggests that partner institutions are making improvements as a result of the need to report to the CARTA Secretariat. However, most improvements appear to be centralized at established partner institutions, rather than at less established partners.</u></p>	

Appendix B: Reporting timelines

Table 18. Annual reporting: timelines for receiving information from consortia

TIMING OF YEARLY REPORTING (Quantitative and Qualitative evaluation progress information)			
REPORT NUMBER	African Institutions initiative PROJECT YEAR	REPORTING ON (PERIOD)	DEADLINE FOR RECEIPT OF MATERIAL FROM CONSORTIA (9am Cambridge time)
0	Year 0	Baseline/inception report	28-Jan-11
1	Year 1	1-Aug-2009 - 31-Jul-2010	31-Mar-11
2	Year 2	1-Aug-2010 – 31-Jul-2011	15-Sep-11
3	Year 3	1-Aug-2011 – 31-Jul-2012	15-Nov-12
4	Year 4	1-Aug-2012 – 31-Jul-2013	14-Nov-13
5	Year 5	1-Aug-2013 - 31 Jul-2014 (essentially, remainder of 2013)	Communication format and timelines to be confirmed.

Table 19. Quarterly reporting: timelines for receiving information from consortia

CARTA's narrative reporting timeline was amended so that narrative reporting will be semi-annual from year three.

TIMING OF NARRATIVE REPORTING					
REPORT NUMBER	CARTA NO.	African Institutions initiative PROJECT YEAR	REPORTING ON (PERIOD)	DEADLINE FOR RECEIPT OF MATERIAL FROM CONSORTIA	DEADLINE FOR CARTA
4	4		1-Aug-2011 - 31-Oct-2011	15-Nov-11	15-Feb-12
5			1-Nov-2011 - 31-Jan-2012	15-Feb-12	
6	5	Year 3 (1-Aug-2011 – 31-Jul-2012)	1-Feb-2012 - 30-Apr-2012	15-May-12	15-Aug-12
7			1-May-2012 - 31-July-2012	15-Aug-12	
8	6		1-Aug-2012 - 31-Oct-2012	14-Nov-12	18-Feb-13
9			1-Nov-2012 - 31-Jan-2013	18-Feb-13	
10	7	Year 4 (1-Aug-2012 – 31-Jul-2013)	1-Feb-2013 - 30-Apr-2013	16-May-13	16-Aug-13
11			30-Apr-2013 - 31-July-2013	16-Aug-13	
12	8	Year 5 (1-Aug-2013 - 31 Jul-2014)	1-Aug-2013 - 31-Oct-2013	15-Nov-13	17-Feb-14
13			1-Nov-2013 - 31-Jan-2014	17-Feb-14	

Appendix C: Evaluation and learning indicators

This appendix lists the qualitative and quantitative indicators to assess performance annually, and compares CARTA's performance in year two to its quantitative milestones (the qualitative information was reported throughout this report). These indicators and their associated milestone were developed by CARTA in conjunction with the E&L team as part of the evaluation and learning project inception workshop and follow-up work.

Qualitative indicators

The E&L team submitted the following guidance to the consortium for reporting on the qualitative indicators:

- This document is an adaptation of the qualitative indicators outlined in tab 6 of the MLE document (Doc1_CARTA_Quantitative_reporting_template_Year2.xls). These build on the year one qualitative indicators, with a few amendments based on CARTA developments in year 1.
- Please only discuss progress related to activities that have occurred in *year 2* of the African Institutions Initiative: i.e. referring to the period of **1 August 2010 to 31 July 2011 only** (Unless explicitly requested otherwise, this should **not** be cumulative of year 1).
- Please provide answers under each question. The questions refer to qualitative evaluation indicators that accompany the targets (milestones) in your spreadsheets. These have now been presented in the form of questions, with accompanying guidance for each. We appreciate that it may be too early for developments to have happened regarding *some* of the questions during year 2. However, we have left them in this template so that we do not omit important information (if developments might have happened). If you cannot provide an answer to a specific question, please explain why. Answers can be provided in paragraph format under each question, or in an accompanying document.
- Please provide any references to support the evidence you communicate (e.g. references to relevant documents and pages within them). Please do so as footnotes corresponding to your answers to certain questions, throughout the document. (please could you also provide key documents you reference as attachments, if possible, and list these in tab 6 of Doc 1 (MLE document)).

- If there have not been any developments in *year 2* regarding a specific question, please clarify that it is too early to provide answers to the specific question.
- Please contact Sonja Marjanovic, Jo Chataway or Janice S. Pedersen for any clarifications.
- **Important points in this draft:** In order to assist the process, the E&L team inserted extracts from quarterly reports for the second and third quarters of year 2 as well as other information already received into this document draft. The insertions are highlighted in yellow (with some comments and areas for clarification highlighted in blue). (Please note that no report for quarter 1 of year 2 exists as the quarterly reporting process started later, and the report for quarter 4 is not yet delivered). **The information we have inserted should serve only to guide your answers and** does not provide a complete picture. **The present narrative reporting document is absolutely central to your annual evaluation. Please ensure that you complement and enhance the information captured in the bullets and provide full information that will do justice to your year 2 activities.** Please note that our insertions are in draft form, and are in many cases directly paraphrased extracts from the reports.

The qualitative indicators were as follows:

Category of Effort 1: Capacity strengthening in research leadership and training

1. Please provide information on the JAS and pre-JAS curricula modules and specifically on practical activities carried out in year 2 related to these.
2. Could you please summarise the core messages from the feedback you obtained on JAS training in year 2, and how this feedback is being acted on? In particular, please provide any information from participants on the benefits of the JAS.
3. Please provide information about any additional training provided for CARTA fellows in year 2, that was not part of the JAS.
4. What has the rationale/selection criteria been for CARTA fellows. Please describe any changes in selection criteria that may have taken place in year 2 and the rationale for these.
5. What activities have been undertaken in year 2 to promote/market CARTA's opportunities to PhD students.
6. What student assessment (performance review) processes have been set up in year two?
7. Has the CARTA programme contributed to improvements in the curricula at the home institutions of CARTA fellows (to be reported by university committees annually)? If so, in what ways? If not, please describe any effect of the CARTA programme at partner institutions.
8. Is there evidence/narrative information on the increased capacity of African partner institutions to supervise PhD students?
9. Were any assumptions made about the physical location of CARTA fellows (i.e. the location of the partner institution at which they are registered) and have there been any developments in year 2 regarding CARTA fellows' locations?

10. Have there been any changes to the type and amount of financial support provided for CARTA fellows in year 2?
11. Is there evidence of strengthened graduate programmes at participating institutions (e.g. CARTA fellows teaching on graduate programs in Africa)?
12. Is there evidence for development of vibrant research at CARTA institutions able to attract and retain qualified scholars?
13. Is there evidence for the relevance of new research to local, national or regional priorities in PPH?
14. Is there evidence of the relevance of the universities' research agendas to local, national or regional priority and policy-relevant health issues?

Category of Effort 2: Capacity strengthening in research governance, management and administration (RGMA)

1. Please describe the types of RGMA staff employed in a CARTA role per institution during year 2.
2. Has annual reporting from consortium members begun?
3. If applicable, in *year 2*, what types of training in research governance, management, and administration skills (e.g. short courses and workshops in grantsmanship, mentorship, research administration, financial management; legal and IPR skills, performance management, information search and retrieval, interpersonal skills, project management, leadership, communication) were provided by CARTA? What is the nature of modules? Who delivered the training? Who was trained?
4. Has there in year 2 been evidence of sharing best practice/adoption and adaptation of RGMA practices within the consortium network, such as SOPs and guidelines, CV formats and updates? What relevant expertise, resources and good practice exist across the consortium which can be tapped into to help in efforts to improve research governance, management and administration? (e.g. exemplars of good practice at a member organisation that can be adopted consortium-wide). Please describe any associated developments in *year 2*. Please include descriptions of the types of networking and collaboration efforts took place in *year 2*, specifically to make better use and sharing of existing RGMA capacity in CARTA?
5. If applicable, what is the nature of the feedback (perhaps survey results) provided on CARTA's courses in RGMA related skills in year 2? This relates to evidence of new skills gained through training being deployed by faculty staff. Please also provide specific information on feedback about the quality and usefulness of the courses in RGMA.
6. In year 2, has there been any evidence of CARTA contributions to institutions in terms of improved research governance, management and administration practices at the institutional level (e.g. whole university, not just faculty, or faculty not just research group)? Please provide any relevant information to support this.

7. In year 2, has there been any evidence of strengthened relations and cooperation between CARTA individuals and research governance, management and administration support staff at institutional levels? Please provide any relevant information to support this.

Category of effort 3: Strengthening physical and ICT infrastructure

1. What improvements have been made to physical infrastructure across the consortium in year 2 specifically, through CARTA support? Please provide also any relevant information related to year2 developments related to ICT infrastructure (e.g. access, functionality) across partners, as well as small refurbishment and equipment grants.
2. If applicable, what networking and collaboration efforts took place in *year 2*, to make better use and sharing of existing physical infrastructure in CARTA's home institutions (e.g. accessibility to existing labs and equipment)?
3. Please provide narrative information on the types of new software packages actually installed on CARTA fellows' laptops.
4. Please provide narrative information on the extent to which proposed changes regarding physical infrastructure and ICT have been carried out (per partner institution) during year 2.
5. Please provide narrative information on the utility of new software packages installed on CARTA fellows' laptops, if applicable.
6. Please provide narrative information on the utility of the website for CARTA fellows. Could you provide summary information on the contents and maintenance of the CARTA website over *year 2* specifically? What do you consider to be the core uses of the website in year 2? Also, please discuss any feedback provided on its usefulness.
7. Is there any evidence that new infrastructure improvements are delivering intended benefits (narrative reporting by university committees annually)?
8. Is there any evidence that infrastructure changes in year 2 have improved the research environment - i.e. efficiency and improved communications (narrative reporting by university committees annually)? Have there been any new projects in *year 2* that have occurred in partner institutions, which would not have previously been possible without the new physical infrastructure? Please provide any relevant information to support this, and clarify if these projects are under CARTA support, or supported through other funds.

