Evidence Building and Synthesis Research

Effective Health Care Research Consortium

Annual Report

Implementation Year 5: 15 May 2015 to 14 May 2016

Version: 17 June 2016

effective health care
RESEARCH CONSORTIUM

UKaid
from the British people

Cover photo:

Primer In tuberculosis, organized jointly with the International Union against TB, the Indian Council of Medical Research (ICMR), McGill University, Cochrane South Asia and Cochrane Infectious Diseases in August 2015: participants and tutors.

1. PROGRAMME DESCRIPTION

Title of RPC:	Effective Health Care Research Consortium
Reference number:	PO 5242
Period covered:	Year 5: 15 May 2015 to 14 May 2016
Report authors	Paul Garner (Director), Taryn Young (Deputy Director), Prathap Tharyan (Asia Programme), Paula Waugh (Programme Manager)
Report Date	17 June 2016

This Consortium informs policy and influences change through increasing the number of evidence-informed decisions. This is to improve health and health care for the poor in low- and middle-income countries (LMICs). We synthesise relevant and reliable research, contributing to a global evidence base that enables health care to become more effective, thereby improving the health of populations, and avoiding public and providers wasting money on ineffective health care or poorly informed research questions. We strive to build the capacity of groups worldwide, equipping them with the skills and knowledge to prepare, interpret, and utilise these reviews.

The grant adds value to an existing network of researchers within Cochrane. Engaged in this Consortium are three lead research networks in Africa, South Asia, and China, and two lead global teams synthesising research in infectious diseases, and health service organization and financing, assuring effective outputs, influence, and capacity development.

The DFID investment allows considerable innovation and development of good practice. This exerts considerable leverage on Cochrane as a whole, including focusing on health priorities in LMICs, capacity development in these regions, and helping ensure uptake of research findings into policy and practice.

Cochrane reviews manage competing interests better than others. Many reviews are prepared by advocates of a topic and this often creates a spin in the synthesis and interpretation. We aim to be independent, rigorous and reliable.

Good reviews are great science and develop tomorrow's leaders. Systematic reviews help young researchers learn about rigor and give them a tangible, useful research product. Participation in the process is great training in research, understanding of evidence synthesis and advocates of the approach.

Lead and partners

Africa	Lead	Centre for Evidence-based Health Care (CEBHC) at Stellenbosch University
	Partners	Cochrane Nutrition Field, Cochrane South Africa, Cochrane Nigeria, and partners in Cameroon, Kenya
Asia	Lead	Cochrane Asia at the Christian Medical College (CMC)
	Partners	Chongqing Medical University and Fudan University (China Evidence Network)
Europe	Global lead	Liverpool School of Tropical Medicine (LSTM)[1]; Consortium Co-ordination Team, and Cochrane Infectious Diseases Group (CIDG) incorporating HIV/AIDS
	Partner	Cochrane Effective Practice and Organization of Care (EPOC) Group, Norway
South America	Partner	Cochrane Sexual Transmitted Infections Group, Colombia[2]

[1] WHO Collaborating Centre for Evidence Synthesis for Infectious and Tropical Diseases

[2] Linkage with CIDG in progress

2. OVERVIEW OF THE YEAR

The Consortium remains committed to informing policy and influencing change through its products, communication strategy and capacity development. The approach to synthesis, dissemination, influence of decision making and capacity development is strategic, made jointly between partners, and operates in both planning and monitoring at outcome level. This helps ensure we are constantly thinking how best to achieve impact, and thus gearing the outputs to maximise this.

Progress and achievements

The Consortium's outcome is related to policy and influence: to increase the number of evidence-informed decisions made by the World Health Organization (WHO) and national decision makers that benefit the poor, including women. We use a multipronged, strategic approach to ensure this, and engender thinking at outcome level across all partners. Evidence of impact has been substantial in four main areas: guideline development, challenging beliefs and practices, methods development, and capacity development.

Guideline development

One approach is to engage and work with guideline developers in WHO so we can develop reviews useful to their meetings and decision making. At regional and national level, we also seek opportunities to help guidelines groups use the most up to date, evidence informed approaches drawing on systematic reviews. This work directly meets our outcomes, and contributes to outcome indicator (OI) 1, and sometimes, when the guideline steers spending, to OI 2. In this period the following impacts have been achieved at a **global level:**

1. The Nigeria team have provided substantive leadership and contribution to the **WHO guideline on the management of health complications from female genital mutilation**, published in 2016. This clearly has a direct impact on women, potentially improving care, and indirect effects by showing the many health, social and psychological consequences of female genital mutilation (OI 1).
2. The Cochrane Infectious Diseases Group (CIDG), with authors from The Gambia and Israel, updated the iron supplementation review in malaria areas. There has been a long standing debate as to whether iron supplements do harm. Our Cochrane review has been pivotal in correcting the beliefs, and in the recent **WHO Guidelines on daily iron supplementation in infants and children** published in 2016. This review is important as it means that health workers have an unequivocal message that iron supplementation is safe in malaria areas-particularly important as these are areas where anaemia is extremely common (OI 1)
3. Karen Steingart, a CIDG editor and world leader in diagnostic test reviews, has supported two teams in producing important, complex Cochrane systematic reviews. Each review underpinned guidelines from WHO. These reviews are important in helping detect and diagnose people who also have HIV, or may have severe drug resistance. One guideline concerned the use of **lateral flow urine lipoarabinomannan assay (LF-LAM) for the diagnosis and screening of active tuberculosis in people living with HIV;** and the other, the use of **molecular line probe assay for the detection of resistance to second-line anti-tuberculosis drugs. (OI 1 & 2).**
4. The South Africa team provided several systematic reviews for the update of the **consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection** published in June 2016 and the CIDG Co-ordinating Editors were contracted as the methodologists to the operational guideline panel, providing briefing to panel members, and participating in the guideline (OI 1 & 2).
5. The WHO called a guideline panel in May 2016 related to community programmes for soil transmitted helminths. The lead author of the Cochrane review, Dr David Taylor-Robinson, presented the Cochrane review at this panel (OI 1 & 2).

