THET
PARTNERSHIPS FOR GLOBAL HEALTH

‘Evidence, Effectiveness & Impact’

Abstract Booklet

THET Conference 20-21 October 2016

Review Committee

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We would like to express our sincere gratitude to all the members of the Review Committee.

Introduction

THET's annual conference 2016 'Evidence, Effectiveness and Impact' will debate how health partnerships are changing the face of development and the role that they play in response to the challenges set by the new Sustainable Development Goals (SDG). Following our call for abstracts, we received an overwhelming number of submissions from a wide range of experts in the academic, medical and global health arenas.
The abstracts feature their recent research and evaluations into health partnership work to improve health service delivery and health systems management as well as exploring the benefits and challenges of health partnership models.

This booklet contains 40 abstracts that will be presented by their authors during a series of thematic workshops at the conference, representing the incredible wealth of knowledge that exists on health partnerships across the globe; all contributing towards building evidence of the effectiveness and impact of the health partnership community.
This will be an opportunity for all attendees to engage in the debate, gain a deeper understanding of the successes and challenges of health partnerships, explore solutions together and make new connections for future collaboration.

We would to extend our special thanks to all participants who submitted abstracts and made this workshop series possible.

Sincerely,
THET Conference Committee

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DAY 1 |11:40 - 12:50

DAY 1 |14:10 - 15:20

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Advancing orthopaedic training and introducing trauma care pathways: lessons from Myanmar

Background
The management of trauma is an often neglected field in developing nations. The World Health Organization (WHO) estimates that 5.8 million deaths annually are attributable to trauma, of which 90% occur in developing countries. Mortality rates are expected to increase as these nations further urbanise, and industrialise. The Cambridge University Hospitals NHS Foundation Trust & Yangon General Hospital Partnership is a 28 month health partnership project aiming to achieve safer care in orthopaedic trauma and introducing integrated clinical pathways for major trauma, open fracture and hip fracture patients. Clinical care pathways allow multi-disciplinary decision making and integration of patient care, and are based on evidence and best practice. We aim to (1) build on the Primary Trauma Care (PTC) knowledge that front-line staff have received by focussing on the management of orthopaedic trauma; and (2) introduce clinical care pathways adapted to existing resources.

Methods
We designed and delivered a series of structured courses to a range of healthcare providers who deal with orthopaedic trauma. This included surgeons (ranging from trainees to consultant-level), nurses and anaesthetists/intensivists. Training was delivered via a mixture of lectures, small group discussions and practical sessions, and all courses were delivered by a multi-disciplinary faculty. Prior to the courses, we administered questionnaires to determine the delegates' experience of orthopaedic trauma patients and their knowledge/confidence in various aspects of trauma management. Further post-course questionnaires were administered to assess development in knowledge and practice, in particular looking at adherence to the care pathways. We also regularly audit the adherence to locally developed care pathways in Yangon General Hospital.

Findings
Pre- and post-course questionnaires were collected from 253 participants (171 medical; 82 nursing). Following the courses, delegates reported a significant improvement in knowledge/confidence in trauma management, irrespective of job roles. An initial constraint to the introduction of care pathways was a cultural aversion that arises at least in part from the implication that pathways require multidisciplinary teamwork, which may prejudice medical autonomy. Other constraints included lack of encouragement by external parties, with limited financial support for pathway development and implementation that did not reward care providers who use pathways.

Conclusions
Further follow-up is needed to establish the long-term impact of our training courses in this region and regular refresher training will be required. Care pathways need supporting mechanisms to underpin their implementation and ensure their adoption in practice, particularly when their use represents a significant change in organisational culture.

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Developing palliative care practice: the importance of clinical modelling

Introduction
Scaling up palliative care (PC) requires the development of health care workers (HCW) with knowledge, skills, attitudes and values to effect health system change. Senior managers or leaders need to be fully engaged. The University of Edinburgh and Makerere Palliative Care Unit (MPCU), Uganda partnered with the Ministry of Health through the Rwanda Biomedical Centre (RBC) to support an integrated health system strengthening approach for PC development though a HPS grant from THET via DFID (2012 to 2014 phase 1, 2015-2017 phase 2). We present evidence for the role of clinical modelling in building capacity and changing practise.

Methods
Capacity building in Rwanda trained different cadres of HCW at basic, intermediate and specialist levels for PC. Colleagues from 4 referral hospitals were offered a clinical placement in MPCU, Uganda to observe a model of integrated practice and to meet key stakeholders. Learning was supported in Rwanda by mentorship, support and supervision from national, regional and UK experts. Centres of excellence for clinical modelling were fostered within Rwanda. A quantitative and qualitative evaluation was undertaken as part of the whole HPS project.

Results
13 HCW travelled to Uganda for clinical placement within MPCU, including medical directors of the 2 national referral hospitals. 203 HCW received training, 8 at specialist level. Clinical placement guidelines were developed and training in mentorship and supervision provided by 28 regional and international mentors. 4 hospitals integrated PC models and 3 centres of excellence for clinical modelling were fostered and mentored in Phase 1 and a further 1 centre in Phase 2. Participants reported the critical impact of observing practice, networking and then receiving mentorship in their place of work. Key themes included challenging attitudes, sharing good practise, building relationships, meeting opinion leaders, demonstrating the impact of PC, understanding the use of oral morphine and one-to-one mentorship in practice.

Discussion
Clinical modelling is an essential component of PC capacity building as it allows for deeper learning and allows values and attitudes to change and grow and in turn effect behaviour change. Development of national centres for clinical modelling allows for sustainability and scale up with national clinical leadership and on-going partnerships.

Recommendations
Changing practise requires observing and participating in practice based learning. Opportunities to train should include clinical modelling and reflective observation. Mentorship models offer context relevant development and change in practice. Rich partnerships are the outcome as this transformational behaviour change leads to mutual learning.

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Integrating palliative care into national health systems in Africa: a multi-country partnership programme

Introduction
Few models exist on how to achieve sustained integration of palliative care (PC) in low- income countries health systems. A DFID/THET funded programme set out to provide a blue print for integration. The programme was delivered through a partnership between University of Edinburgh, Makerere Palliative Care Unit and African Palliative Care Association, working with the National Associations of Zambia, Uganda and Kenya and the Government of Rwanda.

Results
The programme was implemented in 12 government hospitals, 3 each in Kenya, Rwanda, Uganda and Zambia using a four-pillared approach of advocacy, staff training, service delivery and partnership working. By the end of 3 years over 218 substantial advocacy activities were undertaken with 4,153 community members attending awareness training. A critical mass of 781 staff were trained with the skills and resources to cascade PC through their hospitals and facilities into the community. From 6 hospitals where morphine was erratically available at the beginning of the programme all 12 hospitals were systematically using morphine at the end, supply chains improved and prescribing increased by a factor of 2.4. The number of patients identified for palliative care rose from 1,228 in 2012 to 3,341 in 2014 (increase of 270%), with over 6,500 benefiting from services.

Evidence into Action
The success was not simply in the figures but in the system that was tested, and the approach that was used which not only embedded palliative care into the health system but penetrated the health system with the values of palliative care. Staff noted that it was these values which began to enable a more caring, compassionate service. Results showed that integration required simultaneously investing in advocacy at all levels from government to community; intensive and wide-ranging training across all cadres and disciplines to develop a critical mass; a set of core services available in all wards, and clinics supported by essential medicines; and investment in partnerships between hospital, district and community, and between international and national mentors and local staff. Integration was successfully achieved when palliative care was normalised and shared as everyone's responsibility rather than siloed. To create the space for such a shared approach, cadre specific training alongside generalist training was necessary. Clinical placements and mentoring were invaluable in improving staff confidence and competency. Staff spoke of a renewed sense of values, a shift from fear to motivation, and a knowledge base that went beyond clinical care to caring for the holistic needs of patients and each other.

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Understanding the active ingredients in health partnership education & training: developing a coding framework for behaviour change techniques

The purpose of health professional training is often to change practice. Practice is a set of complex behaviours. Therefore, understanding what drives practice can be assisted by understanding what drives behaviour per se. Training is typically developed from educational theories and the outcomes of training assessed by change in knowledge and skills (capability) and sometimes change in practice. Behavioural science tells us that, in addition to knowledge and skills, people require opportunity and motivation to change behaviours.

Educators do focus on concepts other than capability in their education. For example, many continuing professional development (CPD) activities will begin with a clinical case illustrating the need for change. Some activities will involve reflection, in which trainees will be asked to think about barriers to adopting the new practices. These techniques are, however, not systematically described and therefore it is difficult to make comparisons across different types of intervention or to replicate successful courses.

A large body of theory and evidence has arisen from implementation and behavioural science: exploring which techniques can be used to change behaviour. Part of this work has been to collate the many behaviour change techniques into a taxonomy of 93 techniques in 16 categories (Michie et al, 2013). Learning to code techniques according to the taxonomy is difficult and time consuming and the taxonomy has so far been used as a research tool by behavioural scientists.

We are currently piloting a coding framework as part of our THET Change Exchange project. Our volunteers are coding the training they observe. We will use the results of this and some work ongoing in the UK to refine a coding framework that can be used by health partnerships to understand the active ingredients of existing education & training, but also for support when developing new training.

References

Michie S, Richardson M, Johnston M, et al (2013). The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: Building an international consensus for the reporting of behavior change interventions. Ann Behav Med;46(1):81–95.

Martin Becker, Hinchingbrooke Hospital, Huntingdon, UK
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Can medical students in Rwanda recall the knowledge and skills they learnt in a paediatric life support course 3 to 9 months later?

Background
ETAT+ (Emergency Triage, Assessment and Treatment plus Admission) is a 5-day course covering the recognition of sick children and initial management of the 10 commonest causes of hospital admission of children in East Africa. The course is designed for hospital staff, but immediately after qualification, doctors are allocated to work in district hospitals, where clinical duties usually prevent attending a 5-day course. We therefore undertook to train all medical students in their final year in a Royal College of Paediatrics and Child Health-Rwanda health partnership.

Methods
Over one academic year (2011-2012), 91 medical students attended one of four courses. They took a knowledge test (multiple choice questions) at the start of the course. After the course, the same test was taken and two clinical skills scenarios were also assessed, using standardised criteria. Candidates had to retake the scenario if they did not pass all the criteria and failed if they did not pass all the criteria on retesting. At the end of the academic year, 3-9 months later, 81 students were re-evaluated. Their knowledge and clinical skills were re-assessed with the same knowledge and clinical skills tests.

Results
The median score of the knowledge test at the start of the course (pre-course) was 47% (inter-quartile range 35,65), at the end of the course (post-course) was considerably better at 71% (inter-quartile range 63, 75). There was a statistically significant rise in performance (Wilcoxon matched-pairs signed rank test $p<0.0001$). On retesting 3-9 months later, MCQ results were similar to post-course 67%, (inter-quartile range 52. 75). This was not significantly different from the post-course performance.
For the clinical skills, 95% passed at the end of the course, on retesting 76% passed. (Tuyisenge L et al. Arch Dis Child 2014;99:993-7).