Category of effort 4: Strengthening CARTA management and administration

1. Please provide information about the extent to which the CARTA strategy and plans have been shown to be an intellectual resource for the consortium.
2. Have there been further changes in CARTA's governance and management structure in year 2? If so, please describe these. How is this structure meeting the needs of the consortium?
3. Please discuss the extent to which there is evidence for robust and transparent processes for allocating and prioritising resources in year 2 (e.g. needs assessment, other allocation criteria), backed up by available documentation if applicable.
4. If CARTA's funder networks have evolved in year 2, please describe these changes since the year 1 report for the consortium. Please provide narrative information on any year 2 activities to improve the number and nature of new funder relationships or to improve existing relationships.
5. Which types of administrative, ICT and management positions have been filled in year 2? Please provide information of staffing changes or of changes in the types of tasks to be carried out by already existing staff.
6. Please provide information about any collaboration with other consortia in the African Institutions initiative that has taken place in year 2
7. If applicable for year 2, please consider any evidence that CARTA-generated research has been adopted by policy-makers and practitioners.

OTHER:

- If this is not clear in answers already given above, please clarify the roles of the different particularly the Northern) partner institutions and how they have been involved with CARTA in year 2. Have these roles developed since they were laid out in the application to the African Institutions initiative? For the partner institutions (Northern and Southern) that have joined the consortium after the initial application, what is their specific added value, i.e. how do they meet the inclusion criteria as laid out in the June 2010 BoM minutes (pgs 7 and 8)?

Quantitative indicators

The contents of the tables below present targets (milestones) which can be quantified as well as some targets that are not immediately quantifiable but that are nevertheless concretely measurable. Other more qualitative milestones are captured in the narrative reporting questions, above, and will be referred to when evaluating progress annually. In addition, the CARTA Roadmap, in Appendix F, below, outlines aspects of CARTA plans regarding management, staffing, training programmes, publicity, as well as monitoring and evaluation, punctuated by Board of Management (BoM) and Partners' Forum meetings.

Category of Effort 1 – Strengthening Research Leadership and Contribution to Critical Mass

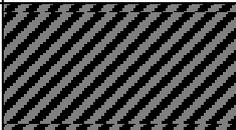
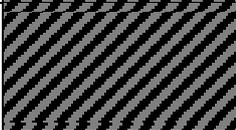
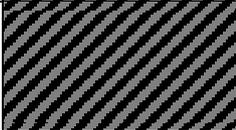
CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
INPUT INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
1	Number of qualified faculty that can supervise PhD students - supervisor pool	Number of available supervisors for CARTA fellows/PhD students from administrative database of supervisors and their expertise. From all universities and institutions.	Target met - Each of the 25 CARTA fellows in 2010/11 matched to a primary supervisor	Primary supervisor identified for each of the 25 2010/11 CARTA Fellows by JAS 1 (March 14 - April 8, 2011)
2	Institution-level selection criteria/selection process for PhD students	List compiled from partner institutions' administrative records, minutes of CARTA institutional committee	Target met - Each partner institution prepared and shared with the Secretariat a narrative on the process of selecting nominees for 2011/12 CARTA Fellowships	Narrative on selection process set by each institution and shared with the Secretariat. for 2011/12 CARTA Fellowships by May 15, 2011
3a	Partners' Forum selection criteria for PhD students.	List compiled from administrative records and minutes of the CARTA institutional committee.	Target met - Narrative on the criteria for selecting 2010/11 CARTA fellows available in the Partners' Forum minutes	Narrative on selection process.
3b		Number of nominees who complete pre-Jas, Part 1	Not met in light of the target - 49 (Cohort 1) 38 (Cohort 2)	55 (Cohort 1) 47 (Cohort 2)
3c		Number of PhD students actually enrolling and starting PhD. To be backed by narrative if there is a shortfall.	Target met - 25 (Cohort 1)	25
4	Establishment of pre-JAS curriculum and examination methods.	Narrative information.	Target met	Pre-JAS curriculum in place by August 31, 2010 for Pre-JAS, Part 1 (Cohort 1); Pre-JAS curriculum in place by May 31, 2011 for Pre-JAS, Part 1 (Cohort 2), October 31, 2011 for Pre-JAS Part 2 (Cohort 1).
5	Establishment of JAS curricula and examination methods.	Narrative information.	Target met - JAS 1 curriculum and assessment methods were in place by January 31	JAS 1 curriculum and assessment methods in place by January 31
6	To identify facilitators for the JAS sessions	Number of facilitators for the JAS sessions	Target met - Facilitators were identified for each JAS session at least 2 months before the JAS	Facilitators identified for each JAS session at least 2 months before the JAS

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
INPUT INDICATOR TARGETS AT THE LEVEL OF: SUPERVISOR				
7	To identify supervisors of CARTA fellows for purposes of supervisor training	List of CARTA fellows' supervisors provided. Record of supervisor-CARTA fellow pairs at each institution prior to JAS1.	Target met - All 25 fellows submitted the name of their supervisor before JAS 1	Supervisors identified for each CARTA fellow and supervisor details communicated to Secretariat at least one month before JAS 1
8	To develop curricula for supervisors' refresher course	Supervisor training curriculum developed	Target met - Narrative information on curriculum for supervisor refresher course available by JAS 1	Narrative information on curriculum for supervisor refresher course available by JAS 1
9	To identify facilitators for the supervisors' refresher course	Facilitator identified for the supervisor refresher course	Target met - Workshop facilitated by Prof. Lenore Manderson, Monash University	Facilitators identified for the supervisor refresher course at least two months before JAS 1
INPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
10	Number of PhD students actually enrolling and starting PhD	Number of PhD students actually enrolling and starting PhD (per institution, total per cohort, gender) (with narrative if shortfall)	Baseline narrative report on PhDs in PPH research areas at baseline point. Based on the report, there were 137 PhDs in PPH research areas at baseline point. ⁷⁰	Quantitative target N/A.
PROCESS INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
11a	To establish CARTA fellows participation/attendance in CARTA's training programs	Number of Fellows who complete pre-Jas, Part 2 (per cohort and institution)	Target met - All fellows were able to successfully complete and submit their pre-JAS, Part 2 assignments by the deadline (Feb 28, 2011)	25
11b	Number of fellows who actually participate in each JAS	Number of students who complete pre-Jas, Part 1 Per cohort, institution, annually per JAS. Record of number of times CARTA fellows log on to website. See student database for breakdown.	Target met - All fellows were able to participate in JAS 1 (March 14-April 8, 2011)	25

⁷⁰ This information was not disaggregated by CARTA in reporting. The narrative explanation of the reporting suggests that the quality of the data received from partner institutions does not allow for disaggregation.

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
11c	Number of fellows who drop out of PhD courses.	Number of students who drop out (with narrative) - Disaggregated by member institution and country	Target met - None of the 25 CARTA Fellows have dropped out from the program	0
11d	Number of fellows not renewed.	Number of students not renewed. To be backed by narrative - this follows the review processes and how PhD progress is monitored. There can be many reasons for drop out, including personal circumstances	Target met - None of the 25 CARTA Fellows have dropped out from the program, thus no consideration for renewal.	0
12a	To evaluate the quality of CARTA's pre-JAS, Part 2 training activities	Narrative feedback from fellows on JAS 1 sessions where pre-JAS tasks, Part 2 are presented	Target met - Narrative feedback shared by Fellows at least two weeks after end of the JAS 1 sessions	Narrative feedback shared by Fellows at least two weeks after end of the JAS 1 sessions
12b		Number of fellows who rate sessions where pre-JAS tasks, Part 2 are presented as helpful or very helpful	Partially met (because of low response rate) - Out of 5 fellows who completed the online survey, 4 rated the session on critical appraisal as 'very helpful to my learning', while one said it was 'helpful to my learning'	At least 80% of the fellows rate sessions where pre-JAS tasks, Part 2 are presented as helpful or very helpful
13a	To evaluate the quality of CARTA's JAS training program	Narrative feedback from fellows on JAS sessions, including learning outcomes and relevance to Fellows' work.	Target met - Narrative feedback on each session was shared by Fellows by the end of JAS 1	Narrative feedback on each session shared by Fellows by the end of JAS 1
13b		Number of Fellows who rate JAS sessions as helpful or very helpful	Target partially met - As an indication of Fellows feedback on the sessions 73% felt that the various sessions dedicated to developing their research questions and approach were helpful to a great extent	At least 80% of the fellows rate each session as helpful or very helpful
14a	To assess CARTA fellows' implementation of inter-JAS activities	Number of inter JAS seminars actually carried out by PhD fellows at their home institutions (per institution, total per cohort)	N/A – detail below	N/A – detail below

