alma mata Global Health

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Reborn

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Fresh Phases, Fresh Faces...

Three years is time for plenty to happen. When the last edition of the Alma Mata Journal was released, the UK coalition government had just been elected, the Arab Spring was a season in a part of the world, the World Health Organisation (WHO) was about to launch its programme on neglected tropical diseases and Andy Murray was definitely a *Scottish* Tennis player with few signs he was ready to win a Grand Slam tournament.

In the evolution of Alma Mata, those three years have been spent productively. But inherent to the nature of an organisation of professionals interested in Global Health, is a tendancy for its individuals to go abroad. Since its inception in 2005, the organisation has relied on the voluntary efforts of numerous committed people. But the 'Dance to the Music of Time' means that people move on, trips are made (some never to be ended), weddings are celebrated, children are born and other interests pursued.

Thankfully, as our work has grown, our capacity has once again increased, and Alma Mata has been re-invigorated. Over the last three years, the working group has become more formally structured into a committee, we have rebranded, launched a new website, conducted numerous pieces of global health careers research and had several publications. We have also run an open day at the London School of Hygiene and Tropical Medicine, followed through a long-planned seminar series on Global Health Leaders with the Royal College of Physicians (with a second series now running) and held our first conference in five years this April entitled 'Dead or Alive? The Changing Role of Aid in Global Health'

That we have been able to continue to provide a resource for health professionals interested in working global health is due to efforts from everyone who has worked with us over the last few years. Some are still with us, some have moved on. But thanks must go to all of them. The continued support and work with of the Royal College of Physicians, Medact, Kings Health Partners, UCL Institute of Global Health, the Royal Society of Medicine, the Royal Society of Tropical Medicine and Hygiene (RSTMH) has allowed us to continue with initiatives to improve education and training for those who wish to work in Global Health.

Other developments have occurred over the last few years. Through ourselves and the work of others, it is increasingly possible for UK doctors in postgraduate training to be able to take time out of programme to work in resource poor settings, or study for research in such areas. Several Royal Colleges have launched schemes for their trainees to volunteer, or even spend a period of time in such settings that counts towards training. The advent of such schemes makes refusing OOPE increasingly difficult for deaneries, and the UK increases its committment - as first outlined by Lord Crisp - to contribute to building health worker capacity and improvements in morbidity and mortality in such settings. Yet discrepancies in the willingness to release individuals for such periods of time still exist across specialties and deaneries. Alma Mata continues to work in collaboration with others to make such opportunities available across the board and to seek accreditation for such roles.

On top of this, the intercollegiate group junior trainees International Committee has brought proposals to the Academy of Medical Royal Colleges for a first step in creating core Global Health learning outcomes for all postgraduate medical curricula, beginning with the foundation programme. Coupled with proposals for a Global health track that several Alma Mata and associated colleagues published in 2011, there may well be, if not in the near then foreseeable future, the chance trainees to gain formal accreditation in Global Health alongside their CCT.

As part of our continued re-development, it is our pleasure to be able to bring our members a new edition of our journal. This new issue tackles several ongoing and relevant Global Health themes. There has been a lot of talk of Health Links and partnerships over recent years. Working with governments of resource poor countries, rather than dictating health priorities to them,

is becoming more high profile and the de facto way of working. With this in mind, Chris Smith evaluates whether such links provide benefits for the countries in question.

With the fast-approaching deadline for the Millennium Development Goals, Farah Din looks at the key strategy of female literacy in improving health. Max Cooper and colleagues outline their Global Health SSC and relate how health professionals can involve medical students early on in Global Health by starting such modules. Finally, Gracia Fellmeth tells us about her elective on the Thai-Burmese border before the release and rise of Aung San Suu Kyi, and our current President Danni Kirwan profiles Professor Robert Gilman of the Department of International Health at John Hopkins University. We also introduce a new feature of conference reports to this issue, with Alice Walker summarising the recent conference at the Royal Society of Tropical Medicine and Hygeine, along with a full report of our conference on Aid this Spring at the Institute of Child Health.

So what now for the Alma Mata Journal? We hope that undergraduates and postgraduates completing studies in BSc, MSc and diplomas will be encouraged to send us their work, and allow continued publication of the high quality research and essays that the courses produce. An ISSN number is currently in process, meaning so the journal should be medline/pubmed listed before too long. With the ever expanding number of courses in Global Health, both intercalated degrees for medical students and those open to all at postgraduate level, putting such content in the public limelight can only be beneficial for the global community striving to improve health for all.

Gareth Lewis, Editor.

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Do UK health links improve health outcomes in developing countries? A review of the literature

Chris Smith

Introduction

Health links are long-term partnerships between UK health institutions and their counterparts in developing countries.[1,2] The number of health links is increasing, perhaps as a consequence of the Crisp report in 2007 which called for more links between the United Kingdom and overseas institutions.[3] It has been estimated that there are currently at least 130 major formal partnerships in the UK.[4]

Links are typically small partnerships that work in areas such as capacity building or clinical service delivery. Whereas some links are set up as small charities with expenses covered by the individuals involved, others are funded directly by the NHS. Ultimately, one of the main objectives of health links is to improve the health of the population in the corresponding developing country. However, while the intention of health links is well meaning, there has been little published evidence on their effectiveness and impact,[2,5] in particular regarding health outcomes. A brief search of databases of systematic reviews (The Cochrane Collaboration, The Campbell Library, EPPI-Centre) did not identify any reviews related to health links and therefore it was decided to explore this area further.

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Aim

The aim of this study was to review the published and unpublished literature on quantitative patient health outcomes of health links in order to answer the question: Do UK health links improve health outcomes in developing countries?

Methods

The PICO method was used to develop the research question and identify key concepts.[6] UK health links were considered the intervention, with health outcomes (mortality or morbidity) the outcome. The population under consideration was the population within the catchment area of the health link in the developing country. It was not anticipated that there would be many, if any, controlled trials of health links and therefore a comparison population (not receiving the intervention) was not defined as a key concept.

Three electronic databases were searched separately via OVID. MEDLINE (1948 to March Week 2 2011), EMBASE (1980 to 2011 Week 11), and Global Health (1910 to February 2011) because of its focus on International Public Health and Grey Literature coverage. In addition, the ELDIS database was searched using the term 'Health Links' for Grey Literature. Additional articles were identified by reviewing reference lists of articles identified on UK health links and by consulting The Tropical Health and Education Trust (THET).

Three search terms (text word and subject heading) separated by the Boolean operator 'AND' were used. The first key concept of UK health links was divided into two search terms. The first search term aimed to

Table 1: Inclusion criteria	
Population / setting	Population served by the health link counterpart in any developing country
Intervention	Any UK health link as defined as a long-term partnership between a UK health institution and its counterpart in a developing country
Outcome	Quantitative patient health outcome (numerical representation of outcome: mortality or morbidity) implied as a consequence of the intervention (e.g. a new service started or comparison before/after or during intervention)
Study design	Any
Disease	Any

identify health links. Synonyms such as partnership and collaboration were used in the key word search. It was decided to include 'links' in the key word search (as many health links are described just as 'links') despite this producing a number of papers on genetics. The second search term aimed to include papers describing UK links/partnerships and included synonyms of United Kingdom as well as the UK locations of all health links listed in the THET health links guide (obtained from THET, unpublished). The subject heading term 'Great Britain' was used. The third search term sought to include papers involving a developing country and included synonyms for developing country, as well as the list of developing countries listed on the World Health Organisation (WHO) website and developing country locations of health links listed in the THET health links guide. The subject heading term 'Developing Countries' was used. Inclusion criteria are outlined in ***Table 1***.