In this period the following impacts have been achieved at a **national level:**

6. Kenya paediatric guidelines 2016 (update of guidelines in aspects of neonatal care), and the overall consolidated guidelines, where we have provided input over the preceding years, was published (Basic Paediatric Protocols. 4th edition: February 2016 (OI 1).
7. **Government of India. Guidelines on Extra-Pulmonary Tuberculosis for India (Index-TB).** This was an extraordinary achievement, with the Vellore and Liverpool team guiding the national process. These guidelines will be published in August 2016. This is fantastically exciting, as it is the first time that India has used current best practice in forming its own national guidelines with the GRADE approach (OI 1 & 2).
8. **Clinical practice guideline development for South African emergency care (paramedics).** Cape Town and Liverpool teams providing clear methodological advice on how to adopt other guidelines for local use (OI 1).
9. **Review of implementation of guidelines in Estonia with WHO**. This provided advice in further development of the process in the country (OI 1 & 2).

Challenging beliefs and practice

Some of our reviews challenge beliefs and practices. The subsequent dialogue sometimes helps move policies forward to be more effective and waste less money. Sometimes beliefs and conflicts are so entrenched this can take years. The three areas our work has initiated or contributed to important debates in the last year include:

10. **Deworming:** The Cochrane review of deworming, was updated and released at the same time as a replication of the large Kenya trial. This replication was carried out largely because of Cochrane questioning of the effectiveness of community deworming. The replication and the Cochrane update led to an explosion of media coverage, including Sarah Boseley in the Guardian, a feature on "more or less" on Radio 4 interviewing the lead CIDG author, David Taylor-Robinson, and an article on BBC News Magazine on-line. This also led to a special session at the neglected tropical diseases (NTD) Forum in the American Society of Tropical Medicine meeting in October 2015: Presentation at the Coalition for Operational Research on NTDs, Philadelphia; and Blogger Tom Murphy documented the "WormWars" on Storify.
11. **MVA85A:** a systematic review of animal studies evaluating the MVA85A TB Vaccine in animals was published on 8 September 2015. The controversy over the delayed publication of data where most animals in the vaccine group became so unwell they needed to be euthanized after challenge. This was tweeted by Ben Goldacre, a well-known researcher and journalist with 500,000 followers; and led to some recent correspondence by the lead authors in the International Journal of Epidemiology, a comment from an independent observer of other examples of selective reporting by this group of researchers, and responses from us. Whether this article has highlighted how selective reporting actually led to the conduct of an unnecessary trial in humans is still up for debate.
12. **Overtreatment of malaria:** Eleanor Ochodo, based at the Centre for Evidence-Based Health Care led an article, achieving universal testing for malaria which was published in the British Medical Journal in 2016. This is one contribution to the debates around implementing RDT in Africa, and has an Altmetrics score of 57, putting it in the top 5% of articles scored.

Methods leadership

The Consortium is active in various aspects of evidence synthesis methods, and application of evidence, and this helps Cochrane stay ahead of the curve. Here are three examples in the last year:

13. **Updating Guidance:** The Director of the Consortium was part of the organizing committee of a meeting to discuss policies in updating systematic reviews. This was held at McMaster University, and comprised over 30 people. Paul took forward developing guidance from this meeting into a policy document which has now been finalised, and which is due for publication in 2016.

14. **Priority setting:** The Consortium log-frame with outcomes related to policy relevance has meant that we have always prioritised reviews that are policy relevant, timely and with potential for impact. This approach is not universally applied across Cochrane, with many Groups completing author initiated reviews. However, increasing advocacy from funders in Canada, UK and elsewhere, combined with the large workload most Review Groups are facing, is leading to many other groups now adopting priority setting approaches, and the Central Editorial Unit advocating it.

15. **Evaluating non-profit organizations:** Partly as a result of the deworming controversy, Caroline Fiennes, a well-known infomediary that advises philanthropists about giving based on sound evidence, visited Liverpool and discussed evaluation of non-profit organizations. One outcome of this was an article and debate about whether non-profits should evaluate themselves, and relating this to evidence; Paul Garner responded, emphasising the need to manage conflicts of interest.

Capacity development

Authorship has been the focus of capacity development in Cochrane generally. The Consortium is leading the way in developing high level training, to allow more people in Africa required by senior editors; and upskill people in high level, sophisticated methodological skills needed for some of the larger, complex topics. This then truly moves towards editorial control within LMICs.

16. **LMIC leadership:** We have had a substantive impact on capacity development, with 39 LMIC authors publishing articles in peer review journals, and of these authors, 56% were women (see table).

	Total	**% women**
LMIC primary author/total: peer reviewed research publication	39/65 (60%)	22/39 (56%)
Cochrane authors who led a review for the first time	9	4/9 (44%)
New Cochrane editors appointed from LMIC	3	1/3 (33%)
LMCI-led/total Consortium Cochrane reviews used in WHO guidelines	8/13	5/13 (38%)

17. **Editorial and high level author training:** Last year, we reported that we had started the Learning Initiative for eXperienced authors (LIXA), that aims to teach high level Cochrane author and editorship skills to people in Africa through a community of practice. This has continued, and there have now been eleven one hour sessions, usually with 8 to 12 people participating in each session. Feedback has been positive and the content is at a high level. The aim of this training is to lead to editorial independence.

18. **Personal triumphs and external validation:** Several staff have achieved great personal triumphs. Taryn Young is about to be appointed as a full Professor, and Eleanor Ochodo won a Wellcome Trust Fellowship. Martin Meremikwu was appointed as a member of the WHO female genital mutilation guidelines panel; Prathap Tharyan is a member of the Medical Technology Assessment Board in India; Andy Oxman was named as one of the World's most influential scientific minds by Thomson Reuters in 2015.