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
		Inter-JAS 1-2	N/A – Due in year 3	1 seminar per CARTA fellow in Cohort 1 before August 31, 2011 (Year 3) all CARTA fellows complete the ESE:O assignments by JAS 2 (Year 3)
		Inter-JAS 2-3	N/A	N/A for year 2. Inter-JAS 2-3 for Cohort 1 occurs in Year 3-4
		Inter-JAS 3-4	N/A	N/A for year 2. Inter-JAS 3-4 for Cohort 1 occurs in Year 5
14b	Number of fellows submitting inter-JAS tasks (e.g., Literature review in inter-JAS 1-2) by stipulated deadlines	Number per institution, and total per cohort		
		Inter-JAS 1-2	Target partially met - Of the 25 fellows, 12 completed all the 7 ESE:O assignments, 5 fellows completed 6 assignments, 2 fellows completed 5 assignments, 2 fellows completed 4 assignments and 4 fellows completed 3 assignments or less.	All CARTA fellows in Cohort 1 submit inter-JAS tasks by stipulated deadline in year 2-3
		Inter-JAS 2-3	N/A	N/A for year 2. Inter-JAS 2-3 for Cohort 1 occurs in year 3-4
		Inter-JAS 3-4	N/A	N/A for year 2. Inter-JAS 3-4 for Cohort 1 occurs in year 5
15	To support networking activities among CARTA fellows in order to contribute to institutional networks	Narrative information on networking activities. Examples: usage of website for interaction; completion of joint assignments (e.g., pre-JAS tasks that require two or more fellows to complete a joint task)	Partially met - Semi annual narrative reports on web site hits produced in Feb 2011 and July 2011. Information useful to fellows continues to be posted on the website (171 topics posted as of the writing of this report, Sept 2011)	Semi- annual narrative report of web-site hits, review of discussion board and review of uploaded assignments

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
16	To support professional networking activities of CARTA fellows	Number of CARTA fellows with accepted abstracts who are supported to attend scientific conferences	None of the Fellows produced abstracts for international conferences in the 2nd year. However, with progress in their PhDs and after JAS 1, more Fellows are envisaged to produce abstracts and be supported to attend scientific conferences in Year 3.	N/A for year 2 specifically.
PROCESS INDICATOR TARGETS AT THE LEVEL OF: SUPERVISOR				
17	To establish CARTA fellows' supervisors' participation/ attendance in CARTA's supervisor refresher course and fellows' JAS 1 presentations	Number of supervisors who attend the supervisor refresher course and Fellows' JAS 1 proposal presentations	Not met - 11 supervisors attended JAS 1	All primary supervisors (Cohort 1) attend the supervisor refresher course during JAS 1 and Fellows JAS' presentations
18	To evaluate the quality of CARTA's supervisory refresher course	Narrative feedback from supervisors on the supervisor refresher course	Met - Narrative evaluations/feedbacks received from supervisors after the refresher course	Narrative evaluations/feedbacks received from supervisors after the refresher course
PROCESS INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
19	To share learning from the JAS with wider university community	Number of inter JAS seminars carried out (per institution, total per cohort)	N/A – detail below	N/A – detail below
		Inter-JAS 1-2	Met - 1	1 per CARTA fellow in Cohort 1 before August 31, 2011 (Year 3)
		Inter-JAS 2-3	N/A	N/A for year 2. Inter-JAS 2-3 for Cohort 1 occurs in year 3-4
		Inter-JAS 3-4	N/A	N/A for year2. Inter-JAS 3-4 for Cohort 1 occurs in year 5
OUTPUT INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOWS				
20	To promote on time graduation of CARTA fellows	Number of CARTA fellows who complete PhD in anticipated timeframe (per institution, gender, total per cohort)	N/A - The expected number of PhDs would be 100 assuming an annual cohort of 25 over 4 years. However only one cohort is expected to graduate by 2014	N/A for year 2. The Fellows are expected to complete their PhDs at the end of the cohort 1 (August 2014)

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
21a	To increase scientific productivity among CARTA fellows	Number of publications submitted to peer-reviewed journals or book chapters by CARTA fellows	CARTA fellows are expected to submit at least one publication over the course of the program	N/A for year 2. None of the Fellows submitted publications in peer reviewed journals or book chapters in Year 2. However, with progress in their PhDs and participation in JAS sessions, more Fellows are envisaged to write and submit publications in Year 3.
21b		Number of conference presentation (oral or poster) by CARTA fellows	N/A - None of the Fellows made presentations at international conferences. However, 4 CARTA Fellows attended summer courses	No annual targets set because it is difficult to predict a feasible number of collaborative research proposals
22	To increase CARTA fellows' capacity to generate research funding	Number of research proposals by CARTA beneficiaries that are submitted and/or funded	N/A - None of the CARTA Fellows submitted proposals for funding in Year 2.	No annual targets set because it is difficult to predict a feasible number of research proposals submitted
23	To ensure that fellows have contributed to international visibility/reputation of institution	As in 21a & b	As in 21a & b	CARTA fellows are expected to submit at least one publication and attend one regional/international conference over the course of the program
24a	To improve teaching in participating African universities	Fellows' narratives of changes in teaching methods	The CARTA Fellows are expected to report progress in teaching methods during JAS 2 in Nov/Dec 2011. Progress of Fellows on teaching methods to be further captured in Year 3 onwards through a monitoring tool for semi annual reporting from Fellows.	Annual narratives by each of the 25 Fellows on changes in teaching methods.
24b		Ratings of inter-JAS seminars	N/A for year 2 - Assessment from all participants.	N/A for year 2. At least 80% of the participants in inter-JAS sessions run by CARTA fellows rate the sessions as helpful or very helpful (Year 3)
OUTPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
25	To produce new PhDs in PPH	Number of CARTA fellows who complete PhD (per institution, gender, total per cohort)	The expected number of PhDs would be 100 assuming an annual cohort of 25 over 4 years. However only one cohort is expected to graduate by 2014	N/A for year 2.
OUTCOME INDICATORS AT THE LEVEL OF: CARTA FELLOWS				
26a	To retain CARTA fellows in research or research-related position (preferably home institution) within sub-Saharan Africa	Number of fellows obtaining/staying on a research (related) position in sub-Saharan Africa within one year of completing PhDs	With qualitative information please explain if this is in a university, research institute, ministry research labs, policy, IGOs, NGOs, in a funding body... For PhDs this can include post-doctoral fellowships, or junior lectureships, etc.)	N/A for year 2.
26b		2. Number of new collaborative research programs involving CARTA fellows	No annual targets set because it is difficult to predict a feasible number of collaborative research programs	N/A for year 2.
27	To enhance research productivity at new participating institutions through collaborative scientific writing	Number of collaborative new publications submitted to/accepted in peer-reviewed journals involving CARTA fellows, supervisors, or/and JAS facilitators (per institution, gender, cohort)	Collaborative' is between at least two beneficiaries of CARTA's training program No annual targets set because it is difficult to predict a feasible number of collaborative papers	N/A for year 2.
28	To create a diversified and enlarged research skills base for CARTA region, including networks of locally-trained internationally-recognized scholars	As in 25, 26a & b, 27	No annual targets set because it is difficult to predict a feasible number of collaborative research publications	N/A for year 2.
29	To increase the number of young researchers able to generate research funding	Number of research grants awarded with CARTA fellows as named Investigators	No annual targets set because it is difficult to predict a feasible number	N/A for year 2.
30	To improve mentoring in participating African universities	Increased capacity of CARTA fellows to mentor as evidenced by self-rating of importance of being a mentor to their career satisfaction, and overall confidence in their ability to mentor	No annual targets set because it is difficult to predict a feasible number	N/A for year 2.
OUTCOME INDICATORS AT THE LEVEL OF: INSTITUTION				
31	To develop a pool of highly skilled researchers, teachers and mentors for next	As in 24-30 above	No annual targets set because it is difficult to predict a feasible number	N/A for year 2.

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
	generation (from graduated CARTA fellows) at institutional level			
32a	To create active research programs at participating universities	Number of new positions created as a result of new research programs developed by CARTA graduates and departments	It is too early to show number of new positions created as a result of new research programs developed by CARTA graduates and departments	N/A for year 2.
32b		Number of new doctoral students supported with research funds secured by CARTA graduates	It is too early to show number of new doctoral students supported with research funds secured by CARTA graduates	N/A for year 2.
33	To enhance the capacity of African institutions to lead globally competitive research and training programs		Long term goal unlikely to be reached in project period	N/A for year 2.
34	To create an attractive research environment that mitigates brain drain from African institutions		It is too early to show changes on creation of attractive research environment that mitigates brain drain from African institutions	N/A for year 2.
35	To increase the generation of policy relevant research in the areas of public and population health	Evidence for relevance of new research to local, national or regional priorities in PPH	It is too early to show changes on relevance of the universities' research agendas to local, national, or regional priority and policy-relevant health issues.	N/A for year 2.
36	Improved population health in the region (very long term vision)		It is too early to show improvement in population health in the region	N/A for year 2.

Category of Effort 2 – Improve Research Governance, Management and Administration Processes

CATEGORY OF EFFORT 2 –IMPROVE RESEARCH GOVERNANCE, MANAGEMENT AND ADMINISTRATION PROCESSES⁷¹				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
INPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				

⁷¹ Please note that this excludes the Joint Advanced Seminar (JAS) which is covered in Category 1. This relates to proposed short courses for faculty and university administrative staff.