Articles were excluded if they did not fit the inclusion criteria. Articles were screened and relevant articles selected based on information obtained from the title or abstract that gave some indication that the inclusion criteria would be met. Attempts were made to obtain full text articles for closer inspection of the selected articles. Full text articles or abstracts were assessed for eligibility for inclusion in the quantitative synthesis. Articles that fitted the inclusion criteria were assessed for their strength of evidence according to the hierarchy of evidence shown in ***Figure 1***[7]

Furthermore, articles were assessed for quality and risk of bias. A narrative method of synthesis was considered appropriate for the articles that fitted the inclusion

Figure 1: Hierarchy of evidence: ranking of research evidence evaluating health care interventions[1]

	Effectiveness	Appropriateness	Feasibility
Excellent	• Systematic review • Multi-centre studies	• Systematic review • Multi-centre studies	• Systematic review • Multi-centre studies
Good	• RCT • Observational studies	• RCT • Observational studies • Interpretive studies	• RCT • Observational studies • Interpretive studies
Fair	• Uncontrolled trials with dramatic results • Before and after studies • Non-randomized controlled trials	• Descriptive studies • Focus groups	• Descriptive studies • Action research • Before and after studies • Focus groups
Poor	• Descriptive studies • Case studies • Expert opinion • Studies of poor methodological quality	• Expert opinion • Case studies • Studies of poor methodological quality	• Expert opinion • Case studies • Studies of poor methodological quality

i Taken from: Evans D. Hierarchy of evidence: a framework for ranking evidence evaluating healthcare interventions. Journal of Clinical Nursing. 2003 ;1277-84

Table 2: Study characteristics and summary of findings

Study reference & year	Study characteristics	Summary of findings
An evaluation of the first year's experience with a low-cost telemedicine link in Bangladesh[28] (2000)	Non-controlled clinical case series. Evaluation of 27 telemedicine referrals between the UK and Bangladesh over a 12-month period.	Morbidity (various mainly orthopaedics and neurology). Referral was judged to be beneficial (e.g. change of management, diagnosis or reassurance) in 24 cases (89%)
Assessment of benefit in tele-ophthalmology using a consensus panel[24] (2003)	Non-controlled clinical case series. Consensus method assessment of benefit of 113 teleconsultations between the UK and South Africa over a 12-month period.	In 9 cases (10%) there was potential for definite improvement in visual health. In 48 cases (53%) there was potential for possible improvement of visual health
Assessment of The Starfish Malaria Project in TARUD, Gunjur, The Gambia[21] (2010)	Descriptive study and before and after comparison of outcomes. Evaluation of malaria bed net distribution and awareness project	Number of cases of severe malaria at the clinic fell from 179 in 2008 (pre-intervention) to 26 in 2009, believed to be due to the interventions since 2008. No data presented on malaria mortality or non-severe cases.
Direct observation of treatment for tuberculosis: a randomized controlled trial of community health workers versus family members[23] (2004)	Before and after comparison of outcomes. Implementation of a community TB programme. (NB the RCT was comparing the subsections of DOTS by community health workers versus family members.)	Overall combined TB cure/completion 67% compared with 27% prior to implementation (40% improvement; 95% CI 34-46%). (Also described in the 'Research into practice' paper below[5])
Establishing a breast clinic in a developing country: effect of a collaborative project[25] (2004)	Non-controlled clinical case series Assessment of a new breast clinic (first 18 months) using clinic records	Improved pick up rate of breast cancer. 103/295 (35%) of breast masses were proved to be malignant of which 72% had early breast cancer. No data on outcomes after diagnosis.
Establishing a cancer pain clinic in a developing country: effect of a collaborative link project with a UK cancer pain centre[26] (2001)	Non-controlled clinical series. Internal assessment of effectiveness of a new cancer pain clinic: audit of the first 100 patients treated.	Overall improvement in pain (Brief Pain Inventory) score and depression (HAD score) after treatment
Operation Hernia to Ghana[27] (2011)	Descriptive account of a case series of surgical procedures performed over a six day period	Ninety interventions (hernia operations) performed on eighty patients
Research into practice: 10 years of international public health partnership between the UK and Swaziland[5] (2010)	Various before and after comparison of outcomes. (Also describes the Tuberculosis trial described above[23])	Epilepsy: Decrease in proportion of seizure free patients from 65 to 88% between 2003 and 2007
Review of Health Links in Ethiopia[22] (2009)	Descriptive and case reports. External evaluation of 4 health links in Ethiopia.	49 women reported to have used a new ambulance for assistance during complicated deliveries

criteria, given a lack of summary measures of effect (such as risk ratio) or confidence intervals.

Results

The use of this approach for study selection yielded 1869 results (MEDLINE: 506 EMBASE: 978 Global Health: 358 Citation searching: 26 Contacting experts: 1). All of the complete references from these databases were exported into a reference manager and duplicates were removed leaving 1375 articles. Titles and abstracts were screened and all articles obviously not about UK Health Links (as per above intervention definition) were removed. Of the 81 articles identified on UK health links, 59 full texts in addition to 19 abstracts were identified. Full texts and abstract were reviewed in detail and assessed for eligibility. 35 papers were identified as having any mention of health outcomes in any context. Of these, 9 papers fitted the inclusion criteria outlined above. Examples of papers excluded were:

- Discussing potential impact of a link in the future[8]
- Toolkit on how to measure impact[9]
- Reporting of patient outcomes, but not implied as consequence of link[10-13]
- Evaluations of health links reporting the challenges of measuring impact[14,15]
- Number of patients treated and training given, but

not reporting patient health outcomes[16-19]
- No abstract or full text available[20]

In terms of study characteristics, no systematic reviews of health links were identified. Of the selected articles, seven were published in peer-reviewed journals, and two were internal reports produced by organisations.[21,22] There were a variety of study designs including three before and after comparison of outcomes,[5,21,23] five case series,[24-28] and one descriptive evaluation with a case report.[22] The strength of evidence could therefore be considered fair or poor according to the hierarchy of evidence framework used.[7]

Health outcomes were not the main focus of most of the articles and the subsequent synthesis and critique should take that into account. In most instances data and descriptions of health outcomes were extracted from articles for the synthesis. The focus of most of the articles was on describing an overview of the activities of the health link, often reporting capacity building activities. Given that most of the articles were produced by those involved in the health link there was potential for publication, reporting and measurement bias across all of the studies. In terms of reported outcomes, one study reported a reduction in mortality,[23] whereas the other eight reported a range of different morbidity related health outcomes. ***Table 2*** summarises the characteristics and findings of the individual studies.

Looking at results of individual studies, some papers did explicitly aim to report health outcomes.[5,23,24,26,28] In one, data were collected for the baseline year on 244 patients prior to the intervention (implementation of community based Direct Observed Treatment Short-course (DOTS)) and 1326 patients were enrolled into the trial, demonstrating an overall combined cure/treatment completion rate of 67% following the intervention compared with 27% prior to implementation (40% improvement; 95% CI 34-46%). No data is presented that compares baseline characteristics of the before and after intervention group, and the authors comment that there were problems with incomplete data for the baseline year. There is therefore a possible risk of selection or measurement bias.[23] In a separate paper, authors from the same health link described data from a register of 530 patients before and after starting a chronic disease programme for epilepsy demonstrating an improvement in the proportion of seizure-free patients from 65 to 88%.[5] A third (unpublished report) presented clinic data on malaria cases before and after a bed-net distribution intervention, reporting a reduction in the cases of severe malaria from 179 in 2008 to 26 in 2009, but there was no mention of possible confounders.[21]

The case series articles were generally evaluations of new services implemented. In two of these the intervention was a telemedicine link. In one, clinical staff in Bangladesh evaluated the outcomes of 27 telemedicine interventions in relation to the likely outcome if a telemedicine service had been unavailable and reported that referral was judged to be beneficial in 24 cases (89%).[28] In the second, a consensus panel of Ophthalmologists reviewed 113 teleconsultations reporting that in 63% of cases there was potential for definite or possible improvement of visual health.[24] In both of these studies there was a risk of information (observer) bias.

Two papers reported case series following the establishment of new clinics in developing countries. One reported an improved pick up rate of breast cancer, although it was not clear what this was being compared to.[25] A second reported an improvement in pain and depression scores after treatment at a newly established pain clinic. There was a risk of measurement bias with this study.[26]

One study reported the number of interventions performed on patients by a team of surgeons.[27] The final study was an external review of four health links in Ethiopia. Although its focus was not on health outcomes, a case report was included of a patient with complicated delivery who had benefitted from an ambulance provided by the health link.[22]

Discussion

Principle findings

This study set out to review the literature on whether UK health links improve health outcomes in developing countries. In summary, the strength of evidence could be considered fair or poor, reflecting the lack of high quality research in this area. However, broad trends across the studies do appear to demonstrate improved health outcomes as a consequence of health links. However, the reporting of health outcomes was not the primary intention of most of the articles reviewed. Furthermore, health links engage in a variety of activities and have a wide range of objectives, and hence do not result in outcomes that are easy to compare. One study was

identified that reported a reduction in mortality, several studies reported improved morbidity as a consequence of UK health links, and no studies reported adverse health outcomes. These findings may be of relevance to those involved in managing health links and co-ordinators and advisors of health links such as THET.