19. **Joint management and senior capacity:** Taryn Young, with oversight of programmes in Africa, is Deputy Director. Ingrid Wilson has joined the South Africa team, moving towards responsibility for the emerging HIV portfolio. David Sinclair, joint Co-ordinating Editor, is leaving to pursue his GP career; this will leave a gap. However, a new post is being advertised, and the Centre for Evidence Based Health Care in Cape Town has just appointed an excellent clinician (Ingrid Wilson) to organize HIV reviews.

20. **Primer in evidence:** This three day course is proving popular, and delivered recently to the Essential Medicines Department in the National Government of South Africa. This has been a basis for an on-line six week course developed at the Centre for Evidence-based Health currently being piloted.

Challenges and disappointments

Challenges and disappointments are part of taking risks to move things forward, and sometimes we lose review teams, or they are unsuccessful in their products; sometimes people ignore the evidence base, because of conflicts of interest. However, Cochrane reviews are unique in that authors may continue updating the review over many years, and as such gain a knowledge of the field, the beliefs, the politics, and the literature, so can maintain a persistent presence. This can be important when the evidence and the policies do not match well.

Structure and accountability: Cochrane is a large organization and change can be challenging. Governance over many, diverse, review groups, of which CIDG is one, is not straightforward. The Consortium have been advocates for change within Cochrane. We emphasise the need for rigorous editorial procedures in all Review Groups; that groups pay attention to academic as well as commercial conflicts of interest. More recently we have been advocating for groups to give attention to professional and timely in their responses to authors.

We continue to advocate for structural change through merging of groups to give economies of scale. This is now on the agenda of the Cochrane leadership team with a substantive structure and function review underway. What is positive is that our efforts, advocacy, and feedback now have emerging structures enabling us to contribute to constructive change

Mefloquine in travellers' review: Attempts to update this review failed for a variety of reasons, and we uncovered some aspects of the discussion that were not grounded in good evidence, so we withdrew the review. A new review team has been appointed, and we anticipate a great review this year, using up to date methods, and drawing on observational studies.

Kenya: The inputs to Kenya over the years have been important. Unfortunately, Mike English is retiring, Newton Opiyo moved to Norway to work at the Oslo Centre, and Jamlick Karumbi has moved back to the Ministry of Health, so there is no longer a critical mass of staff to move this forward.

Context (update)

Nothing to report.

3. LOGFRAME OUTPUTS

OUTPUT 1: High quality, up to date Cochrane or related systematic reviews relevant to improving health outcomes in the poor

The Consortium has a wide range of partners spanning various Cochrane groups – CIDG, Effective Practice and Organisation of Care Group (EPOC), Sexually Transmitted Infections (STI), Cochrane Nigeria, Cochrane South Africa, Cochrane South Asia, and the newly formed Cochrane Nutrition field. The Cochrane philosophy is to support people to carry out reviews in the areas of their interest. For most of the Consortium, we encourage people to focus on areas of public health importance; where there is equipoise, where practice varies, and where a review may strengthen decision making.

There are some reviews related to obvious priorities or where guidelines groups may request the topics that we actively seek authors and assemble author teams. These are always in areas of priority, for example, new drugs in malaria, new tests in tuberculosis, or aspects of delivery of primary health services. We always assess whether existing reviews have been published that can help formulate the review questions. The focus on priority primary health care topics cuts across most Consortium partners, although the position of Cochrane South Asia (the Centre in Vellore) also includes secondary care by virtue of its position as a centre of excellence in postgraduate hospital training.

Consortia centres also take on specialist areas, which partners initiate and then the Consortium then encourages them to build their own specialist capacity and international reputation in these areas: Calabar has a focus on paediatric primary care; Cape Town on nutrition, HIV and TB; Liverpool focusses on malaria; India on accidents, snake bite and hospital care. The result is a wide range of reviews, which appear eclectic in nature, but are partly set by priority setting mechanisms. Whilst CIDG has always been strategic, other Consortium members and Cochrane Centres are now moving towards this.

Cochrane South Africa now recognised as leading in nutrition, and play a global coordination role with the Cochrane Nutrition Field base no at the Centre for Evidence-Based Health Care, to help develop better Cochrane reviews in nutrition.

Review management

The CIDG and Consortium actively manage author teams. We prompt them for progress, offer support, and provide regular teleconference and advice. We encourage author teams with members who have different levels of experience, and mentor junior inexperienced authors.

With HIV/AIDS, we have experienced challenges with the current portfolio. The previous editorial team had a number of reviews left at various stages of the editorial process; we appraised these and a number were rejected. Those of suitable priority and quality have now entered in to the routine CIDG management process described above, and the first few are now reaching the final stages towards publication With DFID and Cochrane Central Editorial Unit funds we have made an appointment in Cape Town and are currently making one in Liverpool to help reshape the portfolio.

	Indicator	**Target**	**Achieved end-Year 5**
1.1	New Cochrane Reviews, relevant to the content and delivery of poverty-related health programmes (1.1a on Annex 4: Outputs)	10	10
1.2	Updated Cochrane reviews, relevant to the content and delivery of poverty-related health programmes (1.1b on Annex 4: Outputs)	5	16
1.3	Qualitative reviews, scoping reviews, overviews, systematic reviews relevant to the content and delivery of poverty related programmes (1.2 on Annex 4: Outputs)	2	15

Particularly noteworthy reviews include:

Malaria	**Oral iron supplementation in children in malarial areas** was updated, and used by a WHO panel to make a recommendations: see section 6.
Tuberculosis	Cochrane Reviews related to adherence (**incentives and enablers**, and **direct observation**) were updated. These were featured in a commentary in the International Journal of Epidemiology. Cochrane review of **steroids for tuberculous meningitis** was updated. This was used by the India Guidelines Group. The analysis is much stronger and sophisticated, thanks to the inputs of author Hannah Ryan. A review of **timing of antiretroviral drugs in people with TB** was published in Annals of Internal Medicine. This is an important policy question. A study of **animal studies testing the MVA85A vaccine** was published: this was highly controversial, and raised questions about selective reporting of the animal studies t validated by a specialist in the field independent of the review.
Diagnostic	**Urine LAM assay for active TB in HIV positive adults**, used in in a WHO Guideline, was published.
Other infectious diseases	The Cochrane review of interventions to improve **water quality for preventing diarrhoea** was updated. This was a very substantive revision. New Cochrane reviews in **vector and reservoir control in leishmaniasis** and **treatment of strongyloides** (lead author from Peru) were completed. The Cochrane review of **community deworming** was updated, and a new review of deworming in people with HIV was substantially revised and updated. A review of **4th generation rapid diagnostic tests for HIV** was published, used by a WHO guideline. Cochrane Handwashing review was updated (lead from Nigeria).
Organization of care	The Cochrane reviews of pharmaceutical polices were updated A review of subsidising artemisinin-based combination therapies (ACTs) was completed. This reports on the evidence that subsidies improve uptake of ACTS in the private sector.
Reproductive health	The review of interventions to prevent unintended pregnancy was updated. A review of task shifting with delivery of contraceptives was completed.

Gender monitoring: assessment of topics completed and their impact on women

We carried out an assessment of new and updated Cochrane reviews (26 in total) published against our gender monitoring framework established in Year 1. This categorises reviews into three categories (see below).

Category	Reviews	Percentage
Topics that empower women or deal directly with gender inequity	2	7%
Topics that improve women's health	5	19%
Topics that indirectly impact on women related to their gendered role, such as improving child health	7	27%

Interaction with Cochrane Central Management Team

The CIDG interact with the Editor in Chief on a variety of policy issues, including complaints of delays in editorial processing in some groups from the Dean of Clinical Sciences at LSTM; problems encountered with adherence to good editorial practice with a Collaborative Review Group we were trying to work with; and the challenge of taking over the HIV/AIDS group. There is a good collegial relationship, and as a result of some of the initiatives from the Consortium several changes have taken place:

- The classification system piloted by CIDG in 2010, approved by the Co-ordinating Editors in 2012, is to be rolled out this year;
- Policies around conflicts of interests of editors as authors is being discussed more openly;
- Editorial processing times are now being monitored, although not being openly published;
- The Cochrane Steering Group is funding a post to help sort out the HIV/AIDS portfolio.

Outputs and the Sustainable Development Goals

We analysed all systematic reviews produced (new Cochrane reviews (n=25), updated Cochrane (n=40), and other systematic reviews (12) [indicators 1.1, 1.2, and 1.3] in relation to their relevance to the Sustainable Development Goals (SDGs). All the Cochrane reviews contributed to at least one of the SDGs; for the category, "other systematic reviews", 8 did not contribute to SDGs (methods reviews, or concerned medical education). For allocating to SDGs, we made some decision rules to help this:

Some reviews evaluate evidence of a policy in contributing to a particular SDG, but the finding of the review may demonstrate no effect. For example, community deworming is relevant to interventions related to improved nutrition, although it doesn't actually contribute to better nutrition as the review demonstrates a lack of effect. Nevertheless, this was included as contributing to SDG2.

Reviews about diseases of poverty such as HIV or TB were allocated as relevant to SDG10, as treatments and prevention in these areas will reduce inequalities.

Reviews that engaged authors actively working together across continents were included in SDG17.

From this, we found that:

Sustainable Development Goals	**Number of reviews**
1. Poverty	5[1]
2. Nutrition	5
3. Good health and wellbeing	31
4. Education	1
5. Gender equality	6
6. Water and sanitation	2
8. Economic growth	1
10. Inequality	22
17. Partnerships	17

[1] Subsidies for ACTS, handwashing to prevent diarrhoea, prevention of unintended pregnancy, community deworming and interventions to improve water quality.

Relationship to UK Aid and the national interest

A substantive part of our work is ensuring global and national public health and clinical policies are based on reliable evidence of an effect. Provided government and donors take heed of this information, this is likely to lead to **improved health outcomes** and **reduction of waste** on policies that do not work. In addition, or reviews form a basis for **prioritising research** so unnecessary research is not carried out. For example:

Water quality review: our Cochrane review highlights interventions that work well in improving water quality.

Community deworming review: our Cochrane review shows quite clearly that these programmes are not providing the benefits claimed by the advocates, and thus UK money spent on these programmes is wasted.

MVA85A animal vaccine review: our review is leading to a question as to whether the extremely expensive trials carried out in South Africa were actually justified, given the evidence of selective reporting of the experimental animal data.

In terms of the national interest, all reviews concerned with epidemic and infectious diseases are important. We are currently working extensively on tuberculosis, and are working with a larger group to incorporate issues of drug resistance in our reviews. Our reviews are relevant to travellers, and we are currently carrying out a substantive evaluation of mefloquine as a prophylaxis against malaria in travellers and soldiers.

OUTPUT 2: Accessible products for knowledge uptake

We aim to prepare high quality reviews, and then adapt and adopt them in a variety of products. Whilst this was a major part of work in the past, our philosophy over the last four years has been to get the base product – the Cochrane review – absolutely as clear as possible. We have done this by using GRADE to guide the wording of the abstract and plain language summary. We were one of the first Cochrane groups to do this.

Nevertheless, we continue to seek ways to disseminate our reviews, and we were the first to develop a "review specific dissemination checklist". The editorial team consider reviews due to be published, and consider specific actions to assure their dissemination, such as advocating an external blog and sending the reviews to influential individuals or organizations that may be interested.

We are also building communications skills and experiential learning into the capacity development portfolio across the Consortium.

We monitor, and express in our log frame, where we are approached specifically to provide something, whether this is reviews, summaries of portfolios of reviews, or training courses.