CATEGORY OF EFFORT 2 –IMPROVE RESEARCH GOVERNANCE, MANAGEMENT AND ADMINISTRATION PROCESSES⁷¹				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
1	To identify departments relevant to public and population health (PPH) within participating universities	Baseline narrative report on participating departments that are relevant to public and population health with each institution	Met - Baseline narrative report received from all participating African universities	Baseline narrative report on participating departments that are relevant to public and population health with each institution
2	To ensure that expectations (of CARTA) at participating institutions reflect CARTA's goals	Narrative on institutional expectations in terms of: research outputs; graduate teaching and supervision; quality of doctoral graduates; etc.	Met – Baseline narrative report received from all participating African universities	Baseline narrative on institutional expectations in terms of: research outputs; graduate teaching and supervision; quality of doctoral graduates; etc
3	To develop training curricula for faculty and staff at participating universities	Training topics and facilitation schedule developed for RGMA training programs	Met - First RGMA training session held on March 9-11; Curriculum development meeting held in January 2011	Training curricula for faculty and staff training developed at least one month before training workshop
4	To identify faculty and staff to benefit from CARTA's training programs	Training programs for faculty and staff to be held from Year 2	Met - List of participants compiled	Training curricula for faculty and staff training developed at least one month before training workshop
PROCESS INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
5	To implement training workshop for faculty and staff in RGMA related skills (e.g. supervision skills, grant writing, research management, information retrieval, efficient enrolment, monitoring and reporting procedures, etc.)	Number of each distinct type of training courses related to RGMA actually conducted	Met - One training workshop held March 9-11 that brought together university faculty and administrative staff for joint and separate training sessions	One training workshop for faculty and administrative staff
OUTPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				

CATEGORY OF EFFORT 2 –IMPROVE RESEARCH GOVERNANCE, MANAGEMENT AND ADMINISTRATION PROCESSES⁷¹				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
6	To have a pool of faculty and staff who have been trained on effective supervision skills, grant writing, research management, information retrieval, efficient enrolment, monitoring and reporting procedures, etc.	Number of people actually trained in RGMA skills by job type (i.e. librarians, IT specialists, faculty, etc.)	Met - 19 Faculty members and 22 administrators participated in the workshop	At least one representative, per institution, of the following: Junior Faculty(recent PhDs) Librarians/IT Finance officer Postgraduate training coordinators Senior academics in administration (e.g. Deans of PPH department)
OUTCOMES AND IMPACT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
7	To promote more efficient research practice enabled by improved research governance, management, administration infrastructures and practices at consortia level, institutional level, and meets international standards	Narratives showing change in research management and practice, as well post-graduate training at institutional level	It is too early to show changes in research management and practice, as well post-graduate training at institutional level. However, the changes will be captured through a semi annual reporting process from the partner institutions from Year 3 onwards.	N/A

Category of Effort 3 – Infrastructure: Improve the Physical (Includes ICT) Environment for Research

CATEGORY OF EFFORT 3 - INFRASTRUCTURE: IMPROVE THE PHYSICAL (INCLUDES ICT) ENVIRONMENT FOR RESEARCH				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
INPUT INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
1	To equip CARTA fellows with adequate computing hardware and software	Number and type of computers and new software packages installed on CARTA fellows' laptops.	Met - Each CARTA fellow received a laptop loaded with NVivo, Stata, Endnote and MS office software during JAS 1	Each of the 25 2010/11 CARTA fellow receives a laptop loaded with NVivo, Stata, Endnote and MS office software during JAS 1
2	To develop training curricula on use of installed software and computing skills (including use of online learning environment)	Curricula on computing skills and software use Training program on EndNote to be implemented in Year 2 for Cohort 1. Training program on Stata and Nvivo to be conducted in Year 3 for Cohort 1 (JAS 2)	Met - Training session on EndNote conducted during JAS 1 for Cohort 1	Training session on EndNote conducted during JAS 1 for Cohort 1
INPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
3	To determine the current state of physical and ICT infrastructure at participating universities	Narrative information on initial physical and ICT infrastructure which can be tapped into by CARTA members.	Met - Narrative baseline reports of existing IT infrastructure provided by all African universities	Narrative baseline reports of existing IT infrastructure provided by all African universities
4	To make infrastructural investments based on need assessments by participating institutions	Narrative information on infrastructure investments by CARTA	Not met - Six of the partner institutions have submitted to the Secretariat financial reports on infrastructural investments while another six have not. Of the six that have submitted their financial reports, two have received final payments while payment for the other 4 partner institutions are pending as they process financial supporting documentations.	Financial reports on infrastructural investments at each institution
PROCESS INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
5a	To run training program on computing and use of relevant software	Number of training sessions on installed software and computing skills	Met - Training session on EndNote conducted during JAS 1 for Cohort 1 Training session on CARTA online community conducted by Google during JAS	Training session on EndNote conducted during JAS 1 for Cohort 1 Google to run training program on CARTA online community during JAS 1

CATEGORY OF EFFORT 3 - INFRASTRUCTURE: IMPROVE THE PHYSICAL (INCLUDES ICT) ENVIRONMENT FOR RESEARCH				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
			1 for Cohort 1	
5b	Narrative report of Fellows' feedback on usefulness of training program on computing skills		Met - Narrative report of Fellows' feedback on usefulness of training program on computing skills compiled	Narrative report of Fellows' feedback on usefulness of training program on computing skills compiled
PROCESS INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
6	To contribute to improvements in physical infrastructure in participating universities based on needs assessment and funds awarded	Narrative on the extent to which proposed changes have been carried out (per institution)	Met - Each of the partner institutions with the exception of University of Awolowo shared their reports on progress on infrastructural improvements during the PAF meeting in August 2011.	Reports from each institution on infrastructural improvements
OUTPUT INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
7	To increase the use of software in research and teaching	Narrative information on the utility of new software packages installed on CARTA fellows' laptops Narrative reports from CARTA fellows on utility of software for research	Met - Training session on EndNote conducted during JAS 1 for Cohort 1. Fellows are required to use the software to manage their dissertation bibliography and were encouraged during JAS 1 to begin building their EndNote libraries.	Narrative feedback on training session on EndNote conducted during JAS 1 for Cohort 1
8	To improve networking and access of web-based resources	Narrative reports from CARTA fellows on utility of website for networking and learning.	Met - Fellows received training on the use of EndNote during JAS 1. Fellows are required to use the software to manage their dissertation bibliography and were encouraged during JAS 1 to begin building their EndNote libraries.	Narrative information on the utility of website by CARTA fellows
OUTPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				

CATEGORY OF EFFORT 3 - INFRASTRUCTURE: IMPROVE THE PHYSICAL (INCLUDES ICT) ENVIRONMENT FOR RESEARCH				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
9	To improve physical infrastructure in participating universities based on assessment and funds awarded	Number of consortium institutions that have completed the improvements designated as necessary in the needs assessment	Met - Reports from each institution on infrastructural improvements	Reports from each institution on infrastructural improvements
OUTCOME AND IMPACT INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
10	To create a pool of researchers at participating African universities with high level computing skills who are able to network and collaborate via online learning communities	Narratives of impact of improved computing skills on research and training practices and outcomes	Long term goal unlikely to be achieved in project period	N/A for year 2.
OUTCOME AND IMPACT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
11	To enhance research productivity by creating a physical environment that is supportive of research	Narrative institutional report on the benefits of the infrastructural improvements. Independent assessments of infrastructural improvements to be conducted in all institutions in Year 5	Long term goal unlikely to be achieved in project period	N/A for year 2.

Category of Effort 4 – CARTA Management and Administration

CATEGORY OF EFFORT 4 – CARTA MANAGEMENT AND ADMINISTRATION ⁷²				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
INPUT INDICATOR TARGETS				
1	To develop a strategic plan or road map to guide CARTA activities	Road map developed to guide how, when and where the different program components are implemented	CARTA has a Road Map that is available	Met in Year 1
2	To establish a governance and staffing structure	Document showing CARTA's organogram and position descriptions	Governance structure available. TORs for key CARTA staff positions available	Met in Year 1
3	To determine CARTA's key stakeholders and partners	Mapping activity based on identification of key existing networks and collaborators including academic, policy makers, public/research users, funders, media	Received in workshop and completed by RAND with data from EoI appendices	Completed in year 1
4	To establish a transparent financial system for CARTA	Audit and financial reports to funders	Met - All CARTA activities are implemented in accordance with grant agreements signed with funders. Audited reports of APHRC, the lead institution, are publicly available.	Financial resources allocated as per stipulated budget lines (financial reports and budgets available)
5	To establish standards for co-operation (e.g. principles, terms and conditions, MOUs, policies and procedures to guide operations)	Narrative information on standards for co-operation (e.g. principles, terms and conditions, MOUs)	Collaborative agreements signed between the Sahlgrenska Academy at University of Gothenburg and both APHRC and Wits in relation to the CARTA initiative.	N/A for year 2
PROCESS INDICATOR TARGETS				
6	To activate CARTA's governance structure	Profile of CARTA board members and committees	Met - The Patrons Advisory Group was inaugurated in March 2011. In addition, the CARTA funders held their joint conference call in January 2011 and met in person in March 2011 in Nairobi.	CARTA's governance structures activated

⁷² These targets primarily require narrative (qualitative reporting, and quantitative targets have therefore not been set

CATEGORY OF EFFORT 4 – CARTA MANAGEMENT AND ADMINISTRATION ⁷²				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
7	To recruit core CARTA administrative and management staff	Number and nature of administrative and management positions actually filled (backed with narrative)	Met - CARTA was able to fill all administrative and management positions . However, CARTA's Program Manager (PM) left the program in April 2011.	All administrative and management positions filled.
8	To run an effectively managed Consortium	Narrative information on changes to staffing, as well as management challenges and successes	Met - See above	N/A
9	To raise funds for CARTA program activities	Number (and dollar amounts) of new funding proposals submitted by CARTA members (national, regional and international funders)	Met - Carnegie renewed funding to CARTA for US\$ 2.5 Million The Wellcome Trust awarded a supplementary grant to the Consortium amounting to £25,000 to cover costs related to the baseline workshops for the Learning and Evaluation project and coordination time for Consortium staff involved in Monitoring, Learning, and Evaluation activities. Joint proposal to support CARTA activities was submitted to the Nuffield Foundation by the University of Warwick in January.	Fundraising is a continuous activity. The program needs an estimated 20M USD for full implementation (figure to be revised to take into account emerging costs e.g., tuition)
10a	To increase the visibility of the CARTA program	Number of presentations of CARTA work at conferences and other events	Met - The CARTA program has been presented at several fora by CARTA team.	At least one presentation on CARTA made annually at a regional/international forum
10b		Number of publications highlighting the CARTA program	Met - One paper published in Global Health Action Ezeh AC, Izugbara CO, Kabiru CW, Fonn S, Kahn K, Manderson L, Undieh AS, Omigbodun A, and Thorogood M (2010). Building Capacity for Public and Population Health Research in Africa: The Consortium for Advanced Research Training in Africa (CARTA) Model. Global Health Action 5: 5693 - DOI: 10.3402/gha.v3i0.5693. Chimaraoko Izugbara (2011) The Consortium for	N/A