Conclusions
The medical students performed well on evaluation immediately after the full ETAT+ course, with a marked improvement in knowledge and a 95% pass rate for clinical skills. On re-evaluation 3-9 months later they retained their knowledge but there was a decline in clinical skills, although most passed. Failure was usually because the exact details could not be recalled. They were clearly able to acquire the knowledge and clinical skills taught on the course, but refresher courses are required to maintain clinical skills. Teaching all medical students rather than just staff in hospital paediatric departments has the advantage that all doctors treating sick children will have received training.

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Sarada Murthy, Berkshire Heathcare NHS Foundation Trust, UK
Sammy Kilonzo, Nanyuki Teaching and Referral Hospital, Rift Valley, Kenya

Improving neonatal hypothermia at a Kenyan district hospital

Introduction
Hypothermia contributes significantly to neonatal morbidity. 'Cold stress' worsens respiratory distress and is associated with increased neonatal mortality. Newborns cannot regulate their temperature well or tolerate a cold environment, as they lose heat easily (WHO: Thermal Protection of the Newborn, 1997).

Methodology
An audit of admission temperatures of newborns admitted to the neonatal unit at Nanyuki Referral and Teaching Hospital was performed. Gestation, birth weight, mode and place of delivery and time to admission to the neonatal unit was reviewed to see if a pattern could be identified. Data was collected retrospectively over a 2-month period in August and September 2015.

Initial results
A total of 50 case notes were examined. The babies collected ranged in gestation from 30-42 weeks, and had been delivered in labour ward, obstetric theatre, a peripheral facility and at home.
A third (34%) of the babies were mildly hypothermic (36-36.5C) and 28% moderately hypothermic (32-35.9C) on admission. The moderately hypothermic babies tended to be of an earlier gestation and lower birth weight. There was no difference in the rate of hypothermia between babies born by caesarean section (60% with mild or moderate hypothermia) and those born by spontaneous vaginal delivery (62%).

Intervention
The results were presented to the paediatric and maternity staff in early February 2016. It was noted that there was a delay in calling a paediatrician to deliveries where the baby requires admission resulting in a delay in admission which may contribute to their temperature falling immediately after birth (particularly in premature or low birth weight infants). Awareness was raised through teaching the importance of the 'warm chain' and posters were displayed in the delivery room and obstetric theatre. A thermometer was requested to monitor the delivery room's temperature but this has not yet arrived. A heater is already available.

Re-audit
Preliminary results of re-audit in the period Mar-Jun 2016 (ongoing- total number to date =44) indicate that the number of babies with mild hypothermia has not changed (34%), but that the number of babies admitted with moderate hypothermia has decreased from 28% to 11%. Further data is being collected and will be analysed for association with location of delivery, birth weight and gestation.

Conclusions
Early results suggest that a positive impact has been made with simple educational measures. Further intervention is required to reduce the number of babies with mild hypothermia on admission.

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SAFE Paediatric Anaesthesia course in Uganda: three-month follow-up

Background
In Uganda, 51.7% of the population are <15 years.[1] The annual surgical rate for children <14 years is 180/100,000.[2] Most anaesthesia provision is by Anaesthetic Officers (AOs), and there is no formal training in paediatric anaesthesia.

The SAFE (Safer Anaesthesia From Education) course was developed to address training needs of AOs (http://www.aagbi.org/international/safer-anaesthesia-from-education). The course provides refresher training for AOs to increase their skills and confidence in managing paediatric anaesthesia and critical care.

The first SAFE paediatric anaesthesia pilot was held in Masaka in July 2014, with a second course in January 2015. Candidates were followed up at three-months; the follow-up from the second pilot course is presented here.

Aims:
- Assess knowledge and skills retention at three-months post-training
- Reinforce key learning points
- Gather longer-term feedback from the candidates to inform future courses

Methods
Ethics permission was obtained from Mbarara University of Science and Technology. Following completion of training, candidates were randomly chosen for 3-month follow-up assessment and mentorship support in their place of work and provided with a logbook.

Assessment consisted of:
- Structured interview
- Theatre book review
- Logbook review
- Repeat skills station
- Repeat 50 questions (MCQ) test

Thirty-three AOs from 25 health facilities were followed-up at 3-months.
The results of the structured interviews with the AOs were as follows:

Increased confidence in:	Strongly agree No. (%)	Agree No. (%)	Neither agree or disagree No. (%)	Disagree No. (%)	Strongly disagree No. (%)
Neonatal resuscitation	29 (88%)	2 (6%)	2 (6%)	0 (0%)	0 (0%)

Increased confidence in:	Strongly agree No. (%)	Agree No. (%)	Neither agree or disagree No. (%)	Disagree No. (%)	Strongly disagree No. (%)
Paediatric general anaesthesia	17 (52%)	15 (45%)	1 (3%)	0 (0%)	0 (0%)
Pain management	16 (48%)	15 (45%)	2 (6%)	0 (0%)	0 (0%)
Sick laparatomy	14 (42%)	11 (33%)	7 (21%)	1 (3%)	0 (0%)
Trauma/burns	11 (33%)	14 (42%)	7 (21%)	1 (3%)	0 (0%)

The MCQ and skills stations showed sustained increase in knowledge from baseline:

	Pre-course score (%)	Post-course score (%)	Follow up score (%)	Difference pre to follow up (%)
Skill station	5.1 (51%)	7.7. (77%)	7.8 (78%)	2.2 (22%)
MCQ	35 (70%)	44 (88%)	42.2 (84%)	7.0 (14%)

31/33 AOs agreed with the statement 'the SAFE paediatric anaesthesia course has helped me to save a life'.

Discussion

Follow-up of the SAFE Paediatric course across Uganda demonstrates a sustained increase in knowledge and skills from baseline to retest three-months post course. Candidates reported increased confidence in clinical care.

References

1. Uganda Bureau of Statistics. (2012). Uganda Demographic and Health Survey 2011. Kampala, Uganda.
2. Walker IA. Obua A, Mouton F et al. Paediatric Surgery and Anaesthesia in South West Uganda: a cross sectional survey. Bull World Health Organ 2010 88: 897-906.

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From Yorkshire to Kenya: sustainable improvement in paediatric and neonatal care at a rural Kenyan Hospital

Introduction

The Royal College of Paediatrics and Child Health's (RCPCH) Global Links (GL) Programme, has worked in collaboration with the Kenyan Paediatric Association (KPA) since 2012, supported and funded by the Tropical Health and Education Trust (THET). As part of this alliance, paediatric trainees exclusively from the Yorkshire and Humber Deanery have had a three year partnership working at the Presbyterian Churches of East Africa (PCEA) Chogoria Hospital in rural Kenya. The programme's aim is to develop and implement teaching, training and quality improvement projects to provide sustainable improvement and benefits to the local hospital and workforce.

Methods

From 2013 to 2016, paediatric trainees undertook 6-month placements at Chogoria Hospital. The area of care most focused upon was neonatal care; in particular emphasising compliance to hand hygiene, thermal care, and subsequent introduction of neonatal CPAP (continued positive pressure ventilation). In addition, paediatric care has been developed by introducing regular training in ETAT (Emergency Treatment, Assessment and Triage), and the recording and evaluation of inpatient nutritional status.
Most recently, work has been on improving the standards of assessment and documentation on the Paediatric ward to ensure that children are being treated appropriately according to the Kenyan Basic Paediatric Protocols.

Results

In the Newborn Unit monthly average mortality rate has fallen from 35% (September 2013) to 5% (April 2016), whilst admissions have increased over the same period from an average of 11 to 17 per month. Total number of mortalities has reduced from an average of 4.5 to 1 per month. Compliance to hand hygiene has improved from 66% to 93.7% between December 2013 and December 2015.
In Paediatrics, documentation of admission weight has increased from 76% (July 2014) to 94% (February 2016), whilst documentation of malnutrition status markedly improved from 0% to 55% over the same period.

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Strengthening occupational health systems for health workers through implementation of a prevention-oriented health information system: criteria for effective technology transfer in a Canadian – South African partnership

Background
Although information systems (IS) have been widely applied in the health sector worldwide, albeit with limited effectiveness, few health sector management system initiatives have addressed the health and safety of health workers (a group acknowledged to be at high risk of injury and illness, as well as in great shortage globally).

Methods
Adapting a context-mechanism-outcome case study design, we analyse our team's experience over two decades to address this gap: in two different Canadian provinces; and two distinct South African settings (following invitation to adapt an IS to high need circumstances). Attention is given to technology transfer, an area marked by widespread failure in North-South collaborations. Applying a realist analysis within an adapted structuration theory framing sensitive to power relations, we explore contextual (socio-political and technological) characteristics and mechanisms affecting outcomes at micro, meso and macro levels.

Results
Technological limitations hindered IS usefulness in the initial Canadian locale, while staffing inadequacies amid power imbalances restricted effectiveness in the subsequent Canadian application. Implementation in South Africa highlighted the special care needed to address power dynamics regarding both worker-employer relations (relevant to all occupational health settings) and North–South imbalances (common to all international interactions). Following limited success in the initial implementation hospital sites in a resource stressed provincial health department, successful transfer was achieved in South Africa's National Health Laboratory Services. This was the result of the presence of technical IS core capacities and commitments to maintain systems and management commitment. Success has been observed through patterns of use (incident investigation, hazard assessment, workforce health) of the system and the development of new modules to meet additional management needs (e.g. waste management, audits). With the IS now based in South Africa and the partnership continued, application of the IS in provincial health department facilities is presently underway and implementation in other southern African settings is being prepared.

Conclusions
There is worldwide consensus on the need for IS use to protect the health workforce. However, IS implementation is a resource-intensive undertaking; systematic application of a realist analysis reveals that regardless of how carefully designed the software, contextual factors and the mechanisms adopted to address these are critical to mitigate threats and achieve outcomes of interest to all parties. Issues specific to IS development, including technological support and software licensing models, can also affect outcome and sustainability – especially in the North–South context. Careful attention must be given to power.

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Reluctant, but necessary partner: lessons from a North-South partnership

Background
Penny Wilson, Head of Community Affairs, University of Cambridge gave 10 top tips for working in partnership. Tip number four states "Don't get into bed with a partner just to attract funding. It isn't worth the hassle." This paper is a reflection by the UK partners in a three way THET collaboration aimed at strengthening systems necessary for improving patients' safety and quality of health care in tertiary hospitals in northern Nigeria. The paper looked at how readiness for partnership working impacted the progress towards achieving project goals.