Strengths and weaknesses of the study

There are however several limitations of this review. At individual study level the quality varied. Some of the studies may have been at risk of bias (selection or information) as well as confounding and these issues were not adequately discussed. There are several potential limitations at review level. Firstly, a trend towards publishing positive outcomes of health links could lead to outcome reporting and publication bias. Secondly, focussing on identifying published studies on electronic databases may have reduced the sensitivity of the search strategy. However, incomplete retrieval of identified research did not appear to be a major limitation with this review. Language bias was also unlikely considering that the focus was on UK health links.

Meaning of the study, policy implications and future research

In conclusion, this review suggests that there is little strong evidence, but a broad trend, that UK health links improve health outcomes in developing countries. However, lack of strong evidence that UK health links improve health outcomes does not necessarily imply that the activities of UK health links do not ultimately impact on health outcomes. The challenges of measuring impact have been well documented[1,2,4] and include; many developing country link partners receiving support from multiple sources making attribution to a specific intervention complex; links focussing on training and capacity building, the impacts of which are indirect and long-term; the lack of baseline surveys for comparison and follow-up outcome evaluation[1]; lack of expertise in monitoring and evaluation.

This perhaps explains the paucity of studies that report patient health outcomes, compared with those that report health link activities. However, there are limits to what kind of studies can feasibly be undertaken. Although Randomised Controlled Trials are considered the most rigorous study design it would be difficult to blind a population to such an intervention as a health link. However, with careful study design it might be possible to compare health outcomes served by a health link with a control population in a nearby district and this could be an area for future research. Furthermore, strengthening monitoring and evaluation of health links could improve health outcome data collection.

The currently literature and policy climate is favourable for health links and supports their further expansion but uncertain times lie ahead with the planned reorganisation and perilous financial situation of the NHS. More robust high quality data demonstrating improved health outcomes of health links could provide a powerful argument for further support and expansion of UK health links.

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Literate women, Literate world

"Educate one man, you educate an individual, but educate a woman and you educate a whole civilisation"[1]

Farah DIn

Of the world's 785 million illiterate adults, two-thirds are women.[2] Education is a basic human right[3], but it is well known that citizens are deprived of this right, with the majority of those deprived shown to be female.[2] These women are concentrated in the poorest nations of South and West Asia, Arab state and Sub-Saharan Africa where opportunities for families to advance in these societies are already few and are considerably worse without education.[2]

Disparities between men and women have existed historically. Correcting these inequalities by improving female literacy would have a profound impact on society. The role of a woman as a mother and a carer for her family is vital in driving change. Not only would teaching women to read and write benefit themselves, it would also benefit their families and communities.[4] Young women with higher levels of education are shown to marry later, practise family planning, be more productive and raise healthier children.[5]This in turn results in a country decreasing population pressure, reducing poverty and offering its children a better future in an upward spiral of benefits.

Education is a key component of the poverty cycle and can be one of the most accurate markers of deprivation.[4] A report by the Child Poverty Action Group concluded that "Child poverty and unequal educational opportunities are inextricably linked.[6]" There is some debate as which comes first, poverty or poor education? Children's educational attainments reflect their poor economic and social prospects, trapping them in a lifetime of poverty. Those who are born into poor families with no qualifications often have fewer opportunities to become educated and improve upon their situation. However; there is a way to break this cycle: educating women.

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The education of women has been accepted as a vital input to welfare, particularly in the developing world. The increasing importance given to women in society can be illustrated by the establishment of global goals and policies prioritising girls and women. Empowerment of women and improvement of literacy is emphasised in the Millennium Development Goals. Two of the goals aim to 'eliminate gender disparity in primary and secondary education' and 'ensure that children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.'[7] The UNICEF 2009 report states that children are the best investments in human development and produce great economic and social returns.[8]

The benefits of education are innumerable but in this essay the focus will be on three contributions: decreased female mortality, child survival and development, and improved productivity. These will be used as examples of the importance that female education can have to international development and global health in the developing world.

Decreasing Female Mortality Through Education

There has been an overall decrease in mortality and an increase in life expectancy by almost twenty years over

the last century in men and women globally.[9,10] However, large inequalities in health still exist: the life expectancy of a baby girl in Canada is 81 years, whereas if she was born in Zambia she would expect to live to just 39 years.[3] A World Bank statistic claims that an additional year of schooling for 1,000 women helps prevent two maternal deaths.[11] The importance of a person's education on their own health and survival should therefore not be underestimated.

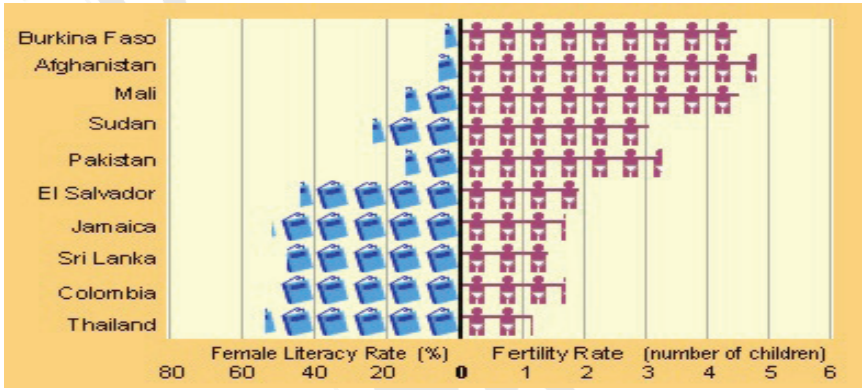
One aspect of the changing nature of the global AIDS epidemic is the feminisation of HIV is occurring, with women now making up 57% of people with HIV in sub-Saharan Africa.[12] Unfortunately, there is a corresponding poor knowledge of HIV transmission in females, with only 23% of African females having correct knowledge on HIV/AIDS. Literate adult women were 28% more likely to know how HIV is transmitted in comparison to illiterate women.[5] Local misconceptions regarding disease transmission are often responsible for misguided knowledge. Increasing literacy would be invaluable in increasing health knowledge and reducing HIV related mortality. Girls and women are often vulnerable, as they can have less ability to choose with who and when they have sex.

Women are also particularly unaware of how to prevent sexual transmission of HIV.[13] Education has been shown to improve the practice of safer sex through increasing the use of condoms and thereby decreasing the incidence of HIV infection. As well as literacy, the duration of education a girl receives can also correlated with HIV risk. A research review carried out by Action Aid concluded that 'girls who had completed secondary school had a lower risk of HIV infection and practiced safer sex than those who had completed primary school only.'[12] This illustrates how length of education can have a positive influence on a women's ability to absorb information on the prevention of HIV.

Complications of childbirth is another threat to a woman born in a developing country. A lifetime risk of dying from pregnancy-related complications can be 45 times higher than that of women in resource-rich countries.[14] It is estimated that 529,000 women die every year from complications of pregnancy and childbirth, with 99% of these deaths in resource poor countries.[14] A key factor that dictates maternal mortality as a result of childbirth is the increased risk of death with a greater number of pregnancies. A highly significant relationship between educated women and decreased family size was found in a study conducted in Rajasthan, India. Literate women are more likely to intentionally have fewer children by implementing better fertility control.[5] Apart from increased awareness of contraception, decreased fertility rates in better educated women may also occur because they realise a better quality of life for their family can be achieved through having fewer children. In other words, education leads to healthier, smaller families.

This education-fertility relationship is illustrated for selected countries in ***Figure 1***. As the female literacy rate increases, fertility rate decreases proportionally, with women in more impoverished countries having a greater number of children. Reduced fertility rates ease pressure on health services in poorer countries and in the future can mean health service recources being re-directed.