CATEGORY OF EFFORT 4 – CARTA MANAGEMENT AND ADMINISTRATION ⁷²				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
			Advanced Research Training in Africa (CARTA): a new strategy for developing research capacity in Africa .RG2. The publication is published in both English & French. First quarterly CARTA newsletter published in March 2011 and another quarterly report published in August 2011.	
PROCESS INDICATOR TARGETS				
11	To generate new grants to support CARTA program activities	Number (and dollar amount) of proposals won by CARTA members to support CARTA program activities	Annual report on number of and dollar amounts of funding proposals submitted to support CARTA activities	N/A
12a	To establish a respected doctoral training program	Number of African universities expressing interest in joining CARTA	1 (Kampala University)	Information on this indicator to be included in Annual Program Report
12b		Number of private students from partners universities seeking admission into the CARTA program	0 - No private students from Partner institutions sought admission into the CARTA program	Information on this indicator to be included in Annual Program Report
12c		Number of students from non-participating universities seeking admission into the CARTA program	64 students from non-participating universities have sought registration into the CARTA program. However, the students have been informed that they are eligible for CARTA admission as the CARTA program provides support only to faculty and staff at CARTA institutions.	Information on this indicator to be included in Annual Program Report
12d		Number of Northern institutions seeking membership into the CARTA program	1 - Collaborative agreements signed between the Sahlgrenska Academy at University of Gothenburg and both APHRC and Wits in relation to the CARTA initiative.	Information on this indicator to be included in Annual Program Report
OUTCOME AND IMPACT INDICATOR TARGETS				

CATEGORY OF EFFORT 4 – CARTA MANAGEMENT AND ADMINISTRATION⁷²				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 2 1/08/2010 – 31/07/2011
13a	To support change in funding and research capacity building models for doctoral training in sub-Saharan Africa	Number of African governments expressing interest in supporting initiatives using the CARTA model and dollar amounts contributed. Record numbers and amounts	Difficult to set realistic targets	N/A
13b		Number of donors expressing interest in supporting initiatives using the CARTA model and dollar amounts contributed. Record numbers and amounts	Difficult to set realistic targets	N/A
13c		Evidence of use/adaptation of CARTA model for training	Prof. Lenore Manderson (Monash University, Australia) facilitated a training workshop on supervision for the faculty of the University of Ibadan (funding: University of Ibadan).The University of Ibadan invited Professor Manderson to Nigeria following positive feedback on a similar supervisory training which she offered to African supervisors of CARTA students.	N/A

Appendix D: CARTA's capacity building approach and overall intervention logic

Box 1. CARTA's capacity building approach – key features

1. *CARTA has a focus on the local production of networked and skilled researchers to create a critical mass across Africa.*

The consortium brings together partners with a history of collaborative research on public and population health, and is also expanding networks by engaging new individuals and organisations, and sharing existing contacts and links across the consortium. It has a mix of both established and promising Universities and also includes established research institutes across the continent. Within the networked approach, CARTA believes in central institutional administration (by APHRC, the lead institution) as a means of avoiding unnecessary duplication of effort, parallel structures and competition between partners.

The assumption behind this partnering approach is that building on established relationships will contribute to the sustainability of the consortium. At the same time, expanding this network is designed to maximise the scale of potential impacts from CARTA activities across Africa. In addition, the range of institutions bring with them existing tangible (e.g. physical resources) and intangible (e.g. intellectual capital) resources which can be leveraged through the CARTA programme. The northern partners also bring access to a greater pool of (for example) experienced supervisors and existing course material that will increase the efficiency and effectiveness of the programme.

2. *CARTA is neither focused on specific disease nor specific disciplines, but will encourage interdisciplinary perspectives on a range of public and population health issues facing Africa.*

The overall intervention logic for CARTA is that funding multidisciplinary research in a number of different research institutes will increase critical mass and contribute to a sustainable long-term research capacity. This will help to develop interventions that improve health outcomes in the region. Consequently, the consortium brings together researchers, research groups and departments with a mix of common and unique disciplinary and professional backgrounds.

CARTA has a focus on building networked and skilled researchers who have a commitment to working in sub-Saharan Africa through cultivating vibrant multidisciplinary research hubs at a number of African Universities.

3. *CARTA seeks to develop model collaborative doctoral training programmes for the region.*

At the centre of the CARTA model is the selection of candidates from various disciplines relevant to population and public health. Each cohort of PhD students will be funded through CARTA with the expectation that all CARTA fellows will obtain a PhD (or equivalent) within the period of the 4-year fellowship. A key component of the CARTA training programme will be a set of four residential seminars (Joint Advanced Seminars or JAS) which all CARTA fellows will attend. These seminars will reinforce PhD training with teaching, workshops and hands-on learning and are designed to enhance skills and knowledge in core research areas; and to provide the opportunity for fellows to build networks.

The interdisciplinary nature of the fellows should also foster a collaborative research approach among CARTA fellows and prepare the foundations for future collaborative working. CARTA believe that this approach will also help to create a sustainable research capacity through three mechanisms: first, the creation of networks; second, by increasing the number of skilled

researchers within partner institutions; and third, by strengthening the capacity to supervise future PhD students.

4. CARTA is also aiming to enable high quality research through up-skilling research management and administration staff, as well as modernising physical infrastructure.

In addition to investing in the training of research staff, CARTA will also support the development of both faculty and administrative staff through identifying and sharing good practice in a number of operational areas. These include information management; financial planning and management; effective student supervision; and development of institutional policies and processes. CARTA will hold workshops to facilitate capacity building in these areas. In addition, CARTA will also make seed investments in ICT infrastructure and physical infrastructure.

The rationale for these interventions is that high quality research requires high quality support, governance and facilities. A lack of access to these key enabling functions and facilities can be a factor in low retention of researchers in Africa.

Table 20. CARTA’s overall intervention logic

INPUT	PROCESS	OUTPUT	OUTCOME AND IMPACT
<p>What is invested? What resources are you working with? What are your plans?</p>	<p>What are you doing to accomplish your goals and objectives? And are things unfolding according to plan?</p>	<p>What has been produced? What are direct results?</p>	<p>What are the longer term outcomes, and long-term ultimate impacts?</p>
<p>Funding from Wellcome Trust and other funding bodies that will be identified.</p> <p>Qualified faculty in relevant research fields from consortia institutions</p> <p>Initial research governance, management & administration structures to support activity</p> <p>Initial physical and ICT infrastructure which can be tapped into by CARTA members</p> <p>CARTA’s strategic plan to guide activities</p> <p>CARTA Board of Management - experience in research capacity building initiatives and fundraising</p> <p>Existing networks between CARTA members and with relevant external stakeholders</p>	<p>CARTA fellows receive PhD training through well-supervised research projects and research skills through Joint Advanced Seminars</p> <p>A supervision and mentorship approach which brings together researchers with different levels of experience, to share experiences and learn from each other</p> <p>Strengthening institutional networks through contributions made by the networks of individual CARTA fellows.</p> <p>Research Governance Management and Administration skills increased through training courses and sharing of good practice</p> <p>Infrastructure and ICT improvements through targeted investments in relevant institutions</p>	<p>New PhDs as future research leaders and mentors</p> <p>A model doctoral programme in research with strong supervision and networking</p> <p>Diversified and enlarged research skills base for CARTA region</p> <p>Increased professional skills among CARTA fellows</p> <p>Mentors and supervisors with enhanced skills and experience</p> <p>Improved networks with policy, funders and academic community</p> <p>Research faculty staff, administrators and managers with new skills</p> <p>Improved infrastructure to support high quality research</p>	<p>Increased retention in African region in research or research-related position</p> <p>Increased capacity to train and supervise PhD students</p> <p>More students are inspired to learn about and adopt CARTA model, i.e. improved ‘culture of research’ at an institutional level</p> <p>Post-graduation activities – new pool of researchers, teachers and mentors for next generation (from graduated CARTA fellows) at institutional levels</p> <p>Post-graduate CARTA fellows increase international visibility of institution through conferences, publications</p> <p>Enhanced capacity of African institutions to lead globally competitive research and training programmes</p> <p>Improved population health in the region</p>

In order to deliver these objectives, CARTA activities are structured within four main categories of effort, as discussed in detail in the main body of this report:

- Strengthening scientific skills and career prospects
- Improving research governance, management and administration capacity
- Improving physical and ICT infrastructure and capacity
- Management and governance of the CARTA consortium

Individual logic models for each category of effort are presented in Appendix E, below.