Methods
This is a comparative analysis of visit notes to the two hospitals by three experienced NHS clinicians and a health systems specialist from the University of Sheffield using the Partnership Monitoring Tool (WWF 2000).

Results and Discussion
Results in at least 4 of the 8 domains of the Partnership Monitoring Tool were assessed to be poorer in the reluctant but necessary partner hospital compared to the willing but at first ineligible partner. The four areas that were thought to be poor included:

- Clearly articulated and agreed goals
- Transparency of decision-making
- Roles and relationships clearly agreed and stated
- Agreed indicators to evaluate results.

There were no agreed differences in the other four:
- Willingness to work to a set of shared values
- A commitment to work to set of shared values
- Mutual respect
- Mutual trust.

Over all this has slowed down progress in one arm of the partnership and contrast with steady progress on the other arm. The second southern partner is ready in all these areas and is reaching out for these types of partnership but would not have met the eligibility criteria for support under the funding guidelines for the partnership. Another important lesson from this exercise is that funding requirements should not make it necessary to include a reluctant partner in other to be eligible.

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Do international health partnerships contribute to reverse innovation? A mixed-methods study of THET-supported partnerships

Background
The global narrative around international health partnerships (IHPs) is changing. Increasingly, there is an emphasis on bi-directional learning for both high- and low/middle-income partners, backed by THET. Hitherto, IHP benefits to UK partners have centred on benefits to individual volunteers, through personal and professional development. We sought to evaluate whether mutual benefit also takes the shape of 'reverse innovation' – transit of care models, procedures, or technologies conceived in a lower-income setting to a higher-income setting.

Methods
We took a mixed methods approach.

a) Survey
An initial scoping survey was sent to all UK leads of THET partnerships, exploring the structures and processes of partnerships, their objectives, and tangible examples of innovative practice observed in the low- and middle-income countries (LMIC).

b) Interviews
Using survey respondents as a sampling frame, we conducted, transcribed and analysed through an inductive thematic analysis approach, semi-structured interviews lasting between 30-60 minutes, on 12 IHP leads. Topics focussed around experiences and attitudes to learning from the LMIC, particularly reverse innovation. Transcripts were coded horizontally and vertically to generate insights into shared experiences and narratives between the informants.

Results

a) Survey
We obtained 31 responses (27% of viable contacts). Findings indicated that although emphasis lay on supporting partners (24 strongly agreed) rather than learning about innovations (only 4 strongly agreed), more than half of respondents reported observing innovative practice in the LMIC. Examples included use of mosquito netting for hernia mesh repairs and integrated mental health referrals. Only 7 respondents reported attempts to share this innovative practice back in the NHS.

b) Interviews
Themes were developed inductively from data, focusing primarily around conceptualisations of learning from LMIC partners, and high-income countries-LMIC partner power dynamics. In particular, there were tensions between expressed intention for reciprocity in partnerships and their functioning in reality. There is a pervasive "West is Best' narrative that underpins the IHPs, drives the learning direction, and weakens the potential for innovative care models from LMICs to be seen as learning opportunities for the NHS.

Discussion
Given increasing examples of innovative care models developed by LMICs, opportunities exist for HICs to benefit directly from IHPs. For learning to occur, it is paramount to remain open-minded about where such learning can come from. IHPs would benefit from explicit pre- and post-visit briefings regarding potential for NHS adoption of LMIC innovations, and a more equitable and multidisciplinary approach, including involvement of senior NHS managers to facilitate UK adoption of LMIC innovations.

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The benefits and costs to the Irish health service of health partnerships with low- and middle-income countries

Background
Health partnerships have the potential to strengthen health systems and build capacity in low and middle income countries (LMIC) and have also been recognised as having benefits for the higher income partner. Benefits for the higher-income partner include stimulation of innovation, creative problem-solving, decentralisation of management, and skills substitution. Unlike in the UK, support for global health partnerships from Irish state institutions has not yet been formalised. At a time of economic challenges, if Irish health service institutions are to be involved in partnerships, the cost and benefits to the Irish health service should be clear.
The aim of this study was to establish the benefits and costs to the Irish health service of participating in health partnerships with LMIC.

Methods
Twelve healthcare workers involved in healthcare partnerships were interviewed using a semi-structured questionnaire. Transcribed recorded interviews were uploaded onto Nvivo 10 analytical software. Thematic analysis was carried out using grounded theory to identify dominant themes. The participants interviewed were involved in nine different partnerships or links. Four were involved in formal partnerships. The remainder (n=8) were involved in informal links. Two participants worked in general practice, one in public health, one in an academic college and the remaining eight in hospitals.

Results
Benefits to individuals and institutions included development of clinical, teaching, leadership and management skills as well as building resilience and confidence in the staff involved. Motivation of staff and better team-work were identified as benefits as was reputational benefit for the institution. Costs were primarily to the individuals involved: personal time e.g. annual leave being used for partnership work and a lack of recognition of the work done by colleagues or managers. Staff involved in formal partnerships felt supported by their institution. While depletion of the service in the Irish institution as a result of travel to the LMIC was a concern, this was not a reality; staff involved in partnerships used their own time such as study and/or annual leave for travel related to the work of the partnership.

Conclusions
Health partnerships have the potential to bring numerous benefits to the high-income country institution. Costs are primarily to the individual, and relate to the personal time used for partnership work. Involvement in a formal partnership leads to better institutional support for staff involved in the partnership. Few if any costs to the institution could be identified. Irish state institutions should support health partnerships with LMIC.

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Initial findings from a feasibility study to evaluate the impact of postural support, constructed via appropriate paper-based technology (APT), on the participation and quality of life of young children with Cerebral Palsy in Kenya.

The World Health Organization notes a lack of assistive devices for disabled people in Africa particularly children with Cerebral Palsy. Second-hand equipment from developed countries is not sustainable and may be unsuitable for the individual child. APT using recycled cardboard for chairs and standing frames has been used for thirty years, but not formally evaluated.

The Primary aim was to find out if APT assistive devices could improve the quality of life and participation of children with cerebral palsy in rural Kenya. The secondary aim was to see if APT devices are acceptable to children, families and their communities.

The research proposal was developed following the introduction of APT through a Health Link where challenges to sustainability led to links with another Kenyan centre with more experience of APT device use. Twelve children aged nine months to seven years were assessed for gross motor function, range of movement, quality of life and participation, and measured for their own APT device. The completed devices were issued with usage instructions and a recording booklet to document time used and positive and negative effects. Home visits, repeat assessments and interviews after six months concludes the data collection.

Eight supportive chairs and four standing frames were issued. All children had spasticity but full ranges of movements except the oldest boy who had a dislocated hip and restriction of hip and knee movements – a reclining chair was made for him to maximise posture and comfort. Too few children were in the age group for the chosen quality of life (QOL) measure so only qualitative measures of QOL of life were obtained. The family impact of assistive technology scale (FIATS-AS) total score for two of four families who have completed the study significantly increased after 6-month device use with a meaningful positive impact on child and family life, the other two families increase in score was not significant. Three of the four families who have completed the study filled in their logbooks well showing regular device use. Caregiver interviews produced positive descriptions about increased participation and quality of life. Six children recruited in April 2016 will soon be re-evaluated and the first four visited one year after their recruitment. It is feasible to provide and study the effects of APT devices on young children with Cerebral Palsy in rural Kenya. A larger, multi-centre study is needed to demonstrate significant benefits and other factors needed to support more widespread implementation.

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E-Quality: a mentoring programme from the UK to support and evaluate implementation of education interventions to improve primary care clinician behaviours in low, middle and high income countries

The prevalence of chronic respiratory diseases (CRD) means that universal coverage and equitable access to care is needed, and primary care strengthening is an essential part of this. The International Primary Care Respiratory Group (IPCRG) is a global primary care respiratory network of member countries and individuals that has developed an education strategy[1] incorporating Sustainable Development Goal 3. It sets out core educational principles including: everyone has something to teach and something to learn; working locally and collaborating globally; a focus on adult teaching and learning for improvement in healthcare settings.

E-Quality is the IPCRG's flagship educational programme, building capacity of its network/ member countries and evaluating impact. Based on a published scoping exercise and literature review of educational interventions that support clinical behaviour change and contribute to improved health outcomes[2], we developed criteria for the IPCRG E-Quality awards. These provide mentoring support and seed funding for small-scale educational projects in member countries. The aim of the awards is to stimulate development and evaluation of national educational interventions designed to improve health outcomes by improving primary care management of respiratory conditions. We invite applicants to describe their healthcare context, proposed educational initiative, potential barriers to successful implementation, and planned evaluation. Robust evaluation of changed clinician behaviour and/or impact on health outcomes, although complex, is a critical component of the programme. Since its inception in 2011 seven countries have participated.

What are the results at programme level?
Formal evidence includes reporting, publications and conference presentations. Informal evidence includes improved relationships, networking and partnership development – thereby enabling collaboration for new projects/ grant applications. Through this complex picture, insights have been gained about the importance of adaptation to local contexts; real world barriers to implementation: financial incentives and differences in health systems (Australia), political context (east Africa); paradigm tensions between research and education mindsets (India); the stage of health systems development and the necessity of strong leadership in local systems (all).

What are the results at national level?
There is evidence of engagement and participation through traditional forms of short-term educational evaluation (participant reaction) and improved subject specialist knowledge (questionnaires). Projects have evaluated impact on prescribing practice (India), referral rates (Brazil), and use of diagnostic procedures (Australia); whilst success has been variable, all have provided valuable generalisable insights into delivering and evaluating educational interventions .

Support from the IPCRG education facilitator and partnership working with IPCRG colleagues has been essential to facilitate discussion and thinking about effective evaluation.

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Tackling global medical education inequality through e-learning: benefits & challenges

Introduction

There is a global shortage of healthcare educators resulting from a lack of adequate training[1]. Traditional modes of education are limited by shortages of teachers and resources. E-learning, combining self-directed, knowledge-based learning and hands-on, skills-based training, could help tackle the shortfall[2]. Educational theory strongly supports the idea that interactive, multimedia learning environments can enhance knowledge acquisition[3]. This can be done in a scalable fashion, breaking down geographical and temporal barriers[2].

One scheme that seeks to disseminate healthcare knowledge to resource-poor regions through health partnership is Medicine Africa. UK-based tutors, from medical and nursing backgrounds, deliver online tutorials on a range of topics to medical undergraduates in Somaliland. We conducted a study to explore the benefits and challenges tutors experience in its delivery.

Methods

An online questionnaire was circulated to Medicine Africa tutors. Quantitative feedback was collected through 10 Likert scales. Qualitative feedback was collected through four free text boxes where respondents were invited to expand their answers; these were subsequently thematically analysed.