	Indicator	**Target**	**Achieved end-Year 5**
2.1	Number of new dissemination platforms identified that we can then regularly contribute to. Such as regular column in a journal, a blog that the Consortium regularly contribute to[2] (target 1; quantity 1).	1	1
2.2	Number of discrete demand projects (specific reviews, training courses, or synthetic technical products to support guidelines commissioned by national decision-makers or intermediary organisations and networks ("pull" products)[3]	2	6

[2] Log frame revised 6 January 2015: Previous log frame (7 August 2012) stated "Number of "push" summary series (on web and in journals), training and web innovations/multi-media"

[3] Logframe revised 6 January 2015: Previous log frame (7 August 2012) "Number of reviews, training or synthetic technical products commissioned by national decision-makers or intermediary organisations and networks ("pull" products)"

2.1 New dissemination platforms

The International Journal of Epidemiology series, the Cochrane Corner, had two very strong columns this year:

- Improving access to HIV treatment, related to decentralisation and task shifting.
- Dihydroartemisinin piperaquine for malaria.

A new Cochrane Corner was established in the South African Medical Journal, and three review summaries were published: Interventions to improve vaccine coverage, Motivational interviewing for smoking cessation, and Task-shifting from doctors to non-doctors for initiation and maintenance of antiretroviral therapy.

Continuing dissemination products include translation of key reviews into French with Consortium partners in the Cameroon; and a widely accessed blog in China, with summaries of reviews in pregnancy and childbirth.

2.2 Demand projects

Guidelines

Staff from India, Nigeria, South Africa, Norway and UK all were part of guidelines panels (see impact).

Reviews

We prepared reviews in preparation for guidelines at WHO (5 guidelines), in South Africa (1 guideline) and in India (1 guideline). Twelve reviews were prepared for guidelines groups.

Training

We are targeted in our training, and only provide this for specific stakeholder groups. This 3 day course is tailored to the interests of the participants. The aim is to help them understand the rationale for a systematic review; it's structure; how to appraise and interpret a systematic review. It also shows people how to use GRADE and outlines how GRADE is used in guideline development. This year we ran the primer in systematic reviews for three groups

- **In tuberculosis,** organized jointly with the International Union, the Indian Council of Medical Research (ICMR), McGill University, Cochrane South Asia and CIDG in August 2015.
- **In neglected tropical diseases**, organized as part of the DFID funded CouNTDown consortium, facilitated by Cape Town and Liverpool staff.
- **In essential medicines**, for the National Department of Health, South Africa, facilitated by Cape Town staff.

National demand projects

All partners are working on a whole variety of demand projects. For example, in South Africa, staff have been working with the chair British Dietetic Association Communications & Marketing Board and President of the Association for Dietetics in South Africa, with provision of evidence from systematic reviews on low carbohydrate diets (13 May 2015); and providing systematic review evidence to National Department of Health on diet for preventing obesity and diet for treating obesity (26 August 2015). In addition, a tailored review of evidence on thrombolysis for ST Elevation Myocardial Infarction was provided to the National Department of Health to inform the National Adult Hospital level standard treatment guideline for South Africa (July 2015). This included a systematic search and appraisal of guidelines, systematic reviews and primary studies for efficacy, safety and cost.

OUTPUT 3: Consortium partner institutions and researchers in the South have increased competence for research

We see Cochrane reviews as excellent ways of training people in the methods of research, rigor, interpretation, and project management. Each review is a research project-some of them quite large – requiring people with different skills working as a team. The process leads usually to a publication, and self-confidence and recognition from this – often because those completing a Cochrane review will know more about research synthesis than any of their colleagues in the same institution.

We also see the DFID framework with the impact and outcome measures as a strategic way to help the Consortium steer its strategy and activities to achieve impact. Thus part of the capacity development includes strategic support and mentoring of Consortium partners, and setting up of communities of learning. Whilst there is often commentary about the unique skills of the Director, in fact what is quietly going on throughout the Consortium is a building of strategic and management capacity.

So in terms of succession planning, the approach taken with helping Cape Town move to a capacity for editorial management is vital to the enterprise, and a similar approach will be developed with malaria over the coming years, to assure sustainable sharing and ultimate transfer of responsibilities.

Below, we summarise the achievements against the output indicators 3.1 to 3.3 followed by a commentary.

Indicator	Achieved
3.1	Number of institutions with a developed strategy and code of conduct to promote research integrity **Indicators of progress: all have adopted the publication policy within the Consortium, but achieving institutional codes of practice is more difficult as the researchers within the Consortium do not have institutional responsibilities.** We are working on developing this area (see below).
3.2 (editors)	**New Cochrane editors from developing countries for this period: 3** South Africa: 2 (EPOC) 1 Woman 1 Man Nigeria: 1 (CIDG) 0 Woman 1 Man
3.2 (authors)	**Cochrane review authors who are 1st authors for the 1st time: 9** India: 1 1 Woman 0 Man Israel: 1 0 Woman 1 Man Kenya: 1 0 Women 1 Man Nigeria: 1 0 Woman 1 Man Peru: 1 0 Woman 1 Man South Africa: 1 1 Woman 0 Man Spain: 1 1 Woman 0 Man USA: 2 1 Woman 1 Man
3.3	**Grants** Other external funds and internal infrastructure support means that partner in Vellore, Fudan, Cape Town, Nigeria, Cameroon and Kenya all have at least matching funds and infrastructure support contributing to evidence synthesis and uptake of evidence. Here are new external grants funded during the period.
China (Fudan):	Fudan team: £58,000, funder: UNICEF. China office to carry out the Evaluation of the Maternal and Child Health Care for Urban Migrants.
South Africa:	CAN: £100,000, funder: Cochrane. Award to the CAN's year one activities. CAN: 13,891 EUROS, funder: Commission for Research Partnerships with Developing Countries (KFPE), Switzerland. To deliver the CAN Leadership workshop in Cape Town. Health Professions Council of South Africa for Emergency Care guidelines: R200,000.
UK:	EHCRC-CIDG (Paul Garner and CIDG): US$15,000, funder: WHO (WHO Registration 2015/538186-0). Project: To update systematic review: Assessing community deworming policies in endemic areas (June to August 2015) EHCRC-CIDG (Paul Garner and CIDG): US$15,000, funder: WHO-APW (WHO Registration 2015/538186-0). Project: To update systematic review: Iron supplementation for children in malaria-endemic areas (June to August 2015) EHCRC (Paul Garner): Euro 8,115.85, funder: World Health Organization – TDR (WHO Registration 2015/529125-0). Project: Appraisal of the clinical guideline development process in Estonia (June to November 2015) EHCRC-CIDG (Paul Garner and CIDG): £72,623, funder: Cochrane (London, UK). Cochrane CRG Support Programme (HIV support for Clinical Research Fellow for 18-months) (February 2016 to October 2017)
Abbreviations: CAN = Cochrane African Network; EHCRC = Effective Health Care Research Consortium; CIDG = Cochrane Infectious Diseases Group; WHO = World Health Organization	