Appendix E: CARTA's intervention logic in each category of effort

Category of effort 1: Capacity building in scientific skills and career prospects			
INPUTS: What is invested? What resources are you working with? What are your plans?	PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)	OUTPUTS: What has been produced? What are direct results? (Expected for now)	OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)
CAPACITY BUILDING AT THE LEVEL OF CARTA FELLOWS (PhD students)			
<p>Funding for CARTA fellows</p> <p>Junior faculty in relevant fields from consortia institutions</p> <p>Institution-level pre-selection criteria/selection process for students</p> <p>CARTA Board of Management selection criteria (for students)</p> <p>Process of selecting and advertising supervisors</p> <p>Pre-JAS and JAS curricula inc. examination method</p>	<p>Application and selection of students by university committees</p> <p>Selection of students by CARTA board</p> <p>The completion of pre-JAS by PhD candidates</p> <p>Assignment of location and supervisor to student</p> <p>CARTA fellow has PhD training</p> <ul style="list-style-type: none"> • PhD research • attends the JAS • inter JAS activities <p>Reduction in administrative burdens on CARTA fellows</p> <p>Student makes use of website to develop networks and facilitate knowledge sharing</p> <p>Attendance at conferences</p>	<p>New PhDs as future research leaders and mentors</p> <p>A model doctoral programme in research with strong supervision and networking</p> <p>Diversified and enlarged research skills base for CARTA region, including networks of locally-trained internationally-recognised scholars</p> <p>Increased number of publications (submitted)</p> <p>Increased professional skills in (pass/complete JAS) among CARTA fellows</p> <p>New collaborations (e.g. grants)</p>	<p>Retained in African region in research or research-related position (preferably home institution)</p> <p>CARTA fellow produces internationally competitive research</p> <p>Increased level of funding through new grants won</p> <p>Increased number of publications (accepted)</p> <p>Engages in mentoring and teaching activities</p>

Category of effort 1: Capacity building in scientific skills and career prospects			
INPUTS: What is invested? What resources are you working with? What are your plans?	PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)	OUTPUTS: What has been produced? What are direct results? (Expected for now)	OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)
CAPACITY BUILDING AT THE LEVEL OF CARTA SUPERVISORS AND SUPERVISION PRACTICES			
<p>Qualified faculty in relevant fields from consortia institutions</p> <p>Criteria for selecting and allocation of supervisors (with students and senior/junior supervisors)</p>	<p>Processes of selecting and recruiting supervisors driven by clear and agreed on selection criteria of supervisors</p> <p>Supervisors attend initial JAS and attend workshops</p> <p>Less experienced supervisors work with more experienced supervisors as a means of strengthening mentoring capacities in the network, as well as a mechanism of quality control</p>	<p>Mentors and supervisors with enhanced skills to perform their jobs</p>	<p>Increased capacity to train and supervise PhD students</p>
INSTITUTIONAL LEVEL CAPACITY BUILDING			
<p>Appointed CARTA fellows</p>	<p>Inter-JAS activities – CARTA fellows give seminars to members of home institution</p> <p>CARTA fellows help to develop a policy-relevant research agenda and improve existing curricula in home institutions</p> <p>Networking activities of CARTA fellows contribute to institutional networks</p>	<p>Fellows are now qualified new supervisors for post-graduate courses</p> <p>CARTA fellows through their activities are contributing to policy-relevant research agendas (multi-disciplinary)</p> <p>Fellows have contributed to international visibility/reputation of institution</p> <p>Improved networks with policy, funders and academic community</p>	<p>More students are inspired to learn about and adopt CARTA model, i.e. improved 'culture of research' at an institutional level</p> <p>More funds for research at institutional levels</p> <p>Post-graduation activities – new pool of researchers, teachers and mentors for next generation (from graduated CARTA fellows) at institutional levels</p> <p>Post-graduate CARTA fellows apply for additional funds</p> <p>Post-graduate CARTA fellows increase international visibility of institution through conferences, publications</p> <p>Enhanced capacity of African institutions to lead globally competitive research and training programmes</p> <p>Creation of an attractive research environment mitigating brain drain from African institutions</p> <p>Increased influence on public and</p>

Category of effort 1: Capacity building in scientific skills and career prospects			
INPUTS: What is invested? What resources are you working with? What are your plans?	PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)	OUTPUTS: What has been produced? What are direct results? (Expected for now)	OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)
			<p>population health policy in the region</p> <p>Improved population health in the region (very long term vision)</p> <p>Institution develops and becomes and/or continues to be part of vibrant, networked research community (self-sustaining and increasing in capacity)</p>

Category of effort 2: Strengthening research governance, management and administration (RGMA) capacity			
INPUTS: What is invested? What resources are you working with? What are your plans?	PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)	OUTPUTS: What has been produced? What are direct results? (Expected for now)	OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)
STRENGTHENING RGMA CAPACITY AT THE INSTITUTIONAL LEVEL			
<p>Funding allocated for improving research governance, management and administration (RGMA)</p> <p>Consortium member faculty and administrative staff</p> <p>Course modules/curricula</p> <p>Initial research governance, management & administration structures to support activity</p> <ul style="list-style-type: none"> -Board of Management -executive directorate -university committees -CARTA patrons 	<p>Workshops and courses for faculty staff in RGMA related skills:</p> <ul style="list-style-type: none"> -e.g. supervision skills, grant writing, research management, information retrieval, efficient enrolment, monitoring and reporting procedures, etc. <p>Sharing of information about good practice in RGMA between consortium members</p>	<p>Research faculty staff, administrators and managers with new skills gained through training</p>	<p>Application of RGMA skills in institutions (i.e. administrative systems)</p> <p>Adoption and adaptation of good practice from other consortium institutions</p> <p>Strengthened, skills and commitment of faculty at African institutions to lead and manage research initiatives, with staff to support them</p> <p>More efficient research practice enabled by improved research governance, management, administration infrastructures and practices:</p> <ul style="list-style-type: none"> -consortia level -at institutional levels -that meets international standards

Category of effort 3: Improving physical and ICT infrastructure			
INPUTS: What is invested? What resources are you working with? What are your plans?	PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)	OUTPUTS: What has been produced? What are direct results? (Expected for now)	OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)
STRENGTHENING RGMA CAPACITY AT THE INDIVIDUAL LEVEL			
Funding for physical and ICT infrastructure	New software packages installed (and made use of) on CARTA fellows' laptops Use of website for networking, online information retrieval, e-publishing and e-learning etc.	Improved capacity for research among individuals due to new software Improved networking and access to information, as well as expertise	Students less isolated as a result of embeddedness in research networks Increased efficiency in research practice
STRENGTHENING RGMA CAPACITY AT THE INSTITUTIONAL LEVEL			
Initial physical and ICT infrastructure which can be tapped into by CARTA members Funding for physical and ICT infrastructure Plan for how it is to be spent per institution	Infrastructure grants to participating institutions based on needs assessment Consortium institutions improving infrastructure based on needs assessment and funds awarded	Improved infrastructure is being used by institution faculty and students to support high quality research Improved networking and collaboration efforts to make better use/share existing infrastructure in the consortium's home institutions (e.g. accessibility to existing labs and equipment)	Improved research environment through improved infrastructure - i.e. efficiency and improved communications New projects facilitated by new infrastructure (that would not have occurred without it)

Category of effort 4: Management and governance of the CARTA consortium			
INPUTS: What is invested? What resources are you working with? What are your plans?	PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)	OUTPUTS: What has been produced? What are direct results? (Expected for now)	OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)
<p>CARTA's strategic plan that will guide activities</p> <p>CARTA governance and management structure</p> <p>CARTA board of management – experience in research capacity building initiatives and fundraising</p> <p>Process to set priorities for resource-allocation among CARTA activities (selection and allocation criteria across all aspects of CARTA activity)</p> <p>Standards for co-operation (e.g. principles, terms and conditions, MOUs, policies and procedures to guide operations)</p> <p>Total CARTA funding</p> <p>Existing networks with relevant stakeholders (e.g. funders)</p>	<p>Recruit administrative and management positions e.g. finance officer, IT officer, training manager, etc.</p> <p>CARTA activities carried out to time and budget</p> <p>The effective 'running' of the consortium enabled by:</p> <ul style="list-style-type: none"> • Adherence to governance and management policies and procedures and agreements between partners • annual consortia meetings and bi-annual Board of Management meetings • Clear delegation of responsibility and coordination by specialised committees for core consortium activities (e.g. for student selection, supervision, the JAS programme, and advisory committees) • Fundraising activity by CARTA members (national, regional and international funders – for CARTA as a whole): Establishment of new funder relationships and/or improvement of existing relationships • Managing and administering funding bids • Sharing information on funding opportunities across the network <p>Presentations of the CARTA model at conferences and through other communications mechanisms</p>	<p>Effectively managed consortium</p> <p>Promotion of the CARTA model</p>	<p>Increased grant funding leveraged by CARTA members (national, regional and international funders – for CARTA as a whole)</p> <p>New donors/institutions supporting the CARTA model</p>