Results

Tutors felt strongly that Medicine Africa increases the accessibility of educational material, reducing the temporal barriers to knowledge. The platform was considered user-friendly, accessible and cheap to run. Tutors also felt e-learning removed the hierarchies present with more traditional teaching. However, challenges to this included technical problems, which exacerbated existing communication and cultural barriers, and caused poor student engagement. Moreover, tutors identified a lack of training and knowledge of the Somaliland undergraduate curriculum as barriers to performance. Tutors themselves found the experience both rewarding and important for developing cross-cultural skills and relationships.

Discussion

Tutors believe that e-learning is useful tool for delivering education to undergraduates in Somaliland, and many feel they benefit personally from taking part. However, a number of challenges abound in its delivery, from the altered teacher-student dynamic, to the cultural and technical, to the poor understanding of the student's curriculum and capabilities. Further exploration of these themes in follow-up, one-to-one interviews, will enable the development of the programme for future learners, and ensure the continuing success of this health partnership.

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Development and usage analysis of watoto, an interactive paediatric medical calculator app for the kenyan setting

Background
In paediatrics most drugs are given based on weight. Measurements are also required at admission to assess nutritional status. There is potential for error to occur with calculations or by relying on memory. There are comprehensive guidelines published by the Kenyan Ministry of Health in paper and electronic form. In clinical practice finding protocol information is not always immediate and dissemination of up-to-date guidelines can inevitably take time. Anecdotally clinicians are keen for resources that would help minimize the risk of mistakes and reduce their workload.

Methods
A survey was conducted in three Kenyan hospitals to assess the requirements of clinicians. A partnership was developed with a Kenyan team developing a guideline based app to share ideas, experience and to make the two apps complimentary. An app was developed which assesses nutritional status, approximates certain anatomical attributes and calculates essential drug doses based on Kenyan guidelines. To ensure the quality of the app was high, we adopted a test driven approach defining calculation outcomes for test patients prior to the coding of each drug calculator. This resulted in over 1,500 automated tests. In addition, all drug doses were manually checked by a paediatrician for a variety of age groups. The app was launched in a multi-stage process of beta testing and soft launch publication. It was made available for free via the Google Play Store.

Results
A survey of 29 clinicians (52% Clinical Officer Interns, 31% Medical Officer Interns, 10% Medical Officers, 7% Consultants) showed 89% would definitely use an app with the features described. Emergency and commonly used drug doses were the most popular features. Suggestions for additional features were collected and some were incorporated into the app. Of the respondents 93% were running Android. During beta testing, feedback from our Kenyan colleagues was used to make improvements. Following the unpublicised soft launch, the app was downloaded 54 times in the first week. Of those who installed the app 33% used it on multiple occasions looking up a variety of drugs.

Conclusions
We conclude a free app with these features would be used in a Kenyan setting.

Further Work
We aim to expand use of the app by starting to promote it through various routes. We are looking into formal endorsements from professional bodies. We continue to liaise with our Kenyan partners aiming to make the calculator and guideline apps further integrated and support future publications.

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Characterising a community health partnership in Dominican Republic: network mapping and analysis of stakeholder perceptions

Rationale
Since the 1980s, an increasing number of short-term volunteer groups have conducted health and development programs in primary care clinics among the Haitian populations of La Romana, Dominican Republic (DR). The Coalicion de Salud Comunitaria (Community Health Coalition, COSACO) was developed in March 2015 with the aim of strengthening collaboration between visiting teams and the local community. Based on a modified Healthy Community Partnership model, COSACO aims to improve coordination between visiting and local health stakeholders and influencers to align various efforts, particularly ensuring that short-term volunteer efforts are contributing sustainably to defined community goals.

Objective
This study aimed to use network analysis to evaluate the connectedness of COSACO partnerships, to guide stakeholders into planning how to grow the coalition and include short-term volunteer groups in local community development efforts.

Methods
Network analysis was based on structured survey responses obtained from COSACO members and prepared using UCINET 6 (version 6.6).

Results
All 13 COSACO members were invited to participate; 9 responded. Responses were classified into the following groups: academic, non-profit, healthcare providers, vs governmental, and DR vs visiting. Network maps showed that local healthcare providers acted as boundary spanners in the network, particularly around general interactions, sharing of information, and formal agreements. Around joint strategic planning and sharing of tangible resources, one visiting non-profit (The 53rd Week) is central and highly connected.

Discussion
The mapped COSACO networks resemble those of a 2-3 year old coalition, despite being formally established recently. This reflects the fact that many COSACO members had existing relationships prior to the establishment of the coalition. The network maps identified local healthcare providers as key leaders and boundary spanners between visiting and local stakeholders, reinforcing their role as key informants. Recognizing their position in the network, and their intrinsic knowledge of the community, COSACO should empower these members to use their knowledge and broad access to all parties to encourage meaningful movement towards joint programming and projects that meet locally-identified priorities.

Conclusions
Limited communication, both between local and external agencies or within the local level, contribute to missed opportunities to collaborate, enhance coordination, and share resource, thus continuing to limit the effectiveness of short-term volunteer efforts. This network analysis allows a novel community health partnership to plan future growth and support recruitment and ongoing efforts to optimise and align the efforts of volunteer teams to local-identified priorities that will sustainably develop community health and social services capacity.

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Quality improvement projects at rural hospitals in South Africa undertaken by international doctors through Africa Health Placements: an overview and case studies

Where there are no healthcare workers, there can be no healthcare delivery. Africa Health Placements (AHP), a South-African based social profit organisation, helps to address the country's critical shortage of health workers at rural government hospitals by recruiting international doctors to fill vacant paid positions for a year or more. Since 2005 AHP has assisted over 2000 placements that have enabled 24 million additional patients consultations. Most of these placements have been of junior doctors from the UK and AHP works in partnership with a number of NHS institutions.

This poster will present the results of a survey of 200 international doctors who undertook placements through AHP since 1st January 2015, to understand their experiences of undertaking quality improvement projects (QIPs) at secondary care facilities in rural areas in South Africa. Although undertaking QIPs is not a requirement for AHP doctors or medical officers in South Africa, many choose to undertake such projects, in collaboration with colleagues at their hospitals, because they identify clear opportunities for service improvement and have experience of different international health service designs.

The survey explores: how many AHP doctors undertook some form of QIP during their placements; what QI methodologies they used; approaches to identifying need and working with hospital colleagues as a team to conduct QI projects; outcomes from the QIPs; and the sources of information they used to conduct the projects.

A common example of a QIP that AHP doctors have undertaken at a number of hospitals is the introduction of the South African Triage Scale, which enables all patients to be immediately clinically assessed on arrival at an Emergency Department using a colour-coded system, so that the sickest patients can be prioritised for urgent care.

The poster will present a summary of the results of this survey as well as a small number of case studies of the most successful QIPs with the most robust evidence for impact.

The final section will summarise the key lessons learnt and how AHP intends to create a structured system for supporting doctors to undertake high quality and sustainable QIPs that are aligned with national and local health priorities.

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Establishing a paediatric triage system in a Ugandan district hospital through a Global Links partnership

Background & Aim
Mortality in hospitalised children is often highest in the first 24 hours of admission, and can be reduced by effective triage on arrival- identifying patients in need of emergency and priority treatment. A Global Links health partnership was established with a Ugandan district hospital with no triage system, where unwell children risked deterioration whilst awaiting assessment. In line with targets of Sustainable Development Goal 3, to end preventable deaths of children under 5years of age, a paediatric triage system was established in outpatients (OPD) to facilitate rapid assessment of sick children and documentation of vital information on arrival.

Methods
The Global Links Volunteer provided training to staff plus colour-coded guidelines and stamps, enabling identification of priority status in the notes (Emergency, Priority, Non-Urgent). A registration stamp was designed including prompts for vital information- temperature, weight, MUAC (mid upper arm circumference). OPD was re-organised into labelled paediatric queueing areas (Awaiting Triage, Priority, Non-Urgent) with Emergency cases directed straight to the ward. Triage commenced immediately after training.
Data collected retrospectively from 50 inpatient notes 2 months prior to interventions and 1 month post interventions included: Record of triage category, temperature, weight, MUAC, and use of the new registration stamp post-intervention.

Results
Pre intervention: Documentation of triage, temperature and MUAC were 0%; weight was 80%.
Post intervention: Documentation of triage 38%, temperature 38% , MUAC 18%, weight 92%. New registration stamp was used in 38%- of these, 79% were triaged. Where not used, 13% were triaged.

Informal verbal feedback from staff- a more organised department, improved confidence in recognising a sick child.

Conclusions
Documentation of all parameters improved post intervention, but all except weight remained low. Reasons may include:

- Paediatric OPD closes around 3pm; patients arriving later are not triaged.
- Only inpatient notes were audited (OPD notes unavailable) so children triaged but not admitted were not captured.
- Data was collected immediately after interventions, whilst staff were still adjusting to a new system.
- The new stamp appears to be an effective tool in increasing uptake of triage.

Recommendations
Auditing inpatient and outpatient notes would give a more representative picture of uptake of triage. Providing training and the new registration stamp for OPD staff working after 3pm may improve outcomes. Further data is needed to assess the impact of triage on morbidity and mortality. Ongoing training and support from volunteers and trained local staff is required to maintain an effective triage system.

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Building a North-South-South Community of Practice to improve working conditions for health workers

Introduction
A generally neglected aspect of the global health workforce shortage in low- and middle-income countries (LMICs) is the opportunity to improve health worker retention and efficiencies by improving working conditions. In sub-Saharan Africa, health workers in LMICs are at high risk of exposure to infectious diseases (e.g. tuberculosis) at work, especially in circumstances of critical health human resource deficiencies and limited implementation of occupational health and infection control measures. In 2006, a partnership developed between occupational health and infection control experts in Canada and institutions in South Africa, including an institute with a national mandate to conduct research and provide guidance to protect health workers from infectious diseases and promote improved working conditions. We reflect on how partnerships linking occupational health researchers and practitioners have produced positive impacts, and the criteria for achieving sustainable results.

Methods
Applying a realist review analytic framing format, we describe why, when and how the partnerships developed at global, national, provincial and hospital levels; its achievements; what difficulties were encountered; as well as how each undertaking contributed to capacity-building. Expectations of the various parties on developing new insights, providing training, and addressing service needs is examined through a micro-meso-macro lens.

Results
A state-of-the-art occupational health and safety surveillance program was established in South Africa following successful technology transfer from a similar undertaking in Canada and training was conducted that synergistically benefitted Northern as well as Southern trainees. Integrated policies combining infection control and occupational health to prevent and control infectious disease transmission among health workers were also launched, and initiatives are now being conducted with partners in Zimbabwe and Mozambique. Having a national (South-South) network reinforced by the international (North-South) partnership was pivotal in mitigating the challenges that emerged.