Figure 1: Women's Literacy and Fertility Rate[16]



The consequences of fertility decline for women are greatly advantageous. Greater opportunities for personal development, education, work and freedom will be available for women with fewer child-rearing responsibilities.[15] Apart from the number of children a woman has, a mother's susceptibility to death as a result of childbirth is also dictated by other factors. These include the conditions under which she is forced to give birth, a woman's own health and nutrition and her ability to access health services. These are all factors which are greatly improved with increased female literacy.

Apart from biological factors, the health of a woman

is also affected by the social roles that she adopts. A WHO article explains that the differences in patterns of disease experienced by men and women can relate to the variations in the daily lives of males and females and the effect of these on their health. Women are more likely to partake in tasks such as water collection which can put them at greater risk of infectious diseases.[17]

It has been postulated that family dynamics may also change as a result of female education, allowing females to become more confident and autonomous than uneducated women. For example, educated women may be more aware of the importance of accessing pre- and post-natal health care service due to the increased autonomy associated with education. They may be more willing to travel alone to access it or to encourage a partner to accompany them. However, current evidence in resource poor settings does not encourage this theory. This may be because other factors were at play or because studies were carried out at a small village level.[18]

Maternal Literacy and Child Survival and Development

Scientific interventions have allowed low-cost, low-technology interventions to be introduced into resource poor countries which can tackle poor health directly and reduce child mortality. Prevention of life threatening dehydration among diarrhoea-affected children with improved delivery of oral rehydration therapy is one such intervention. Growth monitoring, promoting breastfeeding and immunisation programmes have been also been implemented in UNICEF's GOBI program to increase child survival in these settings.[19] These low-cost strategies are particularly pertinent; the most common causes of child death in the developing world include lower respiratory infections, diarrhoeal diseases, low birth weight and malaria infection.[20]

However, there is also a powerful association between maternal education and infant mortality. Increased maternal schooling correlates with women giving greater importance to healthcare as well as correlating a significant increase in infant survival.[21] Each additional year of maternal education produces a 6-9% decrease in under-five's mortality.[22] There is also a strong positive relationship between education and childhood mortality in all major regions of the developing world.[23]

Educated mothers and fathers are shown to have a beneficial impact on the next generation through producing better educated children with innumerable consequent benefits for society. In addition, maternal schooling is believed to influence a girl's education more than increasing paternal schooling.[24] As each generation of women become literate, the rewards for society increase and result in an improved quality of life for future generations.

Results of studies conducted in Nigeria concluded that "maternal education is the single most significant determinant of child mortality."[25] Empowering women through education can act to save the lives of an estimated nine million children worldwide who die from preventable causes.[9] An educated woman is more likely to practise better hygiene, make timely decisions with respect to her child's health, be more conscious of her own and her family's well-being and will be more likely to use proper health care services when required. Even simple tasks such as reading a medicine bottle will become possible through basic female literacy. Maternal education also leads to a better quality of life for her family due to increased income, water hygiene, clothing, and nutrition. These indirect factors have been estimated to account for approximately one-half of the maternal education-child mortality association.[25]

Another important mechanism through which maternal education improves child survival is by improving rates of childhood immunisation. A study conducted in two villages in Indonesia concluded that the educational level of a mother correlates with improved probability of a child being immunised. A 9.8% increase in levels of complete immunisation of children between those who had received secondary education (seven years plus) compared to the illiterate group of women was noted. It was also concluded that not knowing the purpose of certain immunisations also reduces the probability of a child being fully immunised with this effect being reduced with education.[26] Education is a simple way to remedy this.

Literacy and Economic Development

Within the developing world, countries in Sub-Saharan Africa have the poorest record of development.[27] It is not a coincidence that the lowest female literacy rates, slowest process of development, and largest gender inequalities are also found in the same region.[28] A strong relationship between equality in education and development is illustrated in ***table 1***. Countries whose

citizens are denied basic education are less likely to progress along the development pathway, represented by the human development index (HDI) rankings of 182 countries. HDI is a measure of a country's development taking into account life expectancy, adult literacy rates and the combined gross enrolment ratio in education as well as GDP per capita.[29] In particular, those countries with a greater gender difference in literacy rates have shown poorer developmental progress than other countries. Afghanistan has a 30% difference in literacy rate between males and females and has a HDI ranking of 181 out of 182 countries whereas Mexico has a 3% difference and has a HDI ranking of 53.

Table 1: Differences in Gender Literacy Rates and HDI Score

Country	Literacy Rate (%)[30]		Gender difference in literacy (%)	HDI [31]
	Male	Female		
Brazil	90	90	0	75
Mexico	94	91	3	53
Indonesia	95	89	6	111
China	96	90	6	24
Saudi Arabia	89	79	10	59
Chad	43	21	22	175
India	77	54	23	134
Ethiopia	50	23	27	171
Pakistan	68	40	28	141
Niger	43	15	28	182
Afghanistan	43	13	30	181

The impact that education has on an individual can be quantified through 'return on education' which measures how much a person gains through being educated. A review evaluating 28 studies conducted in sub-Saharan Africa from the 1980's onwards concluded that the mean return on education is 5% for primary schooling, 14% for secondary schooling and 37% for tertiary education.[30] As expected, a strong relationship is present between the number of years of schooling and the individual benefits gained. Education is also related to improved productivity; one year of education is associated with a 3-14% increases wages.

The developmental discrepancies between countries can be explained through the presence of a skilled and well-educated workforce, which is thought to be a main factor in governing growth.[31]In Sub-Saharan Africa, women contribute substantially to farming and are responsible for approximately 60-70% of food produced. Investment in women's education would, as a result, produce more efficient food production as well as improving household nutrition.[32]

The significance of women in development was highlighted in the United Nation's 2005 report on the MDGs in which the Secretary General of the United Nation argued that gender equality is a "prerequisite" to achieving the Millennium Development Goals.[33] Many advocates for the education of girls also exist at a local level with groups supporting community-based education such as one founded by ex-climber Greg Mortenson, co-founder of the Central Asia Institute.[34] This non-profit group aim to provide community-based education particularly for girls, in remote areas of Afghanistan and Pakistan. These organisations have accepted that the education of girls is an important step to breaking the cycle of poverty. By ensuring women are as employable as men, families can be kept out of poverty and be given a better life for themselves and their children.

Barriers to Education

Despite improvements in access to schooling in developing countries since 1990, 77 million children including 44 million girls do not attend school. This can be due to economic, social and physical challenges, as well as large family sizes, HIV/AIDS, and conflict.[35] Policies involving the construction of more schools, incentives for girls attending schools and abolishment of user fees are in place to correct inequalities and empower women through education. But why are they not enough to bring about significant change? How many years of education are required to have an effect?

In many countries, cultural beliefs often ignore the economic potential of women. A report on Women and the Economy in India states:

"Woman's participation in employment outside the home

is viewed as inappropriate, subtly wrong, and definitely dangerous to their chastity and womanly virtue." [36]

Such attitudes towards women have many consequences as the economic potential of women are not utilised. Closing the gender gap requires a wider view of the needs of developing countries as well as addressing life in traditional communities where a subtle approach to implementation of female education will be needed. There are also countries where health services are so poor that they have no effect on the health of educated mothers compared to uneducated mothers.[22] Does this mean that support should not be given for policies to promote women's education? It cannot be denied that women are worse off than men in many respects including access to education, mortality and morbidity. Action should therefore be taken to tackle this discrimination and exclusion of females regardless of the difficulties present.

Education is intrinsic to better health, development and reducing mortality. However, the "ripple effect" initiated when women are educated should not be underestimated, where the initial action of improved education gradually expands to produce a greater effect throughout the whole society. Although there is an increased awareness of the significance of education among policy makers, literacy is not increasing as rapidly as it could be or in line with the MDG. It is necessary for the barriers to education to be addressed and overcome to offer the 785 million illiterate people in the world the same opportunities and quality of life that is often taken for granted by others.[3] Failure to achieve equal opportunity in education will condemn girls to the same life of ignorance and poverty that previous generations suffered. The value of a girl's education is priceless.