	January	February	March	April	May	June	July	August	September	October	November	December	Other	
2012			MLE reporting			MLE reporting			MLE reporting		Revise JAS 1 curriculum	MLE reporting	Mid-term internal evaluation (M&E)	
	<ul style="list-style-type: none"> Computers and software for Cohort 2 purchased Travel and accommodation logistics for JAS 1 (Cohort 2) finalized JAS 1 (Cohort 2) Reading list shared with fellows Final course materials for JAS 1 (Cohort 2) produced 	Copying of materials for JAS 1 (Cohort 2)	JAS 1 (Cohort 2) (Host APHRC)					<ul style="list-style-type: none"> Meeting of JAS 3 and 4 curriculum committee Revise JAS 2 curriculum 	Board Meeting/ Partners' Forum	<ul style="list-style-type: none"> Travel and accommodation logistics for JAS 2 (Cohort 2) finalized Final course materials for JAS 2 (Cohort 2) produced 	Copying of materials for JAS 2 (Cohort 2)	JAS 2 (Cohort 2) (Host Wits) - Wits to provide exact dates		
		Call for applications for Cohort 3	Pre JAS curriculum revised	University student selection (Cohort 3)	<ul style="list-style-type: none"> May 1: University to notify selected Cohort 3 applicants to apply to CARTA. Universities work with Cohort 3 applicants to identify supervisor. Cohort 3 applicants apply to university for admission. 	<ul style="list-style-type: none"> Cohort 3 prepares CARTA application (including agreement from CARTA-approved supervisor, proof of university admission) Cohort 3 begins pre-JAS 			Cohort 3 Fellows selection		Pre-JAS Cohort 3 completed			
		Board Meeting (Virtual)	MLE reporting				MLE reporting			MLE reporting		Revise JAS 1 curriculum		MLE reporting
2013			CARTA Q1 newsletter release			CARTA Q2 newsletter release			CARTA Q3 newsletter release			CARTA Q4 newsletter release	External evaluation and new WT proposal M&E	
	<ul style="list-style-type: none"> Computers and software for Cohort 3 purchased Travel and accommodation logistics for JAS 1 (Cohort 3) finalized JAS 1 (Cohort 3) Reading list shared with fellows Final course materials for JAS 1 (Cohort 3) produced 	Copying of materials for JAS 1 (Cohort 3)	JAS 1 (Cohort 3) (Host APHRC)		<ul style="list-style-type: none"> Travel and accommodation logistics for JAS 3 (Cohort 1) finalized Final course materials (JAS 3) produced (Cohort 1) 	Copying of materials for JAS 3 (Cohort 1)	JAS 3 (Cohort 1) (Host Ibadan)	Board Meeting/ Partners' Forum	<ul style="list-style-type: none"> Travel and accommodation logistics for JAS 2 (Cohort 3) finalized Final course materials for JAS 2 (Cohort 3) produced 	Copying of materials for JAS 2 (Cohort 3)	JAS 2 (Cohort 3) (Host Wits) - Wits to provide exacts			
		Call for applications for Cohort 4		University student selection (Cohort 4)	<ul style="list-style-type: none"> May 1: University to notify selected Cohort 4 applicants to apply to CARTA. Universities work with Cohort 4 applicants to identify supervisor. Cohort 4 applicants apply to university for admission. 	<ul style="list-style-type: none"> Cohort 4 prepares CARTA application (including agreement from CARTA-approved supervisor, proof of university admission) Cohort 4 begins pre-JAS 			Cohort 4 Fellows selection		Pre-JAS Cohort 4 completed			
		Call for applications for faculty and staff training programs II	MLE reporting		Faculty and staff identified for staff development training programs II	MLE reporting	Faculty and staff development training programs II			MLE reporting				MLE reporting
2014		Board Meeting (virtual)	CARTA Q1 newsletter release			CARTA Q2 newsletter release	Revise JAS 2 curriculum		CARTA Q3 newsletter release		Revise JAS 1 curriculum	CARTA Q4 newsletter release	M&E	
	<ul style="list-style-type: none"> Computers and software for Cohort 4 purchased Travel and accommodation logistics for JAS 1 (Cohort 4) finalized JAS 1 (Cohort 4) Reading list shared with fellows Final course materials for JAS 1 (Cohort 4) produced 	Copying of materials for JAS 1 (Cohort 4)	JAS 1 (Cohort 4) (Host APHRC)		<ul style="list-style-type: none"> Travel and accommodation logistics for JAS 3 (Cohort 2) finalized Final course materials (JAS 3) produced (Cohort 2) 	Copying of materials for JAS 3 (Cohort 2)	JAS 3 (Cohort 2) (Host Ibadan)		<ul style="list-style-type: none"> Travel and accommodation logistics for JAS 2 (Cohort 4) finalized Final course materials for JAS 2 (Cohort 4) produced 	Copying of materials for JAS 2 (Cohort 4)	JAS 2 (Cohort 4) (Host Wits) - Wits to provide exacts date	Cohort 1 completes		
		Copying of materials for JAS 4 (Cohort 1)	JAS 4 (Cohort 1) (Host APHRC)											
		Board Meeting (Virtual)	Revise JAS 3 curriculum											
			MLE reporting			MLE reporting			MLE reporting			MLE reporting		
			CARTA Q1 newsletter release			CARTA Q2 newsletter release	Revise JAS 2 curriculum		CARTA Q3 newsletter release		Revise JAS 4 curriculum	CARTA Q4 newsletter release		

Appendix G: JAS1 lesson plan

Week 1: 14-18 March 2011

Coordinator Week 1: Donald Cole

Facilitators: Alex Ezeh, Caroline Kabiru, Chima Izugbara, Donald Cole, Göran Bondjers, John Eyers, Makau Ngola, Ogh Alubo, Olayiwola Erinosh, Stefan Thorpenberg

Key: Activity / Lecture / Group Discussion / Clinic/Workshop (facilitator-led)

Wednesday Film Night: An Enemy of the People (George Schaefer, dir. 1978)

		MON 14th	Outcomes / Generic Skills	TUES 15th	Outcomes / Generic Skills	WED 16th	Outcomes / Generic Skills	THUR 17th	Outcomes / Generic Skills	FRI 18th	Outcomes / Generic Skills
Week 1: INTRODUCTION TO POPULATION AND PUBLIC HEALTH RESEARCH	9.00-10.30	1. Welcome - The Director of CARTA 2. Logic and rationale of CARTA 3. The 10/90 Gap Ogoh Alubo	Understanding CARTA philosophy and vision of African research capacity building. Gaining student's commitment to program.	Scholarship Values Chima Izugbara	Challenges for African universities. Inequalities of knowledge and power. Understanding the diversity of populations and infrastructure	Global Health and the role of WHO and researchers Göran Bondjers	Introduction to and critique of a primary concept used in public health discourse; understanding of how this relates to the epidemiology of disease in African countries	The Social Determinants of Health Olayiwola Erinosh	Consideration of how health outcomes are shaped by political and economic relationships within and between nations, and as an outcome of globalization	Case study: Teenage marriage in Northern Nigeria Ogoh Alubo	Ethics and values. Universal rights and local rites. Law and practice.
	11.00-12.30	Introduce facilitators. Introductions of the CARTA Fellows (pre-JAS preparation) All facilitators Organization of the JAS. Ogoh Alubo/Caroline Kabiru	Consolidates pre-JAS networking and builds cohesion. Fellows introduce each other. Getting to know each other and areas of research interests Expectations, timelines, networking, understanding roles and responsibilities	Introduction to the Research Process Ethics, RQ, A&O, Hypotheses, Methods/ Fieldwork, Writing Up Stefan Thorpenberg	Introduction to problem identification, statement, and elaboration, and the need to determine research questions before deciding on methods, population, etc.	Introduction to doing a Literature Review. Donald Cole Reviewing and analysing abstracts and papers. Focus on Title, Keywords, Abstract	Evaluating different approaches taken methodologically and theoretically Appreciation of temporal/ historical, thematic, and other factors that shape the conceptualisation and conduct of research. How to build critical thinking and engage with ideas. Determining relevance.	Introduction to Endnote: Creating Endnote Libraries Caroline Kabiru John Eyers,	Revisit HINARI and other sites from Clinic 1 and download chosen relevant papers into Endnote	Epistemology Stefan Thorpenberg	Frameworks for approaching research

	13.30-14.45	Why do a PhD? Introduce own area of research. Motivating factors to this path. Donald Cole	The appreciation of research training. Understanding the significance of a PhD and building research careers and capabilities.	13:30-14:00 Doing a PhD: Personal reflections Elizabeth Kimani	Doing a doctorate and getting to the end.	Literature Search Clinic 1: Searching of the internet. Use Endnote as required. John Eyers, Caroline Kabiru and Makau Ngola	Gain familiarity with the logic, composition and use of different search engines and databases	Literature Search Clinic 2: Introduction to HINARI and to different search engines and data bases. John Eyers, Caroline Kabiru and Makau Ngola	Differences of availability of data. Learn to use Boolean operators to enhance effective searching. Locating "grey literature" Learning to search for breadth, sensitivity, specificity.	Formulate 4-yr Personal Development Plan and long term goals. Donald Cole	Short and long term time management. Plan for activities and milestones, supervisor's time.
	15.00-16.30	Distribution of computers. Introduction to basic computer management and care. Makau Ngola	Gain skill with new computers. Help build a research social network site through building profiles on a CARTA 'Facebook.'	14:00-16:30 Ethics Workshop Donald Cole	Explore the complex ethics issues that include individuals, institutions, families and communities. Consider questions of the ownership and management of data	Formulating Hypotheses and Questions. Donald Cole & Stefan Thorpenberg	Based on literature, ideas about Research process, re-visit research plans to think harder about research hypotheses and questions.	First experiences with literature review and data management. John Eyers, Caroline Kabiru		Week 1 Reflection and Evaluation – Donald Cole Personal time and time for private study or consultation with facilitators	

Week 2: 21-25 March 2011

Key: Activity / Lecture / Group Discussion / Clinic/Workshop (facilitator-led)

Coordinator Week 2: Kathleen Kahn

Facilitators: Kathleen Kahn, Donald Cole, Göran Bondjers, Frances Griffiths

Wednesday Film Night: The Constant Gardener (Fernando Meirelles, dir. 2005)