Research integrity

Our work in research integrity is now being led by Cape Town (Anke Rohwer) with supervision from Taryn Young, Paul Garner, and Liz Wager. This is a research project examining people's perception of research misconduct in relation to plagiarism, authorship, and conflicts of interest. This will help make people aware of the problem, and will directly feed into revisions of our Consortium Publishing Policy, that all partners are contractually obliged to acknowledge and follow.

The India partner is seen as an important figure in research integrity in India and advises government and institutions on these areas. We are also increasingly looking at policies to deal with research integrity issues

uncovered when doing systematic reviews. Policies for dealing with potentially fabricated data are being developed in partnership with the Cochrane's Editor in Chief.

Learning Initiative for eXperienced authors

This has been previously described and is important activity contributing to this output.

Gender monitoring: participation of women in the research

Gender monitoring of outputs is reported below. For meetings, we examine if women are clearly in the minority. For 40% of dissemination and capacity building events, and for 11% of guidelines committees, women are in the minority (40% or less of participants). These data, broken down by individual meeting, are being discussed with partners in the annual feedback from the Consortium Office.

Dissemination and capacity building events run by Consortium partners (see Annex 4: Outputs, section 6.3)	
Total number of participants	1147
Number of women participants	668
Percentage of women participants	58%
Number of events	18
Number of events with >40% women participants	11 (61%)

Stakeholder meetings (i.e. guidelines, committees) attended by Consortium partners (see Annex 4: Outputs, section 6.4)	
Total number of participants	790
Number of women participants	392
Percentage of women participants	50%
Number of events	24
Number of events with >40% women participants	19 (79%)

Prizes, expert panels, external recognition and staff development of Consortium partners (see Annex 4: Outputs, section 6.5)	
Total number of individuals	31
Number of women individuals	13
Percentage of women individuals	42%

Visiting fellows and trainees to CIDG (Liverpool, UK) (see Annex 4: Outputs, section 6.7)	
Total number of visiting fellows	12
Number of women visiting fellows	7
Percentage of women visiting fellows	58%

4. RESEARCH OUTPUTS IN BRIEF

Published research outputs

Indicators and definitions	N	Notes
A. Published research outputs	65	New Cochrane Reviews (10) Updated Cochrane Reviews (16) Other systematic reviews (15) Original research (24)
B. Peer reviewed publications	65	New Cochrane Reviews (10) Updated Cochrane Reviews (16) Other systematic reviews (15) Original research (24)
C. Peer reviewed publications which comply with DFID Open Access policy	43	New Cochrane Reviews (7) Updated Cochrane Reviews (9) Other systematic reviews (11) Original research (16) Note all Cochrane Reviews have green "open access"; and all reviews have immediate free access in all low-income countries
D. Peer reviewed publications with a Southern researcher as the primary author	22 women, 17 men Total 39	
E. Peer-reviewed publications explicitly addressing gender issues or women/girls	8	
F. Data sets made openly and freely available to external researchers	None	We do not own datasets with reviews. We are exploring out to put data sheets used in preparing reviews on line.

Technologies

Indicators and definitions	N	Notes
New technologies/products released or, where required, achieving regulatory approval	None	
Technologies halted during development stages	None	

5. UPTAKE / ENGAGEMENT WITH BENEFICIARIES

Cochrane South Africa	National Department of Health (DOH) South Africa in selecting essential medicines and training in systematic reviews. Regular meetings with district.
Centre for Evidence-based Health Care, Cape Town	**Buddies project** completion: two years of intensive linkage with policy makers in provincial health services in Western Cape, and in areas of Cameroon. Engaged with the paramedics and health professional council in guideline development. Working with the National Obesity Strategy Team, Celeste Naude is contributing to policy, and their guide to health meal provisioning in the workplace document.
Nigeria	Guideline development in Cross River State. Guideline formulation and development around FMG with WHO.
Cochrane India	TB Union, following the successful Primer Course, have asked for further support in carrying out policy relevant systematic reviews. This is provided by Cochrane India. Indian Council of Medical Research commissioned several reviews, with are policy relevant. Cochrane India is involved in some of these. ICMR and Ayurveda/homeopathy council are interested in reviews which Cochrane India are helping summarise. Advising Department of Health on setting up a medical technology assessment board. Faculty of Government, Vellore Medical College, to help set up institutional mechanisms to guide research. Meet every three months with the Director General ICMR, who is also Secretary of the Department of Health Research.
Cochrane Infectious Diseases Group	WHO Global Malaria Programme – regular contact. WHO HIV/AIDS Programme – regular contact. Cochrane Editorial Unit – regular contact. NIHR – regular informal contact. GIVEWELL – intermittent contact. The Guardian – intermittent contact.
Shanghai	Blogging about evidence and childbirth regularly for the public.

We have also conducted an overhaul and revamp the EHCRC website, through an internal contract within LSTM, and the Cochrane Infectious Diseases Website, through Cochrane Central Management. The Liverpool CIDG team have added some lovely features, including a series on “meet the editors”, that was highly commended by the communication specialist in Cochrane Central:

- Meet Jimee Hwang
- Meet Hasifa Bukirwa
- Meet Mical Paul

6. OUTCOMES AND IMPACTS

The Consortium made pivotal contributions to a number of guidelines:

PUBLISHED GUIDELINES

Genital mutilation

Martin Meremikwu, head of Cochrane Nigeria, was a member of the panel, and co-ordinated the production of systematic reviews and GRADE tables that were central to the guideline development. There were a total of 10 effectiveness reviews completed, with a team of authors that include four women. There were also qualitative reviews conducted by Helen Smith, previously a member of the Consortium.