Conclusions
High-income country partnerships with experience in health system strengthening – particularly in much needed areas such as occupational health and infection control – can effectively work through strong collaborators in the Global South to build capacity. Partnerships can sustainably reinforce efforts at national and sub-national LMIC levels when they adopt a "communities of practice" model, characterized by multi-directional learning. The principles of effective collaboration learned in this "partnership of partnerships" can be applied to other areas where health system strengthening is needed. The key message is that developing a multi-scalar community of practice, centred on strengthening a key LMIC institution that can sustainably work with local partners, is especially useful.

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Rolling out "Training the Trainers" in ophthalmology across East, Central and Southern Africa

Aims
The Royal College of Ophthalmologists (RCOphth) and the College of Ophthalmologists of East Central and Southern Africa (COECSA) are collaborating to roll out a Training the Trainers (TTT) Programme across the COECSA Region. Within the Vision 2020 Links Project, it aims to develop a skilled motivated workforce who can deliver high quality eye care. It will train 2 faculty and a facilitator in 8 countries, who can cascade the programme to local trainers.

Methods
In phase 1 (2013/14) two 3-day courses were run for 16 selected delegates each, by 3 UK faculty. In phase 2 (2015/16) 1 UK faculty member ran shorter courses for 25 delegates each, associated with COECSA events (Congress and Exam). Later courses introduced preparatory work for delegates, creating more face-to-face time to learn high-level practical skills. A Lead was appointed after the first course, and selected delegates were promoted as facilitators then faculty on successive courses. They were given appropriate materials, preparation, training and mentoring.

Results
A questionnaire completed by delegates after 6 months demonstrated how they were implementing new skills:
Over half of delegates ≥4 times in a 3-month period:

- Delivered a formal teaching session
- Supervised a trainee or others
- Gave formal feedback / appraisal
- Formally assessed a trainee

Over half of delegates often or always:

- Wrote aims and objectives for teaching
- Used a variety of teaching styles and interactive techniques
- Used the 4-step technique for teaching practical skills
- Gave feedback after supervision, using the 4-step technique

The impact was assessed using the number of eye-care workers that delegates had trained, and the number of patients seen by those workers each year. The figures suggested that approaching 1 million patients per year were treated by eye-care workers who had benefited from training delivered by those who had been on the courses.

After 3 years, the Progamme had trained 1 Lead, 4 Faculty, 4 Facilitators and 60 delegates. Development of the Programme in Africa initially followed the UK model, but the need to address more extensive challenges overseas, stimulated new ideas for the UK courses.

Conclusions
The programme has developed a pyramid of trainers capable of cascading knowledge, skills and teaching in training with RCOphth support. The third phase will extend the number of facilitators and faculty, and develop on-line preparatory and teaching materials. The final phase will see local cascade in all 8 countries, and sustainability as UK support is withdrawn.

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Acute Illness Management training: understanding the determinants of professional practice change to improve training

Good Acute Illness Management is crucial in low- and middle-income countries (LMIC). We have previously shown that short courses in acute illness management (AIM©) and maternal acute illness management (M-AIM©), both of which teach an ABCDE approach to management of acutely ill patients, can improve the knowledge of Ugandan healthcare workers.[1] [2] Evaluating changes in knowledge skills is a way we often determine if our courses are beneficial. However, change in practice is what courses are usually aiming to achieve and yet knowledge and skills are only one part of why people might or might not use new approaches in practice.

Behavioural science tells us that opportunity and motivation are also crucial in determining practice.[3] We conducted a study that highlighted the need to consider capability, opportunity and motivation in relation to ABCDE approach in Ugandan healthcare workers.[4] This study led to extensive revision of AIM© and M-AIM© to increase their alignment with the experiences of the clinical staff in Uganda, specifically the low-resource nature of the setting and the frequently experienced lack of senior support.[5] We report on a further study that examined the capability, opportunity and motivation of healthcare workers to use an ABCDE approach in acutely ill patients.

79 clinical officers were enrolled on the new AIM4Africa course and took part in our study. They completed pre, post and follow up questionnaires that examined 18 social and psychological constructs that might relate to whether they use ABCDE in practice: so-called "determinants of behaviour change".[6] We found that participants rated most of their 18 determinants of behaviour as high before the training but even higher after the training. Following the participants up, one month later, we found that they reported using the ABCDE approach in their practice. Reporting that the approach was habitual and self-reported knowledge of "how to use" the approach were found to predict use of the approach at follow up.

Evaluating by behaviour change determinants assisted educators in understanding the impact of their course beyond changes in knowledge. Further, it highlighted targets for activities, beyond those to improve the competence of healthcare workers, that would support implementation.

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Improving care for people with asthma: building capacity across a European network of primary care organisations - The IPCRG's Teach the Teacher Programme

The International Primary Care Respiratory Group (IPCRG) is an international network of organisations committed to improving assessment/treatment of chronic respiratory disease (CRD) in primary care. As a charity we support improvements in health systems within member countries by disseminating research evidence such as the findings from the recent U-BIOPRED project on severe asthma[1] and offering evidence-based resources such as a structured asthma review 'SIMPLES' and desktop helper on difficult to manage asthma.[2] One approach to building capacity in primary care described in the IPCRG's education strategy[3], is 'Teach the Teacher'.

Aim
We ran a pilot 'Teach the Teacher: Difficult to Manage Asthma' programme to check feasibility of the initial training, assess the challenges faced by local teams, and test approaches to evaluation.

Approach
We convened an 'Expert Faculty', including clinical, educational and patient representation (European Federation of Asthma and Airways Diseases Patients Associations). Seventeen clinical colleagues from Romania, Greece, Turkey, Ireland, Italy, Netherlands, UK and Portugal met in January 2015 to develop skills in teaching colleagues, design 'in-country' educational programmes adapted to local health systems and needs

We explored impact using an educational evaluation framework[4] informed by: i) participant reactions, ii) participant learning, iii) organisational changes, iv) use of new knowledge, v) impact on practice and service users.

Results
We had excellent engagement throughout with our colleagues; evidence of participant learning and use of new knowledge, and proactive post-event activity. Seven countries developed and delivered in-country programmes, that were evaluated for impact on clinician behaviour and organisational change.

National groups assessed learning needs and context, and adapted the programme to overcome local challenges, enable delivery of the core educational components and support change in clinical practice. To date, over 230 health professionals have participated in educational events in seven countries, including specialist nurses, physiotherapists, general practitioners (GP), early career GPs, and GPs with a special interest in asthma/COPD.

Learning and implications
Variation in the design and focus of in-country events was crucial to local implementation. Teams encountered, and found local solutions for, challenges in assessing learning needs, setting up education programmes and in supporting clinical practice change. Project funding enabled national programmes, but sustainability will require additional resource and a longer-term strategy.

The European programme U-BIOPRED funded the programme.

1. See: http://www.europeanlung.org/en/projects-and-research/projects/u-biopred/news-and-events/news/ubiopred-primary-care-training-day
2. See: http://www.theipcrg.org/display/TreatP/Home+-+Difficult+to+manage+asthma
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Does an Emergency Triage, Assessment and Treatment plus Admission (ETAT+) course followed by repeat visits of UK consultant paediatricians to district hospitals in Rwanda improve provision of care?

Aims

To evaluate if an ETAT+ course on recognition and treatment of sick children supported by visits by UK Consultant Paediatricians improved hospital service provision for children in 6 district hospitals in Rwanda.

Methods

ETAT+ courses, provided by a Royal College of Paediatrics and Child Health-Rwanda health partnership, were delivered followed by four, six monthly visits for ONE week by a UK consultant paediatrician to provide training, support and review of service delivery. At each visit an implementation plan was devised and progress reviewed. Changes were determined by internal assessment and direct observation.

Results

In addition to reduction in mortality of children admitted to hospital, a number of changes in provision of services were monitored:

Service evaluated (6 hospitals)	At start	End of programme	Changes made
Paediatric triage system as per ETAT+ and separate from adults	1/6	4/6	2 hospitals adopted their own form of triage.
Appropriate facilities for paediatric emergency assessment with drugs and resuscitation equipment	1/6	6/6	2 new facilities developed; resuscitation trolleys obtained and assessment areas reorganized in all.
Newborn care unit and resuscitation tables and equipment in unit and labour ward	1/6	6/6	3 hospitals created newborn units; 2 created newborn medical teams; all now have resuscitation facilities.
Kangaroo Mother Care facilities	4/6	6/6	2 new, expanded units; 1 improved location.
Up to date paediatric protocols	0/6	6/6	ETAT+ guidelines - displayed posters and as pocket books
Paediatric continuing medical education program with resuscitation training	0/6	6/6	Resuscitation manikins provided; skills drills in 4 hospitals. All have a formal education program.
Clinical audits	0/6	2/6	2 hospitals undertook several audits, but concept is new.
Use of remote mentorship	0/6	0/6	

Additional benefits were two RCPCH sponsored visiting fellowships for one month in paediatric departments in the UK and improved international links within East Africa and with the UK.

Conclusions

There have been marked improvements in service delivery in all six hospitals over two years. Feedback from hospital directors confirms that all were very keen to improve services and review, support, training and guidance by external experts provided major impetus for improvements. Interim remote mentorship was not utilised; feedback suggests this is due to linguistic difficulties and fear of potential criticism.

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Medication safety in Mozambique: interventions by the Beira-Ipswich partnership

Background
Access to safe and effective medicines is an important UN Sustainable Development Goal and a key focus of the Beira-Ipswich Health Partnership Scheme (HPS). The partnership, between Beira Central Hospital, Mozambique and the Ipswich Hospital NHS Trust, England is well established; the partnership received World Health Organisation African Partnerships for Patient Safety funding in 2011 and a Building on Success grant via the Health Partnership Scheme (HPS) in 2015.

Aim
The main aim for this aspect of the partnership was to increase correct medications administered to patients in Beira Central hospital (including reducing drug omissions; unsafe prescriptions and administration practices).

Methods
A needs assessment and baseline four audits were completed in 2015. Specific, manageable interventions were designed to address needs, including: 1) the hospital Clinical Director requested prescribers to add paediatric weight to outpatient prescriptions, to assist correct calculation of drug doses. Following this, a memorandum highlighted positive progress and encouraged further changes 2) A programme of top-up training in drug calculation was developed to enhance staff knowledge and confidence to administer medicines correctly 3) To improve medication supply and reduce missed doses further, drug stock cupboards and trolleys were reorganised and relabeled.

Results
1) At baseline in June 2015, no (or very few) pediatric prescriptions detailed a child's weight; this increased to 43% in August 2015; and to 80% in February 2016 following the Director's memorandum (100 prescriptions sampled).

2) To-date, 57 nurses have participated in the training, delivered by Beira's Lead Pharmacist in addition to other clinical staff; evaluation of knowledge and skills is ongoing.