	MON 21st	Outcomes / Generic Skills	TUES 22nd	Outcomes / Generic Skills	WED 23 rd	Outcomes / Generic Skills	THUR 24th	Outcomes / Generic Skills	FRI 25th	Outcomes / Generic Skills	
Week 2: IMPACTING POPULATION HEALTH	09.00-10.30	Epidemiological and health transitions Kathy Kahn	Familiarity with development of transitions theories. Discussion of the current transitions and their relevance to health and social systems.	Population Level Changes (Introduction to Rose's Theory) Göran Bondjers	Gain familiarity with Rose's theory, and concept of sick and health populations.	9.00-11.30 Journal Club: Presentations of critical appraisal task undertaken in pre-JAS part 2. Frances Griffiths, Kathy Kahn	Experience in critical appraisal of published research Presentation skills	Equity and Access Göran Bondjers	Appreciation of a key concept now routine in policy development, funding and prioritisation of programs	09.00-10.30 Quantitative and Qualitative methods. Alex Ezeh	Questionnaire design
	11.00-12.30	Introduction to various methodological approaches Donald Cole	Introduction to different methodological approaches and their advantages and applications.	Journal Club Critique of Rose and Critique of Critique Göran Bondjers	Further discussion of Rose's theory, its promises and limitations.	Methodology: Health and Demographic Surveillance Systems Kathy Kahn	Design, strengths and limitations of health and demographic surveillance systems.	Methodology: Mixed methods Frances Griffiths	Methodological approaches to mixed methods for data collection and analysis: benefits and challenges.	Maternal mortality study : Peer-review (individual) Prepare a presentation (group) Kathy Kahn	Experience in developing a research proposal. Scientific writing.
	13.30-14.45	13:30 – 15:00 Demography and population studies Alex Ezeh		Bradford Hill's Theory of Causality Donald Cole	Appreciate the role of quantitative approaches to interpretations related to cause.	Maternal mortality group project cont. Group work or individual writing Kathy Kahn		13:30 – 14:00 Students and supervisors Kathy Kahn	Expectations, contracts, rights and responsibilities.	Group presentations: Maternal mortality study Kathy Kahn	Presentation skills
	15.00-16.30	15:15 – 16:45 Reproductive Health Akinyinka Omigbodun		Maternal mortality group project: Design a study on maternal mortality Kathy Kahn	Conceptualise and develop research proposal	Literature Research – concentration on own studies John Eyers, Caroline Kabiru	Continue to build ENLs relevant for own studies.	14:00 – 16:30 Using ENL Selecting references relevant to own research. John Eyers, Caroline Kabiru	Practice activities: how to insert ENL references, produce footnotes and bibliography. Students explain or justify chosen ENL entries.	Week 2 Reflection and Evaluation - Kathy Kahn Personal time and time for private study or consultation with facilitators	

Week 3: 28 March-1 April 2011; 2-3 April: Supervisors Workshop

Key: Activity / Lecture / Group Discussion / Clinic/Workshop (facilitator-led)

Week 3 Coordinator: Chima Izugbara

Wednesday Film Night: Battle for Seattle (Stuart Townsend, dir. 2007)

Facilitators: L. Manderson; G.Hundt, B. Ahlberg; W. Onyango-Ouma, and C. Izugbara

		MON 28 th	Outcomes / Generic Skills	TUES 29 th	Outcomes / Generic Skills	WED 30 th	Outcomes / Generic Skills	THUR 31 st	Outcomes / Generic Skills	FRI 1 st	Outcomes / Generic Skills
Week 3: SEXUALITY AND GENDER	9:00-10:30	The field of sexuality and gender studies B. Ahlberg	Familiarity with social science approaches and contributions to gender and sexuality. .	Culture .Prevention, and Control – Global policies and local challenges : e.g FGM B. Ahlberg	Cultural values, politics and structural inequality	Sexuality, Sexual politics, and Gender W. Onyango-Ouma	Sexuality and public health. Film: <i>Gender against Men</i>	Journal Club Male circumcision: yes or no? Preparing for debate B. Ahlberg	Team work, clarification of argument	The anthropology of Health L. Manderson	Familiarity with anthropological approaches and contributions to Health and illness
	11:00-12:30	Introduction to the social sciences in public and population health. G. Hundt	Using gender and sexuality as an example, highlight the need for grounded, detailed research	Negotiating entry into the communities: Research into practice. L. Manderson	Identifying community leaders; Stakeholders and participatory research	Theories and theory building. Social sciences theories of causation e.g. What causes HIV? G. Hundt	4-5 diverse theories: e.g. Health seeking, epistemology & interpretive, paradigms and epistemic communities	Debate Male circumcision and the risk of HIV – RCT and interventions in real life ... B. Ahlberg	Pitching Academic Debates and Finding entry points	PowerPoint Essentials - A Demonstration. L. Manderson with Team Support	Gaining PowerPoint and presentation skills
	1:30-2:45	Qualitative Health Research Methods L. Manderson	Observation Interviewing Note-taking Research diary-keeping.	Practical Session 1 : Developing and preparing a 2000 word proposal on own studies. B. Ahlberg	Developing arguments and building a case: Referencing and bibliography.	Critical analysis of other Fellows' 200 word proposal B. Ahlberg	Gaining writing skills and analytic skills	Reflection on and review of own Pre-JAS (2000 word) proposal. G. Hundt	Use of personal Endnote Libraries	Week 3: Reflection and Evaluation – C. Izugbara	
	3:00-4:30	Qualitative Health Research Methods (with exercises) L. Manderson	Observation Interviewing Note-taking Research Diary-keeping.	Practical Session 2 : Developing and preparing a 2000 word proposal on own studies. B. Ahlberg	Developing arguments and building a case: Referencing and bibliography.	Critical analysis of other Fellows' 200 word proposal B. Ahlberg	Gaining from reviews and integrating comments	Reflection on and review of own Pre-JAS (2000 word) proposal G. Hundt	Use of personal Endnote Libraries		Personal time and time for private study or consultation with facilitators.

Week 4: 4-8 April 2011

Key: Activity / Lecture / Group Discussion / Clinic/Workshop (facilitator-led)

Week 4 Coordinator: Sharon Fonn

Facilitators: Sharon Fonn, Mel Bertram, Barbara Klugman

Wednesday Film Night: The World Unseen (Sharmin Sharif, dir. 2007)

Week 4: POLICY AND PUBLIC HEALTH		MON 4 th	Outcomes / Generic Skills	TUES 5 th	Outcomes / Generic Skills	WED 6 th	Outcomes / Generic Skills	THUR 7 th	Outcomes / Generic Skills	FRI 8 th
	9.00-10.30	Millennium Development Goals: An example of international prioritization. Sharon Fonn	To understand vertical health programs, international rights instruments, and the MDG approach	Understanding policy processes Barbara Klugman	Identify factors influencing policy and programme changes in diverse contexts	Public-Private Partnerships – reproductive health as an example Sharon Fonn	To understand the thinking behind public and private goods, and assess impacts on access to services, equity and quality	Developing a policy change intervention Barbara Klugman	Use a policy analysis framework to analyse factors that would facilitate or constrain a policy/programme change intervention	Review personal development plan in light of previous weeks' work.
	11.00-12.30	What is the DALY? The DALY and the Burden of Disease Mel Bertram	Understand key burden of disease concepts	Evaluating Interventions Mel Bertram	Gain a basic understanding of the role of economics in health and health care	Parallel presentations of own proposal to small group 3 groups x 2	Parallel sessions of 2 x 45 mins presentation	Parallel presentations of own proposal to small group 2 groups x 2	Parallel sessions of 2 x 45 mins presentation	Inter-JAS tasks and timelines.
	1.30-2.45	Continuation of DALY lecture: Applications Mel Bertram	To learn the basics of calculating DALYs	1.30-3.00 Parallel presentations of own proposal to small group 3 groups x 2	Parallel sessions of 2 x 45 mins presentation	Using research to inform policy and processes Barbara Klugman	Identify circumstances where research influences policy/programmes Identify how to make research useful for social change	Developing a policy change intervention ; continued Barbara Klugman	Develop plan for advocating for institutionalisation of this course in their university's masters or PhD programme.	Week 4 Reflection and Evaluation – Sharon Fonn
	3.00-4.30	Introduction to presentations 3 groups x 1	Parallel sessions of 1 x 45 mins (20 mins presentation, 20 mins discussion)	Resource allocation and policy – simulation game Sharon Fonn	To understand how resource availability and epidemiological information influence decision making	Parallel presentations of own proposal to small group 3 groups x 2	Parallel sessions of 2 x 45 mins presentation	Planning to teach at your institution Barbara Klugman	Develop a list of steps participants will take to be prepared to teach lessons at local institution	

Appendix H: CARTA narrative monitoring tool for **University Committees' reporting**

Monitoring Tool for CARTA University Committee

This tool is designed to enable CARTA University Committees to report semi annually to the CARTA Secretariat.

Category 1: Capacity Strengthening in Research Leadership and Training

15. In what ways has the CARTA program contributed to:
 - a. Improvements in the curricula at your institution?
 - b. Increased capacity of your institution to supervise PhD students?
 - c. Development of research programs at your institution?
 - d. Creation of new research governance and management skills (e.g., through CARTA staff and faculty workshops)
 - e. Research networking within your institution and between your institution and other partner institutions?

Category 2: Capacity Strengthening in Research Governance, Management and Administration (RGMA)

8. What trainings in research governance, management, and administration skills (e.g. short courses and workshops in grantsmanship, mentorship, research administration, financial management; legal skills, performance management, information search and retrieval, inter-personal skills, project management, leadership, communication) have been provided by your institution in the last six months? (Specify details of trainings; trainers, trainees, dates and modules used)
9. For staff who have benefited from CARTA trainings on RGMA, what are the outcomes of these trainings on policies and practices at the institution?

10. What key lessons from the CARTA program has your institution begun to implement?
11. What good research governance, management and administration practices exist at your institution that other CARTA institutions can learn from?
12. How is the CARTA initiative being institutionalized at the university/institute?

Category 3: Strengthening Physical and ICT Infrastructure

9. How far along has your institution come with implementing the CARTA-supported physical and ICT Infrastructure activities?
10. What can you say about the quality of work done so far?
11. What new projects have occurred at your institution, which would not have previously been possible without the new physical infrastructure?
12. Please describe any in-kind contributions made by your institution (including the University CARTA committee) for successful implementation of CARTA activities in the last six months?
13. What changes (or benefits) have been realized from implementation of the physical and ICT infrastructure?
14. What challenges have been experienced in the implementation of the physical and ICT infrastructure?

Other:

1. Is the CARTA program meeting your expectations (in terms of: research outputs; graduate teaching and supervision; quality of doctoral graduates etc) as you envisaged during the CARTA baseline survey?
2. How many private students from your institution have sought admission into the CARTA program in the last six months
3. If other supporting documentation is available, please refer to this in the responses to the questions and send supporting documents as attachments.