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Medical Elective at Mae Tao Clinic, Mae Sot, Thailand

Gracia Fellmeth

Abstract

Mae Tao Clinic in Mae Sot, on the border between Thailand and Burma, was established 20 years ago by Dr Cynthia Maung, a Burmese of Karen ethnicity who fled to Thailand in search of refuge from the brutal military regime of her home country. Her vision of providing much-needed medical care to fellow refugees was originally realized in modest settings: a small hut served as a clinic and a rice-cooker doubled as a sterilizer of surgical instruments. Since then, the clinic has come a long way and now comprises medical, paediatric, reproductive health and minor surgical departments as well as a prosthetic limbs department for victims of landmines, a laboratory, and a blood donation system. The clinic is staffed by qualified health professionals and volunteer "medics" who receive basic training in healthcare on-site and almost all of whom are refugees from Burma themselves. Funding is minimal and accrued largely from private donors and NGOs. Collaboration with the local government hospital and international aid organizations such as Médecins sans Frontières has led to a strong network of support and referrals. My medical elective at Mae Tao Clinic was an eye-opening lesson not only in providing clinical care in low-resource settings, but also in the inevitable entanglement of medicine and politics.

Background

In September 2007, the world's eyes rested nervously on Burma. As Buddhist monks in saffron robes took to the streets of Yangon in unprecedented numbers, they sent out a powerful image to the rest of the world. Triggered by the ruling military junta's sudden levy of fuel subsidies, the peaceful protests were born out of decades of military rule accompanied by systematic violence, oppression and bloodshed directed at ethnic minority groups. Combined with the ensuing devastating economic hardship, distress migration into neighboring Thailand has occurred on a massive scale since the early-1980s, with intensified outpourings of refugees following periodic military crackdowns in the late-1980s and mid-1990s[1].

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Forty years of this military dictatorship rule have left Burma's healthcare system in a state of disarray and the health of its people crippled. Statistics provide a glimpse of the situation's urgency: the maternal mortality rate is 360 maternal deaths per 100,000 live births, and rates in areas most affected by ethnic conflicts are thought to be as high as 1,000 deaths per 100,000 livebirths[2]. A third of children aged under five years are stunted or malnourished, and infectious diseases such as malaria are a common cause of death across all ages[3]. Those fortunate enough to cross the border into Thailand face a myriad of barriers to accessing healthcare: their illegal status deprives them of rights to seek care or shelter anywhere other than within designated refugee camps.

The Clinic

Mae Tao Clinic, located in the small, Thai border town of Mae Sot, was established by Dr Cynthia Maung in 1989. Having herself fled the military regime in her na-

tive Burma, Dr Cynthia sought to help fellow refugees. From humble beginnings – rumour has it a rice-cooker served to sterilise surgical instruments – the clinic has developed over the last 20 years into a health centre offering in-patient and out-patient services for children and adults, as well as a reproductive health unit, a minor surgery unit, a prosthetic limbs unit for landmine victims, and a basic laboratory. The clinic is staffed by six medical doctors and 80 'medics' with basic healthcare training. Many of the medics are refugees who first sought the clinic out as patients themselves. Most are of Karen origin, representing one of Burma's larger ethnic groups.

Clockwise from Top: Dr Cynthia Mung, Clinic founder; Gracia in childrens outpatients; Adult inpatients; Registration in the clinic. **All photos taken and published with permission from Andrew Malec**

Although more complicated cases are referred to the larger, government-funded hospital in Mae Sot or the local Médecins sans Frontières team, the majority of cases are dealt with at the clinic through the endless dedication of staff. Services are provided free of charge. Patients present with symptoms and conditions ranging from the acute and life-threatening to the chronic and routine. The clinic is popular with medical elective students from around the world, and placements are very well-organised. Students rotate around the different units and are thereby exposed to the full spectrum of patients and departments: children and adults, in-patients and out-patients, and surgical and medical cases.

The Elective

I started my placement in the paediatrics department. During my time in out-patient clinics, I worked alongside a Naw Eh*, a knowledgeable and endlessly patient Karen medic who had been working at the clinic for five years and had received all her training there. Naw Eh led me through case after case, translating any questions I had and the patients' responses back and forth between Karen and English. The patient turnover was unbelievable: together, we would see around 40 patients in a 3 hour morning session. Coughs and colds, diarrhoeal illnesses, and malaria were common, but underlying malnutrition often rendered these easily treatable conditions potentially fatal. Treatments available included antibiotics, simple analgesia, vitamin supplements and de-worming tablets, but health promotion and education played an equally important role and parents were repeatedly reminded of the importance of hand-washing, sleeping under mosquito nets, and breastfeeding, amongst other things.

Indecisiveness was not an option: should we prescribe antibiotics for the girl with the on-going cough, or would they be better used on the newborn with the high temperature? Which of the many unwell children we saw were ill enough to warrant admission? And when malnutrition is so common that it almost becomes the norm, how do you decide who to send home with the bag of soya beans and bottle of milk? Over and over again, we had to decide. More often than not I wanted to err on the side of caution, to investigate, to admit, to treat. But only seldom did the medics agree: their thresholds were much higher, reflecting not only their practical experience but also a deep and engrained awareness of the scarcity of supply. I quickly learnt that when there is not enough to go around, priorities must shift.

On the medical ward, doctors' rounds took place whenever medics and doctors could find time. Staff were so stretched (the adult in-patient department had one doctor and four medics for 40 patients) that the most urgent cases had to be prioritized, often to the neglect of the other patients. I spent time examining patients with enlarged livers and spleens, diagnosing TB, malaria, and cancers, and, too often, watching victims of these illnesses pass away. Patients' relatives took on the roles of caring, washing, and cooking for their family members, sleeping on the floor under the patients' beds at night. I remember one patient particularly vividly: he was a young man who had been found and carried to the clinic by a passer-by. The patient was suffering from malarial hallucinations and was critically unwell. He died hours after admission. The illegal status of Burmese refugees in Thailand, and the political ramifications this has on family members, meant that no attempts were made to find relatives to identify them of his death. We didn't even know his name.

In the reproductive health department, I was allowed to watch and assist in deliveries, of which there were often up to eight per day and which took place under extremely basic conditions. Women in labour paced up and down the corridor until moments before delivery, then delivered their babies with no form of pain relief. All this was occurred in astounding silence – perhaps due to cultural norms, or perhaps due to the lack of privacy: women giving birth lay only a couple of meters apart, and were separated from each other by only by a thin sheet of curtain. Newborn babies were wrapped in a cloth and placed next to their mothers on thin mattresses laid out on the floor.

Conclusions

There were days when I returned from the clinic emotionally overwhelmed. But despite the drama and intensity of this placement, I never felt out of my depth. Within each department I was assigned to a named medic or doctor, and I was supervised at all times and for all clinical procedures I carried out. The staff were always supportive and always willing to explain things that were unclear.

So what did I learn? Medically, the opportunities for learning were excellent. I saw cases of schistosomiasis, filariasis, and many other infections I had previously only read about in books. I witnessed first hand how debilitating and life-threatening malnutrition, anaemia, and vitamin deficiencies can be in resource-scarce settings. I learnt that besides our standard duties of communicating, caring, diagnosing, and treating, doctors have an important role to play in the rather less tangible areas of patient education and empowerment. Working in Mae Sot made me appreciate that the population perspective is crucial in ensuring that health services and healthcare – no matter how stretched or scarce – are delivered in the most efficient, effective and fair manner possible. At the political level I learnt about the stark divide between West and East, between the 'haves' and 'have-nots', between the refugees and locals, and about how inextrica-

bly linked politics and medicine are.
*Please note: names has been changed for privacy purposes

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Profile

A Global Health Researcher: Professor Robert H. Gilman

Daniela Kirwan

Professor Gilman has been Professor at the Department of International Health, Johns Hopkins University since 1991. He also holds an Investigator Professorship at the Universidad Peruana Cayetano Heredia in Lima, Peru, and is an Honorary Professor at Universidad Catolica, Santa Cruz, Bolivia.

Could you please describe your career pathway?

I graduated from the State University of New York, Brooklyn in 1965. I did my residency in Internal Medicine at the University of Utah and Parkland Hospital, South Western University. Then I worked in clinical tropical medicine and did research into dysentery at the Orang Asli hospital outside Kuala Lumpur in Malaysia for 3 years, with the University of California, San Francisco on an NIH Fellowship. I finished the final year of my residency at Parkland Hospital then did a Fellowship in Infectious Diseases at the University of Maryland. As part of this Fellowship, I spent 4-5 months in Mexico City working on Typhoid fever.