3) The baseline audits suggested approximately 30% of doses were missed in wards; following the stock reorganisation and other interventions, latest audits suggest this is improving.

Discussion
Several small, concrete interventions agreed by partners resulted in changes in staff practice. Work on sustainability and implementing other interventions is ongoing, with the help of a recent collaboration with health psychologists. Additionally, Beira Central Hospital has been recently recognised by the Mozambique Government as the top hospital exemplar due to various health indicators. The indicator that had significant weight was PIC (prevention of infection and control). This achievement will be discussed, including the possible contribution of the HPS over several years.

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Introducing effective hand-hygiene to a neonatal unit in Myanmar

Introduction
Neonatal sepsis is the leading cause of neonatal admissions at one divisional hospital in central Myanmar. It has represented one of the top five causes of mortality over a six month period. To help combat neonatal sepsis, The World Health Organisation (WHO) recommends 'strict procedures for hand-washing or alcohol hand rubs for all staff and for families before and after handling infants'. Two THET-funded Global Links Volunteers (GLVs), in collaboration with local senior paediatricians, reflected on current practice and attempted to introduce effective hand-hygiene to unit staff.

Methods
Two discreet hand hygiene audits were performed two weeks apart, assessing the WHO five moments of hand-hygiene.[1] Between these audits, a hand-hygiene education programme was delivered by senior paediatricians and the local Emergency Paediatric Care Programme (EPCP) team, in conjunction with GLVs. Interventions included discussion at a morbidity and mortality meeting, teaching sessions delivered to junior doctors and Myanmar-language educational posters. Senior consultants led by example, facilitating a 'bare below the elbows' policy. Extra hand gel was provided at the entrance to ward areas and by patient cots. A local senior consultant instigated a daily health promotion talk given to mothers by junior doctors and nursing staff.

Results
The pre-intervention audit found 8% of nurses gelled their hands on entry to the neonatal unit. This figure rose to 52% during the re-audit. Of 80 pre-intervention nurse-patient encounters, 8.8% were preceded and 7.5% were followed by hand gelling. During the re-audit, these figures increased to 69% before and 45.2% following 42 observed patient encounters. Some 50% of doctors gelled their hands on entering the unit during the initial audit. Subsequently, the figure dropped to 18.2%. Despite this, hand gelling around patient encounters improved substantially – from 31.3% of doctors before and after encounters to 83.3% and 58.3% respectively (see table 1).

Table 1.

	Hand gelling on entry to NNU	Hand gelling before patient encounter	Hand gelling before patient encounter
Nurses pre-intervention	8.0%	8.8%	7.5%
Nurses post-intervention	52.0%	69.0%	45.2%
Doctors pre-intervention	50.0%	31.3%	31.3%
Doctors post-intervention	18.2%	83.3%	58.3%

Discussion
Effective hand-hygiene is an important tool in reducing neonatal cross-infection and antibiotic-resistant bacterial strains. Following a locally-tailored educational programme, neonatal staff were considerably better at performing hand hygiene at key steps of patient care. This multi-disciplinary approach appeared effective, particularly amongst nursing staff. Whilst overall results improved significantly, there remains much scope to turn novelty into routine practice. This work reveals potential for an on-going health partnership to profoundly impact neonatal care in Myanmar. Further locally-conceived solutions include instigating an infection control team involving senior nurse management. Monthly re-audits of both hand-hygiene practice and morbidity and mortality data will be undertaken.

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Assessing effectiveness and impact of antibiotic stewardship activities at a rural South African hospital using continuous quality improvement strategies

Objective
The threat of drug-resistant infections has led to a global public health crisis in the post-antibiotic era. Our aim was to create an improved and sustainable antibiotic stewardship (AS) programme at George Hospital.

Methods
A prospective interventional study was conducted over six months in a South African regional hospital. The study systematically evaluated the quality of the AS programme through chart review, observing ward rounds and auditing surgical prophylaxis to improve the appropriateness of antibiotic use. An intervention phase was conducted raising awareness, educating and training healthcare staff, adopting a checklist specifically designed for AS ward rounds and presenting results to key stakeholders.

Results
Baseline data suggested a variable completion of the antibiotic chart of 40-70%, with an average of 65%. Only 10.9% of intravenous lines and 20% of catheters were reviewed on AS rounds. 50% of first surgical prophylaxis doses were in line with guidelines, with 71% patients receiving the right number of doses. Post-baseline data revealed animprovement in chart completion with the average increasing from approximately 65% to almost 79%. The frequency of catheters reviewed on AS rounds doubled from 20% to 40% and the frequency of cannulas reviewed on AS rounds improved from 10.9% to 20.3%. The correct number of first surgical prophylaxis doses improved by 14.7%. However, 65.5% of patients received the correct number of doses.

Discussion
The use of run charts proved to be a simple and effective method to monitor the progress of improvement in the quality of completion of prescription charts. Continuous measurement is imperative to support the delivery of a sustainable AS programme, and improved our ability to analyse run charts to identify real changes. If the desired improvement was not being seen, there was a heightened sense of accountability from the prescribers and commitment to persevere intesting new change ideas e.g. educational interventions.

Conclusions
The data collected supported the need for improvement in AS leading to the adoption of evidence-based AS practices within George Hospital. The study highlights the importance of testing out changes whilst monitoring outcome and process measures to determine whether they are leading to an improvement before implementation. The greater the indination of all staff towards a new idea, the easier it will be to implement once testing has run its course.
The importance of buy-in from healthcare professionals and continuous educational campaigns to realise awareness around AS cannot be underestimated for future sustainability.

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Ebola Holding Units at government hospitals in Sierra Leone: evidence for a flexible and effective model for safe isolation, early treatment initiation, hospital safety and health system functioning

The 2014-2015 West African outbreak of Ebola Virus Disease (EVD) claimed the lives of more than 11,000 people and infected over 27,000 across seven countries. Traditional approaches to containing EVD proved inadequate and new approaches for controlling the outbreak were required. The Ministry of Health & Sanitation and King's Sierra Leone Partnership developed a model for Ebola Holding Units (EHUs) at Government Hospitals in the capital city Freetown. The EHUs isolated screened or referred suspect patients, provided initial clinical care, undertook laboratory testing to confirm EVD status, referred onward positive cases to an Ebola Treatment Centre or negative cases to the general wards, and safely stored corpses pending collection by burial teams. Between 29th May 2014 and 19th January 2015, our five units had isolated approximately 37% (1159) of the 3,097 confirmed cases within Western Urban and Rural district. Nosocomial transmission of EVD within the units appears lower than previously documented at other facilities and staff infection rates were also low. We found that EHUs are a flexible and effective model of rapid diagnosis, safe isolation and early initial treatment. We also demonstrated that it is possible for international partners and government facilities to collaborate closely during a humanitarian crisis.

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Capturing and understanding the leadership experiences of healthcare professionals working in stroke care in Ghana

Context
The Wessex Ghana Stroke Partnership (WGSP) has supported the development of stroke services at Korle Bu Hospital in Ghana since 2009. The project focus is the development of core skills in stroke management using a "train the trainers" model. To enhance this approach, stroke leads in medicine, nursing and physiotherapy were nominated. They work with other health care professionals to improve the care of patients with stroke.

Aim
Our current project work includes expanding key clinical skills in stroke care. Underpinning this, and contributing to longer term sustainability, is the development of quality improvement and leadership skills. One of our evaluation methods is to use qualitative methodology to capture the experiences of the Ghanaian healthcare professionals in roles of clinical leadership in stroke care at Korle-Bu hospital.

What did we do?
Six members of the Ghanaian Stroke Team were interviewed by two members of the UK team in January 2015. Interviews followed a semi structured guide, were audio recorded (with consent of the interviewees), and transcribed verbatim. Transcripts were thematically analysed by three members of the WGSP in the UK, using the following process: Familiarisation; Identifying codes; Indexing; Charting; Mapping and Interpretation. The analysis was performed between September 2015 & April 2016, with analysts working individually and via 4 group discussions on Skype. The findings were then checked and validated with other members of the WGSP in the UK and Ghana.

What did we find?
There were a broad range of topics spanning from the personal developmental experiences of individuals, to overall visions and aspirations for the future of stroke care. Six key themes were identified: Clinical Development, The Multi-Disciplinary Team, Stroke as a specialty, Becoming and being a leader, Role as an educator, The Partnership. The themes have been described using a "where we were", "where we are now" and "where we are going" structure.

How can this be used?
The analysis findings will inform the Partnership's ongoing training and support programme for Ghanaian lead clinicians. Training has adapted during the project, being tailored to enhance current strengths as well as develop new skills. The findings will be used to guide a second set of semi-structured interviews towards the end of our current project, to enhance reflection and consolidation of learning for both UK and Ghanaian partners. It has also served as a powerful way of capturing and reminding us of how our work together has evolved.

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Improving palliative care provision through the implementation of a nurse leadership fellowship programme in Uganda

Background
Global Palliative Care (PC) needs are increasing faster than the available capacity to meet them. Thus the provision of high quality PC is essential and with the low numbers of doctors per capita, nurses have a unique role in this provision. There are many palliative care trained nurses in Uganda, however many of them have not had the opportunity to develop their skills as leaders in order to develop PC services.

Methods
A health partnership grant from DFID through THET is supporting an 18-month nurse leadership fellowship (NLF), with leadership being defined as 'the capacity to influence people, by means of personal attributes and/or behaviours, to achieve a common goal' i.e. 'A leader is one who knows the way, shows the way and goes the way (Maxwell)'. PC nurses in Uganda need to be able to lead, develop & manage services as well as having a role as change agents, teachers & role models. The NLF commenced in August 2015 with 20 nurses on the programme. Teaching is delivered on a modular basis with three taught modules interspersed with 5-6 months in their places of work with ongoing mentorship & supervision. To complement the teaching a mentorship programme with six mentor hubs has been established in the UK to provide discreet periods of face-to-face mentorship in-country, along with remote mentoring. An M&E framework has been put in place to evaluate the benefits of the nurse leadership programme, using a variety of tools and methods e.g. an adapted nurse leadership pre and post questionnaire, evaluation forms, review of action plans, reflection, mentor reports and semi-structured interviews.

Results
The nurse fellows come from a variety of settings. Whilst ongoing, the NLF is already having an impact on the provision of PC services by the fellows. Each of them is working on their individual leadership skills, alongside the implementation of activities such as Link-nurse training, daily reporting on patients, providing supervision etc. Four national projects are being implemented with a focus of enabling the fellows to work together, undertake an important piece of work, and disseminate the findings and recommendations at the national level in order to improve palliative care service delivery. Key findings in ongoing evaluations demonstrate change in practice, improved competence and confidence in communication, strengthened leadership skills such as conflict management, sharing the vision, supporting and encouraging staff, advocating for palliative care, self-reflection, self-care, and confidence in the fellows.