A senior Guideline Co-ordinator in WHO noted that these reviews and tables were very of high quality and were extremely helpful in helping the panel make their decisions.

See WHO guideline on the management of health complications from female genital mutilation

Iron supplements

Mical Paul, editor with CIDG, co-ordinated the update of this important review, last updated in 2011. This is a large review, and the GRADE methods meant in the update there was high quality evidence that iron supplementation, in anaemic or non-anaemic children, does not cause an excess of clinical malaria. This was a pivotal finding that led to the Guideline Group recommending iron in malarial areas.

See WHO Guidelines on daily iron supplementation in infants and children

TB diagnostics

Karen Steingart, CIDG editor and author, has been instrumental in linking with WHO for priority questions in TB diagnostics; in assembling review teams; and then of managing the review process, as well as participating in the WHO guidelines Groups. Two sets of guidelines have been published, and both were based on Cochrane reviews published with us. Both guide decisions as to whether to use these expensive tests.

See WHO Policy Guidance. The use of lateral flow urine lipoarabinomannan assay (LF-LAM) for the diagnosis and screening of active tuberculosis in people living with HIV; and WHO Policy guidance: The use of molecular line probe assay for the detection of resistance to second-line anti-tuberculosis drugs

Child health

Jamlick Karumbi and Newton Opiyo prepared evidence summaries around use of oxygen, and approaches to feeding low birthweight infants. This led to guidelines that were developed by the Kenyan Paediatric Association in 2015 and released in January 2016.

HIV

Consortium partners in Cape Town (Tamara Kredo, Charles Wiysonge, Eleanor Ochodo and Taryn Young) prepared a series of diagnostic reviews used by this panel. Paul Garner and David Sinclair provided methodological advice throughout the guideline development, and PG was the methodologist on the operational guideline panel.

See WHO Consolidated guidelines on the use of antiretroviral drugs for treating and preventing infection

GUIDELINES IN PREPARATION

Clinical practice guideline development for South African emergency care (paramedics)

> The Health Professions Council of South Africa Professional Board of Emergency Care are revising emergency care protocols to the African Federation for Emergency Medicine. They are collaborating with the Consortium on a grant, and Paul Garner and Tamara Kredo are methodological advisors. This is an ongoing project.

Central TB Division, Government of India. Index-TB. Guidelines on Extra-Pulmonary Tuberculosis for India

The Consortium were pivotal in shaping the development of these guidelines to take evidence-informed, transparent GRADE approaches. Hannah Ryan, Prathap Tharyan, and Paul Garner worked with the panel. The Guidelines have been refereed, copy edited and due to be published mid-2016.

HIGHLY PUBLICISED AND DEBATED AREAS

Overtreatment of malaria

Eleanor Ochodo, a Cochrane author based at the Centre for Evidence-Based Health Care was asked by The BMJ to write about overtreatment of malaria. She asked the Liverpool team to help, as she is not a malaria specialist and her article "Achieving universal testing for malaria" was published in The BMJ in 2016, with an accompanying podcast, and featured on the cover. This work also provided an opportunity to build on an existing Cochrane review of trials examining rapid diagnostic tests versus clinical diagnosis (Odaga et al 2014).

Deworming

The Cochrane review of deworming, originally published in 2000, was probably the main impetus to lead to questioning of the findings of the large, influential study from Kenya by Miguel and Kremer. This led to a replication analysis commissioned by 3ie and carried out by the London School of Hygiene and Tropical Medicine. This replication was published in July 2015 in the International Journal of Epidemiology, along with an editorial from the Cochrane authors joined by Harshi Sachdev.

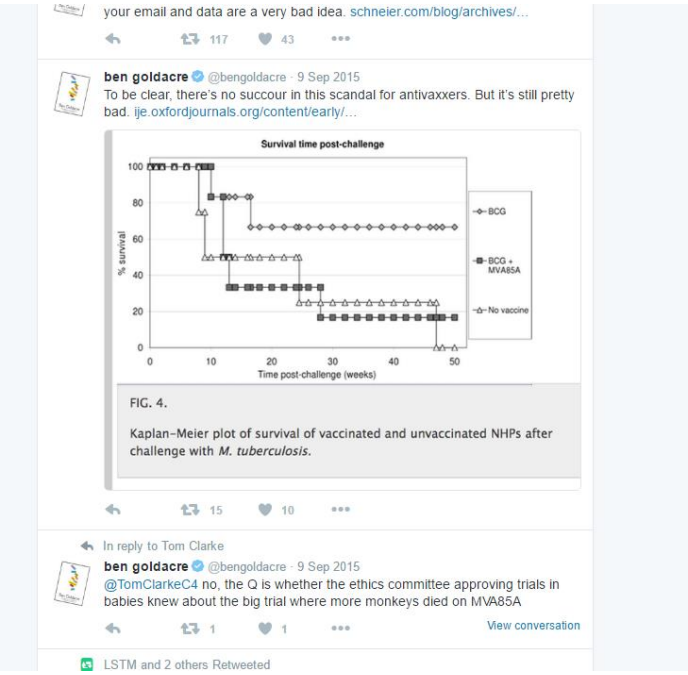
This led to an explosion of media coverage, including Sarah Boseley in the Guardian, a feature on "more or less" on Radio 4, and an article on BBC News Magazine on-line.

MVA85A

A systematic review of animal studies evaluating the MVA85A tuberculosis Vaccine in animals by Rufaro Kashangura, Emily Sena, Taryn Young and Paul Garner was published on the 8 September 2015. This showed that the effects of the vaccine in challenge studies in animals had been exaggerated, and that data on a challenge study, where 5 out of 6 monkeys died in the MVA85A vaccine group compared to 2out of 6 in the control group was not released to the public until after funding for the trial in children in South Africa

had been obtained and the trial recruitment almost complete. The controversy was picked up by Ben Goldacre (see tweets below).