After obtaining a Faculty position at the Infectious Diseases division of the Department of Medicine at Maryland, I did the DTM&H at the London School of Tropical Medicine and Hygiene. Then I worked at the Department of Medicine at Johns Hopkins, and with Hopkins I went to Bangladesh for 3 years to work in the Division of Geographic Medicine at the Medical School, Dhaka. Here I worked on diarrhoeal disease and dysentery, and I met and married my wife and we had our first daughter in Bangladesh. Afterwards I returned to Hopkins as an Associate Professor of Internal Medicine.

I first went to Peru in 1984 and lived there until 2001, and since then I have commuted back and forth between the States and Peru. Initially we worked on cysticercosis, cryptosporidium and other diarrhoea diseases, and *H. pylori*. My group, with researchers from the University of Arizona, were the first to describe *Cyclospora cayetanensis*, which is named after Cayetano University. We also worked on malaria and leptospirosis with Joe Vinetz from UCSD. In the 1980's we started working on tuberculosis using the Mycobacteria Growth Incubator Tube (MGIT) test. When MGIT tubes became unavailable because of cost, and we stopped receiving donations of MGIT equipment, we started looking at alternatives for diagnosis. We were using tetrazolium dyes, but the problem was that these dyes tended to inhibit growth. Carlton Evans from Imperial College London was able to find one that didn't inhibit growth and develop as a test for TB using colour change as an indicator for growth.

During this time one of our staff, Luz Caviedes, made the observation that using Middlebrook 7H11 media she could see the TB growing under a microscope, and that she was able to detect it visibly faster than the colour indicator could. Using liquid media, this was developed into the Microscopic Observation Drug Suspectibility (MODS) assay for TB, which also simultaneously detects resistance to rifampicin and isoniazid. MODS is now used in Peru where it is the reference test for detection and susceptibility, and in other countries such as South Africa. Now we are working on biomarkers for Multi Drug Resistant-TB, studies looking at cough frequency, and tests for pyrazinamide resistance. We have also expanded into studies in norovirus with Dr. Mayuko Saito and Chagas Disease with Caryn Bern from CDC. In Chagas we are doing epidemiology and congenital studies and looking at Chagas cardiomyopathy and HIV co-infection in Bolivia.

How did you first become interested in working in global health in the developing world?

I first worked in research as a student – at the age of

18 I had an opportunity to work in a virology lab, and I enjoyed it. At medical school I did some research, and took a year off to go to Sweden and work on Hashimoto's thyroiditis. I liked the process, so when I had a chance to go to Malaysia I wanted to do research. Once I was in Malaysia I knew I wanted to spend my life in Geographic Medicine, which was the equivalent of what we now call Global Health.

Professor Gilman in Camiri, Bolivia with an apple pie made for him by one of his students

How much time do you now spend on clinical medicine, how much on teaching, and how much on research?

These days I spend relatively little time actually seeing patients clinically, maybe 1-2% of my time. I mentor a whole load of students in Peru and the USA. I am the director of two courses at Hopkins which run for 4 and 2 weeks per year, the rest is research time.

What do you see as the most important public health problems in Peru?

I see that there are two: one is infectious diseases in poor countries, where there are problems with politics and bureaucracy that prevent implementation of basic interventions and getting coherent policies in place. The other is the rise of chronic disease that we are going to have to deal with, in particular the intersection of chronic disease with infectious disease. Thus we are seeing Chagas cardiomyopathy, but at the same time the patients have diabetes and hypertension - which is killing the patient?

How do you feel your research addresses these problems?

Getting new diagnostic tools that make it simpler to target individuals at risk. For example, we're starting to work on same-day diagnosis and treatment for TB.

What are the biggest challenges that you have encountered working in global health?

The main problem is with Institutional Research Boards. Getting ethical approval to do our studies causes big delays, which wastes a lot of peoples' time and resources. The hospitals and ethics committees often ask for things in return for ethical approval such as equipment or money. We get around this by working in areas where we know it is easier to obtain approval and simplifying our procedures where we can, but the whole process is very frustrating.

What do you consider to be your biggest achievement(s)?

We've done lots of research in basic sciences, developed MODS, etc. But many people have lab skills and publish papers. Probably my biggest satisfaction comes from mentoring and training a large number of global health students. Mentoring is something that a lot of research groups don't do very well, and I think that we do. We have large numbers of students from Peru and from all over the world working in our labs and in the field. If you look at how many great scientists and researchers have come out of Peru and gone into Global Health and taken things further – that's what I consider to be my biggest achievement.

What advice would you give to a junior doctor wanting to pursue a career in global health?

Pick a good mentor, and try and spend as much time as you can overseas because that's where the questions

and the problems are. You'll see new things that you wouldn't see sitting in a lab in England or the USA. By spending time overseas you get a better idea of what the important questions are.

A Trainee's Perspective

Danni Kirwan, CMT Trainee, Royal London Hospital

I took a couple of years out in between my Foundation Programme and Core Medical Training to get some clinical and research experience in Infectious Diseases. I was fortunate to meet Professor Gilman, known to friends and colleagues as Bob, and spent 18 months in Peru working mainly on TB with a little side-helping of Chagas Disease. When we first met I expressed an interest in spending some time in his lab, and Bob immediately invited me to come as soon as possible and for as long as I could. (He is a smart man and therefore quick to accept offers of free labour.) There followed a long discussion of ideas and suggestions for projects, punctuated by anecdotes and jokes, which flowed with the openness and enthusiasm that I came to know to be characteristic of Bob's way of working and thinking.

Professor Gilman and Danni Kirwan, with Dr. Alfredo Sotomayor, thoracic surgeon at Hospital Hipólito Unanue, Lima, Peru.

What was most appealing to me at this first encounter was that his group's research is clearly driven by a desire to develop simple and effective solutions to help underprivileged people suffering from disease. At some point during that first conversation I knew that I wanted to be a part of that.

My experience was by no means unique. Bob has an immense body of staff working in his laboratories at the Universidad Peruana Cayetano Heredia and in field sites throughout Peru and Bolivia. He knows everybody's name and personal circumstances, what they are working on and exactly what stage their research is at. He is always keen to take on students or trainees and will support them to decide which area they would like to work in and to develop and carry out their work, whether that involves seeing a new research study through from start to finish or collaborating with one of the existing larger projects. His research activities are broad and therefore there is ample opportunity for individuals to develop their own interests.

My main project was a TB diagnostics study collaborating with several hospitals in Lima. The initial phase of developing the study protocol and obtaining ethical approval was lengthy because of the number of persons and departments involved. Once we had the necessary paperwork it became much easier. A nurse and myself then worked across the hospitals and the university to enrol patients and collect samples, which was a great way of experiencing both the clinical and the lab aspects of TB research. Bob's approach is a practical one: students are essentially thrust into the field to start their research with little preparation beforehand. The learning curve is steep, but there are plenty of experienced people around to help. Looking back at my efforts at the start of my research I can clearly see ways in which I could have done things better. I learnt an immense amount through this process of trial and error and this experience will be invaluable in any future research.

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Conference Notes

A new feature for this issue, Alice Walker relays her experience at a recent event at the Royal Society of Tropical Medicine and Hygiene, and we bring you an exclusive report of our recent conference 'Dead or Alive: The changing role of aid in global health.'

Discovery meets Delivery at the RSTMH Biennial Meeting

Last September saw the Royal Society for Tropical Medicine and Hygiene's Biennial Meeting at the University of Warwick, with 'Discovery and Delivery of new Paradigms for Global Health' as its theme.

Plenaries and presentations on both strands ran in parallel, allowing delegates to titrate their own exposure to the scientific discovery behind global health interventions (tropical disease pathogenesis, drug and vaccine development, epidemiological surveillance and resistance monitoring) and the delivery of those interventions and implications for policy (organisation of health services in resource-poor and conflict settings, imported infections, implementation research).