Conclusions
With appropriate training, nurses are able to fulfil leadership roles within PC and this health partnership is helping to improve palliative care service delivery in Uganda through the NLF.

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Improving multidisciplinary handover in a low resource-setting

Introduction

Failure in handover is a major preventable cause of patient harm, and is principally due to the human factors of poor communication and systemic error. These can lead to inefficiencies, repetitions, delayed decisions, incorrect diagnoses and treatment.[1] Furthermore, a multidisciplinary approach to handover is fundamental if successful flow of information and continuity of care, are to be achieved.[2] This requires standardisation of the handover process. [1]In low resource settings where patient to medical staff ratio is high, effective handover is vital to maximise use of resources.

Methodology

A quality improvement project was conducted to improve the multi-professional handover process at Kiambu District Hospital, Kenya.

Written questionnaires were used to investigate the knowledge of local paediatric staff (doctors, nurses, nursing students and clinical officers) about handover. An audit of the current processes in place for the multidisciplinary communication of patients during shift changeover was undertaken.

A multi-media handover education tool was implemented to better inform local staff of the value and principles of effective handover. Post-intervention knowledge of handover is being assessed and a re-audit is being conducted to assess for improvement in uptake of the correct principles for effective handover.

A second cycle of quality improvement will be implemented with a new rotating cohort of local paediatric staff, with pre- and post-intervention testing of knowledge on handover. There will a further test of knowledge[1] month later to look for attrition rate in retention of information and regular auditing of the handover process to look for areas where the handover process can be further refined.

Preliminary results

6 Clinical officer interns, 6 doctors and 5 nurses and 7 nursing students were recruited. The initial audit highlighted several barriers to effective handover: multiple interruptions, no written handover of patients and lack of nursing staff presence during the handover. There was no fixed start time for handover and time taken to gather relevant staff members for initiating handover varied greatly. The post-intervention questionnaire and re-auditing data are currently being gathered.

Conclusions

Though the iterative process of improving the quality of handover education, we hope to show that effective handover can be taught and utilised by staff in a low resource setting thus improving the transmission of important clinical information amongst multidisciplinary team during shift changeover.

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Dave Baillie[1], Richard Stephen Mpango[2], Eddie Nkurunungi[3], Bryan Mutamba[2], Mauricia Kamuhiirwa[2], Benon Kabale[3], Harriet Birabwa[2], Grace Ryan[4], James Mugisha[2], David Basangwa[2]
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BRAIN GAIN: Generating evidence of effectiveness to inform scale-up of peer support in Kampala, Uganda

Background
The Brain Gain I project was initiated in 2012 through a Tropical Health Education Trust (THET) funded health partnership in order to develop a peer support worker (PSW) programme serving communities in and around the two largest cities in Uganda—Kampala and Entebbe. 26 users of mental health services were trained to work as PSWs alongside the Butabika Community Recovery Team, and carried out over 4,000 contacts with patients discharged from Butabika National Referral Hospital over two years. An internal mixed-methods evaluation suggested that PSWs benefitted from the programme; however, the evaluation did not assess the effectiveness of PSW in improving outcomes of end beneficiaries. In order to provide policy-makers with evidence necessary to sustain and scale-up PSW in Uganda, the 2015-2017 Brain Gain II project aims to evaluate the effectiveness of PSW in improving outcomes for "revolving door" service users who have been admitted to Butabika three or more times over the previous 24 months.

Methods
A Theory of Change workshop was held in 2015 with PSWs and Butabika staff in order to map out the anticipated outcomes of Brain Gain II and assign indicators, informing the Brain Gain II monitoring and evaluation (M&E) system and study design. The resulting design consists of three main components: (1) before-and-after study assessing change in key outcomes for end beneficiaries at 6-month follow-up, including readmissions, disability, satisfaction with services, and various psychosocial indicators; (2) controlled cohort study assessing the effectiveness of PSW in reducing readmissions of end beneficiaries; (3) a qualitative study examining the perceived impact and process of implementing Brain Gain II, from the perspectives of staff, PSWs and end beneficiaries. In keeping with the Brain Gain ethos of user empowerment, this evaluation seeks to maximize participation of PSWs, relying largely on routine outcome data collected by the hospital and by PSWs.

Results
As the evaluation is ongoing, for the purposes of this presentation we will discuss early findings from the before-and-after study, for the 201 "revolving door" users enrolled in PSW between April 2015 and March 2016. Mean difference and confidence intervals will be presented for the following readmission outcomes, measured at baseline and six-month follow-up: (1) number of inpatient stays, (2) average length per inpatient stay; (3) total number of inpatient stays. Results of an exploratory analysis using linear regression to examine any association between baseline demographic characteristics and readmission outcomes will also be discussed.

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Outcome of introduction of Emergency Triage Assessment and Treatment plus (ETAT+) on inpatient child care delivery in Ugandan health units

Background
Childhood mortality in Uganda remains unacceptably high despite the decline in the under-5 mortality rates from 186 deaths per 1000 in 1990 to 103 in 2012. Over 50% of the under-5 deaths occur in the health facilities within the first 48 hours of admission. One of the major reasons for these deaths is the limited number of trained health workers with skills to identify critically ill children. The efficacy of the Emergency Triage assessment and Treatment plus (ETAT+), a comprehensive training programme developed for the first-level facility-based care has been previously demonstrated in Kenyan hospitals. We describe the outcome of the introduction of ETAT+ in Ugandan Health Facilities.

Methodology
The Paediatrics department at Makerere University, in partnership with the Royal College of Paediatrics & Child Health undertook a project to introduce ETAT+ into the health systems in Uganda. The overall goal of the project was to improve inpatient care of sick newborns and children in selected hospitals. This was augmented by utilisation of facility champions to maintain quality of care gains, support supervision by local and UK volunteer doctors and capacity building by training local health workers to become trainers.

Results
Between November 2012 and May 2016 we conducted 20 ETAT+ in-service trainings in 13 hospitals, 15 pre-service training in the 3 major medical schools and 6 nurse-training institutions and 4 generic instructor trainings. A total of 665 health workers, 735 student doctors and nurses were trained, of which 51 have had further training and are now ETAT+ instructors. The programme has resulted in the following changes in practice in the health units. 1) Triage systems have been instituted in all the selected health units with separate triage areas for children and adults. 2) The health workers report improved confidence in resuscitation and more attempts are made at newborn resuscitation 3) ETAT+ quality improvement teams conduct regular clinical audits and continuing medical education 4) ETAT+ has been included into the medical curriculums of the three public medical schools for students during their clinical rotation in paediatrics. 5) Capacity has been built to conduct ETAT+ courses in any part of the country.

Conclusions
Introduction of ETAT+ in Uganda has led to a positive change in health care practice. There is need to scale up the implementation of ETAT+ to other units in the country and to conduct more studies to assess the impact of ETAT on inpatient morbidity.

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RCGP skills exchange makes progress with family planning in Uganda – USHAPE

Background
Uganda has high rates of teenage pregnancies and mortality/morbidity from unwanted pregnancy. USHAPE (Uganda Sexual Health and Pastoral Education) uses a cascade model, training health workers and teachers to promote sexual health.

Aims
- Train health workers across Ugandan hospitals to identify unmet need for contraception (Level 1) and relevant staff as family planning providers (Level 2).
- Train/support Pastoral Lead Teachers in a network of 30 schools.
- Develop and disseminate training resources.

Methods
Quantitative and qualitative evaluation includes:
- Participation rates (UK volunteers, Ugandan health workers, teachers).
- Health workers: Course evaluations, interviews to assess use of skills learnt, rates of screening for unmet need.
- Teachers: Evaluation of Pastoral Lead Network events and "Sugar Daddy Awareness" lessons.

Results
- 15 UK doctors contributed.
- Health workers: 178 Ugandan health workers trained to Level 1 (5 hrs); 99 of these also completed Level 2 (25 hrs). Knowledge/confidence scores rose for all Level 2 participants; at 3 months, 90% were giving contraception advice at least once a week. Bwindi Hospital staff screened 63% of inpatients for unmet contraceptive need. A second hospital (Kisiizi) has held training courses. 14 USHAPE graduates fitted implants and 5 fitted IUDs. > 2000 youth have attended outreach sessions delivered by them.
- Teachers: 60 teachers have taken on Pastoral Leadership, attending 6 training days. 28/30 head teachers attended their recent conference, all giving positive feedback. 20 schools hosted Sugar Daddy lessons.

Discussion
Trained staff are enthusiastic about the benefits of contraception, but have had less impact on demand, leading to few opportunities for training in fitting Long Acting Reversible Contraceptives. Some patients ask for experienced staff, and some staff are reticent about offering these immediately postpartum; USHAPE is researching these barriers. Despite support from teachers at the recent conference (including a march through Kanungu town), and from religious leaders who have welcomed USHAPE youth outreach in churches, prevailing messages about abstinence undermine efforts to make contraception more available. Competency-based training is time consuming and USHAPE still relies on UK volunteers, working with Ugandan staff, a few of whom are taking on leadership roles. Family planning is well suited for this sort of skills exchange and a "train the trainers" course is planned. Our work has attracted the attention of USAID and WHO, featuring as a 'Success Story' in their Training Resources website. Having developed our resources and approach, USHAPE is keen to extend our reach and enable others to draw on this.

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Community Emergency Triage Assessment and Treatment (ETAT), Jinja. Tackling maternal and child health in rural Uganda, in a novel programme

Jinja Community ETAT Programme was developed to improve maternal care, newborn and child health. Local health challenges, are tackled by improving identification, providing appropriate protocols for pre-referral treatments, and improving referral pathways. This pilot project bridges the gap between households, the Community Health Workers (CHWs) and health centres, and from health centres to regional referral hospital. It is an affordable model which can be scaled up.

Integrated working between lower and higher-level health centres increases trust and compliance with referral protocols. Task shifting, and cascading training from higher-level health centres to lower-level and so on to CHW and eventually villagers brings important maternal and newborn public health messages to all levels. Culturally it is designed to be non-threatening by focussing on training-the-trainers of other health workers e.g. CHW, for topics that should already be familiar. Teaching a topic is an incredibly effective way of thoroughly learning a topic and encourages higher level health workers/doctors as well as the CHW they have taught to practice as per guidelines. The cascaded training programme utilised the ETAT model to recognise sick children in community and rural healthcare settings (evidence exists that it can reduce mortality by 40% in referral hospitals).

Development with the local paediatricians and national specialists improved local and regional political buy-in.