The controversy still rages, with correspondence published in May 2016. This included a letter by Peter Beverley, a researcher in TB who provided other clear examples of selective reporting in relation to this vaccine. Our response was published alongside the researchers' comments.



CONTRIBUTING TO ORGANIZATIONAL CHANGE IN COCHRANE

The Consortium has advocated for change and contributed to change over many years in Cochrane, and it is a learning organization, although structures have changed little from when it was set up. The DFID sponsored series that we wrote entitled "Evidence Update", where we summarised Cochrane reviews from other groups, highlighted quality issues in the reviews which contributed to the body of evidence leading to the appointment of an Editor in Chief.

The Chief Executive in Cochrane has developed the Strategy to 2020 with senior management, there is now an impetus for structural change, and the Consortium is actively engaged in this. We think change is essential to maintain and develop the quality and relevance of reviews, which is core to people using them. Risks in relation to Cochrane and the change process are managed through our risk register.

Classification project

CIDG developed a way of classifying reviews to identify those not in need of updating. This was presented to the Co-ordinating Editors in 2012, pilot tested during 2013-14 and then incorporated into the software during 2015. It will be rolled out later in 2016.

Independent review of NIHR funding of Cochrane

We are participating in a review of value for money of the NIHR funding of Cochrane. The Programme Director is a member of the committee and the report is to be completed soon.

INDIVIDUAL ACHIEVEMENTS

Several staff have achieved high great personal triumphs, and many related to their engagement in evidence synthesis, indicating how institutions are valuing their contributions to science and development:

- Taryn Young is about to be appointed as a full Professor at the University of Stellenbosch.
- Eleanor Ochodo won a Wellcome Trust Fellowship.
- Martin Meremikwu was appointed as a member of the WHO female genital mutilation guidelines panel.
- Charles Wiysonge is a member of the Strategic Advisory Experts on Immunisation (SAGE) in WHO.
- Celeste Naude is a task team member for the SA National Department of Health Obesity Strategy.
- Jimmy Volmink received the Leverhulme Medal from the Liverpool School of Tropical Medicine.
- Prathap Tharyan is a member of the Department of Health Medical Technology Assessment Board in the Ministry of Health and Family Welfare in India.
- Qin Liu has been made a member of the China Preventive Medicine Association.
- Marty Richardson won the Sue Purnell Prize for outstanding performance in the Professional Certificate in Support Learning at LSTM.
- Andy Oxman was named on Thomson Reuter's list of the "World's most influential scientific minds" in 2015.
- Simon Lewin was appointed for a second term of the SACT for the Alliance for Health Policy and Systems Research in WHO.
- Paul Garner was rapporteur for the Essential Medicines Committee, and methodologist on the HIV/AIDS Guidelines panel.
- Celeste Naude and Solange Durao led the registration of the Cochrane Nutrition Field and will be the co-directors of the field.

GENDER ANALYSIS OF INDIVIDUAL ACHIEVEMENTS

There are 31 reports of individual achievements in Annex 4: Outputs, section 6.5, on which the above listing is based, 13 were women (42%) (see Output 3 for the full table).

7. COSTS, VALUE FOR MONEY AND MANAGEMENT

The programme is on track against financial year budgets. The forecasting has been good. Payments to partners are three times a year, based on triggers in their work plan and contracts related to outputs. Budget variations overall are small. We use performance based funding to adjust budgets with partners based on their work plan and the Consortium Office appraisal, conducted by Programme Manager and agreed with the Director; and, with Africa partners, jointly with the Africa Lead.

In these appraisals, we evaluate how outputs contribute to performance at outcome level in the log frame, and also take capacity development into account, and make a judgement on value for money. The value for money appraisal is based on:

- The total expenditure over the period;
- The relevance of the outputs to potential impacts on health and well-being of the poor;
- Evidence of an impact that is probable at outcome level, related to the reviews and other activities that the group have engaged in.

The value for money is a qualitative judgement to allow discussions, reported as "potentially high", or "on course for high value for money due to high impact", "low-needs some additional actions to improve

potential impact". So when one partner was not engaged at national level, this was commented on; or when reviews seem to be on trivial topics. It allows a discussion then with partners where remedial action may help.

The overall assessment framework at output level also provides a warning to partners where there may be an impending problem, and encourages good effective work in others who have high value for money assessments.

In terms of all other expenditure around procurement, we follow good value for money practice.

We have commented previously on value for money with contracting communications, which continues at a modest cost (less than a full time post), with regular monitoring against their service level agreement.

This was commented on in the last annual report and is progressing well, with a modest cost for a refresh of the website to something more accessible.

8. WORK PLAN AND TIMETABLE

Each partner, including CIDG, is currently completing detailed annual work plans as part of the initial contract extension agreed in September 2015. This includes number of Cochrane Reviews to be completed by partner, and details of capacity development and dissemination activities. Below we note briefly our priorities across partners. More detailed work plans can be supplied if required.

9. RISK

The Consortium level register is organized around the outcome and outputs related to the log-frame, and was reviewed and revised in February 2015. We revised the risk registers for the overall programme, and also for the CIDG partner in April 2016. This was in response to some of the problems arising within Cochrane where we need to mitigate risk.

10. MONITORING AND EVALUATION

All consortium members report outputs on an ongoing basis on our online database. This allows us to rapidly harvest outputs for annual reports, and for us to monitor progress related to our assessment of the work programmes.

We have six monthly reporting of outputs, and the Programme Manager appraises these outputs, which are then discussed with the Director and Deputy Director. Value for money is considered annually, taking into account performance at outcome level, as explained above.

11. FURTHER INFORMATION

Gender monitoring: we continue to monitor participation of consortium partners in overseas or local travel, fellowships, training opportunities, and meetings by gender. This provides feedback of softer potential discrimination in opportunities. We continue to monitor all outputs and publications by gender, and report this. This is reported here, and is also used to discuss participation and gender with partners.