Three keynote addresses bound both themes together. Dr Robert Newman from the WHO spoke about maintaining momentum in malaria control and elimination in Africa, an issue which poses significant challenges in both domains of 'Discovery' and 'Delivery'. Perhaps the biggest biological challenge to the continued success of malaria control is P. falciparum drug resistance, both to Artemisinins and to insecticides. In terms of delivery, despite the success of initial scale-up of proven interventions thought the Roll Back Malaria Initiative (long-lasting insecticidal nets, indoor spraying, universal diagnostic testing), equivalent financial investments in malaria control have not resulted in equivalent impact between regions. As a result, malaria remains an enormous health concern (estimated 655 000 deaths annually) and without sustained political and financial commitment we could see a rebound of the malaria burden. Both threats are intensified by the current uncertainty to Malaria funding, as evidenced by the lack of continuity of services funding by the Global Fund. However, its not all doom and gloom. The "Test, Treat and Track" initiative launched on World Malaria Day this year served as a reminder of how integration of infection and resistance epidemiology data with research into effective and convenient testing and treatment delivery models, can build upon the successes already achieved.

On the second day, Nathan Ford spoke on the response to HIV/AIDs in resource-poor settings. In his talk, he echoed the message from the previous day regarding the need for sustained engagement in public health efforts. He spoke of the surge in political engagement and novel funding mechanisms which led to the dramatic progress in access to HIV treatment. However, the challenge for the future is not only to learn from these successes, but to deliver sustained, long-term care for a disease which is now a chronic health condition.

Finally, Tachi Yamada, chief medical officer for Takeda Pharmaceuticals spoke on the importance of Innovation in global health progress, emphasising how the process can take various forms. On one hand, 'evolutionary innovation, builds on initial successful efforts through iterations of past inventions, such as the RTS/S vaccine currently in development. 'Revolutionary innovation', however, has the capacity to turn standard viewpoints on their head, as evidenced by the revolutionary discovery for the infective basis for gastric ulcers by Marshall and Warren. Importantly, Mr Yamada stressed the importance of not simply restricting the realms of innovation to 'Discovery' through science and technology, but also how it can apply to 'Delivery'

through the creation of sustainable and socially valuable business models that can also satisfy a health need. He used 'A to Z', a Tanzanian textile company which manufactures insecticide-treated bed nets at low cost while creating much-needed public sector jobs in this part of Africa.

Interweaving of both strands of global health efforts left delegates with an interesting if daunting vision for the future of global health. Instead of thinking about research and implementation as mutually exclusive endeavours, this meeting emphasised the importance exploring whether the disciplines meet. Innovation and sustained scientific research into delivery models, combined with evidenced-based practice of implementation strategies in resource-poor settings will be key to strengthening health services, and thus the achievement of the health-related MDGs by 2015.

Dr Alice Walker, NCTFS Trainee

Dead or Alive? The Changing Role of Aid in Global Health.

Institute of Child Health, 6-7th April 2013

The first Alma Mata Conference in over 5 years took place in the venue of its previous one. The scale of the event was smaller, with the main plenaries taking place in the Leolin Price lecture theatre, rather than the grand stage of the Kennedy.

The weekend was designed to provide thoughtful, original insight into one of the greatest controversies within global health today - the continuing conundrum of the benefits (or lack of them) from aid. Thus, the plenaries were themed to give delegates a rounded knowledge of the topic. It began with a Plenary introducing Aid and

it's themes, before moving onto exploring Aid 'on the ground' and finishing on Sunday morning with a round table discussion on the future of Aid.

In between the second plenary, Saturday afternoon allowed for several broad themed and original break-out sessions. These included how the media covers Aid, Conflict and Aid, a case study into Renal Dialysis in Malawi, a mock debate centring on the UK's continuing donations to India and The principles of Defence in Aid.

Please note, we ask consent from all our speakers to publish and broadcast their thoughts and addresses. Any talk not addressed within this report is due to us being unable to gain consent at time of press.

Plenary 1: Is Aid Effective?

Key points from speakers: economic justice, health system governance, ethical aid and Nightingale's risk (if humanitarian aid is available, war is more easily permissable as the cost of injuries and other negative outcomes is reduced).

According to PM David Cameron, long-term development needs a stable government; institutional frameworks, legal systems and human rights. Comparison of factors leading to development in sub-Saharan and eastern countries, paired according to their history of conflict/stability/resources, shows three key factors:

- Macroeconomic stability (low inflation and little currency devaluation)
- Economic freedom for farmers and entrepeneurs
- Pro-poor public spending (on agriculture/public services and infrastructure)

If these key three factors are in place, the government does not necessarily have to be stable. The most successful country studied was Vietnam (not known for its democracy!), but also corrupt governments with no rule of law also improved their GDP. So it's not "good governance" per se, rather outreach, and the expedience to increase earning power for as many as possible as quickly as possible.

International aid should aim to help governments manage aid to cement their long-term vision, not to implement short-term changes which prioritise fast short-term growth not long-term socio/economic transformation. Is the incentive for change in these countries necessarily based upon a high domestic/international threat?

African Leadership Institute: talked about the principles of leadership: integrity, service and humility, empowerment, risk-taking and courage, visionary with long-term perspectuve, and the ability to emotionalise the future (not the past). According to the UN office of HR, sixteen of the lowest corruption index countries are in Africa. Governance in Africa can be measured using the Mo Ibrahim Index. Those scoring lowly are often found to be suffering from African Union Syndrome: authoritarian kleptocracies with strong leaderships, interested in power not country leadership.

Paris Declaration of 2005:

1. Ownership: Developing countries set their own strategies for poverty reduction, improve their institutions and tackle corruption.

2. Alignment: Donor countries align behind these objectives and use local systems.

3. Harmonisation: Donor countries coordinate, simplify procedures and share information to avoid duplication.

4. Results: Developing countries and donors shift focus to development results and results get measured.

5. Mutual accountability: Donors and partners are accountable for development results.

Suggested reading: Wangara Mathai: The Challenge for Africa; Tim Butcher: Blood Diamond/Chasing the Devil.

In these situations, the roles of NGOs tend to be non-collaborative, driven by financial interests, with a tendency to replace the activities of government rather than playing a supportive role. This hardly fits with the stated aims of humanitarians (the 2005 Paris Declaration on Aid Effectiveness), nor the concept of transparent aid.

Plenary 2: Aid on the Ground

Matthew Clark from the Wellbodi Partnership regailed delegates with the initial barriers to paediatric care at the Ola During Childrens Hospital in Freetown, the capital of Sierra Leone. The Wellbodi partnership was formed several years ago, and adopted a local-led approach to problem-identifying and problem-solving. The very first action chosen by the hospital workers using donor money, was to repair a wall around the outside of the compound, rather than focussing on service provision! The sound logic behind this was having a secure perimeter, allowed local staff to feel secure at work from dangers behind them in the local beach area.

Other initiatives were less successful, such as the apparently simple act of reconnecting the water supply which required only the loan of a ladder to achieve, but then revealed multiple leaks within the hospital plumbing system. Offering healthcare workers financial incentives to attend their shifts or training days also had limited effectiveness , lasting three years in various incarnations before the local team were convinced that it was unsuccessful. Amongst other things within the hospital, Wellbodi opened a new emergency department and quickly were able to demonstrate that the cost per life saved was around £150. compared with the cost per life saved by the pneumococcal vaccine which is 3200 pounds.

Useful links:

RCPCH Global Link Volunteer Programme

Ruth Markus from AMECA spoke movingly but with clear direction about setting up a charity after the unexpected death of her son, an army doctor. She outlined the challenges and successes in establishing the AMECA Wing of Blantyre Hospital and discussed plans to set up bursaries for medical electives to promote global health amongst medical students. Within the AMECA website, Ruth has set up a medical database for hosting UIC surgeons/clinicians/elective students (not medical tourism but a form of skills exchange). She stressed a key point within all chartitable or NGO activities - don't build what you can't maintain!

Naomi Sims.

Plenary 3: The Future of Aid

This plenary asked the question, in these times of fiscal austerity where do we go from there? Our speakers presented their personal views on the future direction of Aid.

"How Much of Defence Aid is Just a Fear Factor?" John Greensmith

Titilola Banjoko, director and pioneer of AfricaRecruit, highlighted the changing nature of Aid throughout history, and asserted that this change will continue. Austerity, a different range of donors, the Bill Gates phenomena, and emerging nations e.g. China, all becoming increasingly influential today.