Quantitatively analysis of supervised births with a skilled attendant in a health centre increased by 55% ($P<0.001$) since the start of the project, demonstrating a change in behaviour within the community and utilisation of the service. By including data collection as an integral aspect of the project, we are generating evidence of the projects efficacy and the district health office are regarding the pilot area an example of good practice. More importantly volunteers and staff see the benefits of their efforts and actions, increasing sustainability.
Focused interviews collected qualitative evidence of community change from local politicians, CHW, rural healthcare workers and teaching faculty from the regional referral hospital. It also enabled patient stories to be told. From midwife in charge, Health Centre II focused interview: “I feel pushed to open the health centre more and for staff to be more timely. Before the project mothers would come once for an antenatal visit at eight months then deliver. Now CHW’s are doing their work in the field so mothers are coming to do their antenatal appointments, so we have to open the health centre earlier [to cope with the demand]”.

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Improving the management of pre-eclampsia in Mulago Hospital, Uganda, through partnership with Addenbrooke's Abroad

Background
Since the 21st of August 2014 a five-bed specialist unit for pre-eclampsia has been in use in Mulago Hospital, Uganda, the national referral hospital for Obstetrics and Gynaecology. However there has been no audit of the service. By utilising the partnership with Addenbrooke's Abroad, two volunteers were able to evaluate maternal and fetal outcomes for patients in the pre-eclampsia unit. This information will enable development of protocols regarding treatment, monitoring and delivery interval.

Materials and methods
For patients admitted to the pre-eclampsia unit from 6th - 19th June 2015, the following were assessed:

1) Treatment received
2) Monitoring (BP, urine output)
3) Delivery interval (time from admission to unit until delivery)
4) Maternal and fetal outcomes

Results
10 patients were analysed in the study. The majority (9 patients) received appropriate treatment (antihypertensives and magnesium sulphate). Despite aims of measuring blood pressure hourly, it was only documented between 2 to 8 times a day on weekdays, and only 4 patients had urine output measured. Only 1 patient met the 24-hour delivery interval criteria. Analysis of outcomes showed 0 maternal deaths; 1 fetal death; and 3 neonatal admissions to intensive care.

Summary
Appropriate treatment was given in most patients, however the timing of monitoring was inconsistent, and urine output was not measured in the majority of patients. This small audit suggests a need for further analysis by future volunteers to look at delivery interval and maternal and fetal outcomes over a longer period. By working with the team at Mulago this data can inform changes that might include the introduction of observation and fluid balance charts.

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Nursing and medical contribution to Defence Engagement: building healthcare capability overseas

Background

The World Health Organization Constitution enshrines "…the highest attainable standard of health as a fundamental right of every human being." Strengthening delivery of health services not only confers benefits to individuals, families and communities, but can also improve national and loco-regional stability and security. In attempting to build international healthcare capability, UK Defence Medical Services (DMS) assets can contribute to the development of healthcare within overseas nations in a process that is known as Defence Engagement.

Methods

A team of twelve DMS nurses and doctors deployed to a 1000-bedded Hospital in a developing nation and worked alongside indigenous healthcare workers (nurses and paramedical staff) for a period of six weeks. The DMS nurses aimed to demonstrate a 'model ward' in a Burns/Plastics/Vascular ward by practical demonstrations of care standards, clinical leadership and female empowerment. Quality Improvement Programme centered on hand hygiene compliance before and after patient contact and peripheral cannula care and surveillance were introduced.

Results

On arrival at the ward, it was apparent that compliance with hand hygiene (HH) was near zero. Peripheral cannulas were secured with adhesive zinc oxide tape and Venous Infusion Phlebitis (VIP) scoring was not undertaken. After intensive education and training, initial week-long audits were undertaken. Subsequent audits were undertaken after a further 2 weeks of training and co-working. Results are displayed in table 1. In this second audit, it was noted that nursing compliance with HH (75/98: 77%) was significantly higher than the doctors' HH compliance (76/200: 38%); p=0.0001.

	Baseline	Week one	Week three	P-value
Hand hygiene compliance	Near zero	89/170 (52%)	243/352 (69%)	0.0003
Clear dressings for peripheral cannulas	Nil	54/126 (43%)	85/90 (94%)	0.0001
VIP score compliance	Nil	83/126 (66%)	89/90 (99%)	0.0001

Table 1. Nursing metrics on model ward.

In order to sustain improvements, a multi-disciplinary group of host nation Quality Improvement Champions has been identified and a Hospital Oversight Committee established.

Conclusions

Defence Healthcare Engagement is a long-term collaborative process based on the establishment and development of comprehensive relationships that can help transform indigenous healthcare services towards patient-centered systems with a focus on quality of care. Short deployments to allow clinical immersion of UK healthcare workers within indigenous teams can have an immediate impact. Co-working is a powerful method of demonstrating standards of care and empowering staff to institute change. The identification and promotion of Quality Improvement Champions offers the prospect of longer term sustainability and development.

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Mobile professional voluntarism and international development: capturing impacts

This paper summarises the key findings of a book to be published in July 2016 (Ackers and Ackers-Johnson, 2016) based on the authors' evaluation of the THET-funded Sustainable Volunteering Project (SVP).

This presentation will focus on the impacts of professional voluntarism on the host country (in this case Maternal and New-born Health in Uganda). The research on the returns to volunteers and the NHS forms the focus of a second book and conference submission (Chatwin and Ackers, 2016).

The presentation will track the evaluation 'journey' since the start of the project to show how the research underpinning the project has informed project development through a deepening understanding of what works when, why and how.

In keeping with the Conference theme we discuss the evolution not only of our evidence but also the quality of that evidence and its methodological underpinnings. Characterising Health Partnership work as 'complex interventions' presents new research challenges indicating a need for iterative mixed methods approaches if we are to begin to understand effectiveness and impact.

In terms of the evidence itself the paper tracks the limited impact of interventions focused on formal (continuing professional development) training. Raising concerns not only about limited effectiveness but also the externality effects of this approach, it moves on to consider the alternatives to CPD (CME) and the critical importance of co-presence conditionality to effectiveness and sustainability. Co-presence is a necessary but not sufficient condition for knowledge translation and impact and sadly even well planned and negotiated interventions fail to impact in the medium to long term. The paper draws on extensive research and literature from other disciplines to build an understanding of the barriers to impact which we hope will guide future interventions. Finally, based on our research, we present the basis of a flexible model to guide HP program and policy development which we hope will mitigate the damaging effects of many interventions and support a more sustainable and evidence-based future.

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The impact of midwifery volunteer placements for the volunteer, the host partner and the sending organisation: lessons from The Royal College of Midwives health partnership projects, 2012-2016

Background

Midwives save lives and are the best-buy in public health (UNFPA, 2014). Strong midwifery associations are essential for a strong midwifery profession (ICM, 2016). Between 2012-2015 the Royal College of Midwives (RCM) was funded by UK-AID and THET to twin with and strengthen partner professional midwifery associations in Uganda, Cambodia and Nepal. Short-term in-country volunteer placements were the main intervention to facilitate twinning. Follow-on projects are currently being implemented in Uganda and Nepal and the RCM is also participating in a UK-Aid funded midwifery education partnership project in Northern Nigeria. Approximately 80 UK midwives have volunteered with these different health partnership projects, most undertaking single short-term 2-4 week placements overseas and twinning with individual midwives in the host-country but some engaging in-virtual twinning (where twins do not physically meet but communicate electronically) or a mix of repeated short-term placements supplemented by virtual twinning between visits. Using data from project evaluations, individual interviews and a survey the RCM has recently conducted with its volunteers, this presentation will explore the impact of these different types of volunteering for the volunteers themselves, the host-partner and the sending organisation (the RCM). Our Ugandan partners will be attending the THET conference and will share their perspective through a joint presentation.

Methods

Host-country partners and stakeholders and the RCM project team and wider staff were interviewed in-person or by Skype and volunteer reports were analysed during the final evaluation of the Global Midwifery Twinning Project (GMTP) in March 2015. In May 2016 the RCM commissioned a survey of its global volunteers to capture the personal and professional impact of their overseas placements and also any subsequent change in engagement with the RCM in the UK. Additionally, project staff conduct regular monitoring visits in-country collecting data from host-organisations and individual twins. This presentation combines this data in three themes: the impact of midwifery volunteer placements for the volunteer, the host partner and the sending organisation

Findings and recommendations

UK volunteers benefitted greatly from overseas placements, describing them as transformative and life-changing. Facilitating global volunteering projects returned many benefits for the RCM but was labour-intensive. The impact of volunteer placements on overseas partners was more mixed. High volume short duration placements can cause volunteer-fatigue in-country and drain, rather than build, capacity; long-term volunteer placements are preferred by partners. The concepts of twinning and partnership are challenged when international travel is mainly one-way; overseas partners felt this was not equitable. Clear job-descriptions and pre-agreed deliverables are important when sending volunteers. Virtual volunteering can complement, but not substitute for, face-to-face engagement.

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GlaxoSmithKline (GSK)

GSK's PULSE Volunteer Partnership: a win-win-win collaboration to address healthcare challenges

Through GSK's PULSE Volunteer Partnership, motivated employees are assigned to a non-profit organisation and use their professional skills to help solve healthcare challenges around the world. Up to 100 GSK employees per year are deployed to work full-time with a non-profit partner for three or six months (average 5.5 months). Since its launch in 2009, the PULSE Volunteer Partnership has enabled 565 employees from across 57 different countries to work with 103 non-profit partners in 62 countries. A further 75 volunteers will deploy in 2016.

PULSE creates a win-win-win relationship, where 1) NGOs benefit from the expertise of GSK employees, 2) employees develop and enhance their leadership skills, and 3) GSK benefits from fresh perspectives that employees bring back. Surveys conducted annually with GSK volunteers, their managers and colleagues, as well as with the NGO partners, measure the impact and effectiveness of the programme. This quantitative data, along with qualitative data gathered from volunteers' case studies and testimonials from non-profit partners and GSK stakeholders, are published annually in the PULSE Impact Report.

Some key highlights include:

- Sustainability: 94% of NGOs agree that the volunteers' impact is sustained well beyond their time with the organisation.
- Employee development: 92% of line managers and colleagues agree that PULSE helped in developing the volunteers' learning agility, resilience & networking skills.
- Business benefit: 87% of volunteers agree that they are doing something differently since returning to GSK.

In addition, GSK has collaborated with other organisations to assess the impact of the PULSE programme, including involvement in the inaugural Corporate International Service Learning Impact Benchmark Study, designed and implemented by Emerging World. This study found that in the long term (1-3 years since employees' returned to GSK), PULSE contributed to significant development in their leadership, a high degree of employee engagement, enhanced career mobility, and led to new ways of working that have positive business impact.

The care taken to match employees' skills to NGO need-driven assignments, coupled with the duration and the number of assignments, is what differentiates PULSE from other volunteering programmes. PULSE partners with NGOs that have a long-term strategic partnership with GSK, such as Save the Children. By being strategic in our selection of non-profit partners, we help to build the capability of their organisation and maximize the impact of our investments.

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