Titilola predicted aid agendas increasingly driven by global issues such as climate change, safety and security. However, receiving nations are now questioning the value of aid - because of fears of corruption and the dependency culture that aid can foster. She felt that partnerships are the key - though diversity of donors allows the receiving nations more choice - and as such, is there now a market in Aid?

Dr Banjoko also noted the tendency for donors to lift the middle class, but not address the bottom of the pyramid resulting in greater inequalities. She envisages a future where instead of "big brother and small brother, it is going to be about, brothers sitting around the table". Locally driven and locally owned agendas may serve better than a global one.

John Greensmith, returning to the stand, recalled President Obama's 2009 speech in Ghana: "Africa's future is up to the Africans". He reiterated Titilola's points about the growing influence of China as well as Aid moving into defence. But he posed the question:

"How much of this is just a fear factor?" Asking if the world is more confrontational state now than during World War II?

John also touched on agendas driven by donor priorities rather than the countries best interests, and he advocates for Governments trying to take control of the agenda - but with partnerships again must be at the forefront.

Mbololwa Mbikusita-Lewanika, advisor to the EC-UN Joint Migration and Development Initiative & DFID Global Poverty Action Fund (GPAF), speculated on what are the Global Health priorities and issues? Highlighting the increasing burden of both communicable and non-communicable diseases. She reminded, indeed urged the room not to get too embroiled in politics at the expense of the people that are affected.

Mbololwa felt today's challenges include lack of robust health systems, migration of health professionals, agendas driven my increase in philanthropy and an overburdening of Ministers of Health with the demands of multiple donors. Citing success stories such as the HIV/AIDS campaign with unprecedented funding, research and political will - she noted that as always, a multifaceted approach is needed.

Like Titilola, Mbololwa asked what will and should happen in the post 2015 era? She stressed an ultimate goal must be no aid, and that it is essential to have this ideal in order to tailor activities towards that end. If agendas are decided at a global level, this may not address the issues of the population. Economic empowerment plays a key role towards this end. However, the overarching principle in all this is the right to health and universal access. To move forward she felt, we must address health inequalities first.

The plenary was followed by a lively discussion raising such points as the role of expansion of the middle classes and business in the future of aid. Working with the diaspora and the middle class to raise peoples consciousness in order to hold governments to account.

An intruiging case was made for investment rather than aid to combat aid as a self-sustaining industry. Though, how does this sit with the universal right to health? Delegates cited their own experiences of the double edge sword of philanthropy with donors' stipulations not working on the ground and conditionality increasingly effecting health policy.

The importance of a holistic package was raised with education featuring strongly. Though this can be hampered by poor coordination, but should we address this rather than saying aid is bad?

As a rounding rallying cry, the 'next generation' of global health and equality campaigners were called on by all plenary speakers to change the nature of the debate - from reliance and neo-colonialism to sustainability and self determination.

Clare Shortall, LSHTM, Paediatric Trainee London Deanery.

Break Out Sessions

The Politics of Aid - Chris Willott, Institute of Global Health, UCL

The House Believed that the UK Government was correct to withdraw financial aid donations to India. In this breakout session, the attendees gave a debate on whether the UK Department for International Development was ethically and morally correct to withdraw aid from India, which will stop in 2015.

Arguments for this were that the UK government is re-evaluating its aid programme in line with finally achieveing an international aid budget of 0.7% of GDP; as part of this it is aiming to primarily support the world's poorest countries and those recently affected by conflict. India is a member of the G-20, currently the tenth largest world ecomony, and rapidly increasing its GDP; it is a country with its own space programme and nuclear power. Crucially, India is also an aid donor to other countries, and India's president (and former finance minister) has laughed off the UK aid contribution as "peanuts", making up just 0.03% of India's budget. The UK aid contribution is also less than the remittances home to India from individuals living in the UK. India is a democratic country with a strong socialist tradition and can make its own choices about what social support to deliver to its own constituents.

The argument against withdrawing aid included the argument that despite India's economic growth, it remains a country with high levels of poverty; in 2005 33% of India's population were living in poverty according to the World Bank International Poverty Line methodology (less than US$1.25 a day), and today over 360 million people survive on less than 33p per day, and governance is

known to be poor with high levels of corruption affecting the delivery of services to those most in need, which is where international aid can be beneficial. The Indian government has not prioritised social support to minority communities, especially the LGBT community, and to suddenly withdraw funding support would exacerbate the isolation of such communities.

At the end of the debate at which I was present, neither side had altered their views.

Dialysis in Malawi: Delivering high-cost care in resource-poor settings - Dr Hamish Dobbie, renal consultant at Royal London Hospital

Dr Dobbie recounted how he was coindicentally requested to start a dialysis service in Malawi whilst working in a government hospital there, following the sudden illness and onset of severe renal failure of a very senior politician. This led to the setting up of a three-dialysis machine unit in Malawi, and empowering the healthcare workers to run it themselves without daily input from clinicians. The machines are suprisingly simple and easy to be fixed 'African-style', and have continued to give renal replacement therapy in the decade or longer since Dr Dobbie has been back in the UK.

Conflict and Aid - Dr Nadeem Hasan, SpR in Public Health

A retrospective analysis of incidents where humanitarian aid has actively prolonged human suffering: focussing on the international failure to act during the Rwandan genocide and subsequent heavy involvement in the refugee camps established for the fleeing Hutus (including Hutu activists and militia) on the borders of Rwanda. At several stages, NGOs had clear signals that the refugee camps were being used as safe spaces to re-arm and re-group and then carry out murderous raids on the neighbouring Tutsi population; workshop participants were asked at each stage whether they would have chosen to withdraw international aid which was primarily focussed on supporting the many women and children involved, but also appeared to be worsening the hostilities. Using hindsight makes decision-making much easier, but as the workshop forced partipants to make decisions based on freeze-framing the situation at each stage, the decision to withdraw was not obvious at any point.

Aid and the Media - Penny Simms, Media Officer, British Red Cross

How do you present yourself in the media limelight? How do you make sure your message gets across, rather than your dress sense? This was the essence of Penny's session, dovetailing pratical steps to ensure that, when presenting Aid situations and initiatives to the public through the medium of media, you end up with your story being the headline rather than the journalists.

In comparison to other sessions, this was not a discussion of a particular scheme or research. It allowed delegates to see numerous examples of media mishaps (most of which are readily available on Youtube. The beauty queen outlining her plan for world peace, or the an individual on newsnight losing any semblence of composure in a debate surrounding condoms and HIV prevention in resource poor settings.

Penny also showed two contrasting training videos of how to approach a filmed interview. From your eye contact to your posture, your background setting to your willingness to elaborate and interact with your interviewee (without compromising your message of course), the videos gave clear examples of good and bad practice when it came to giving interviews and relaying information about emergency aid situations.

Education in Global Health: A role for the Student Selected Component (SSC)

Maxwell J.F. Cooper[1] Andrea E Williamson[2] Eric Walker[3] Phil Cotton[4]

An important way for doctors to nurture interest in global health in the UK is by setting up and becoming involved in SSCs with their local medical school. SSCs are typically five week blocks within medical curricula, during which undergraduates explore medical areas of personal interest. Like an elective, SSCs may be undertaken in the UK or overseas but do require a designated supervisor and formal assessment. Practitioners may approach medical schools to offer an SSC or alternatively they can be "self-proposed" by students. In 2008 we established at Glasgow University medical school SSCs in "International Primary Care and Tropical Health" (MC), "Medical Peacework"(AW) and "Travel and Global Health" (EW).

Central to the biannual SSC in International Primary Care and Tropical Health is examining the role for primary care in achieving global health, including key aspects such as the Inverse Care Law and the 1978 Alma Ata declaration. This has been delivered at the university department of academic general practice by GPs with experience of both research and work in diverse clinical settings. Assessment of this part involves a formal essay, where the title is developed through discussion between the student and course leader. Examples include:

- The Israeli-Arab population: recognised barriers to equality in health
- What are the barriers and consequent problems in accessing appropriate healthcare for asylum seekers and refugees in the United Kingdom?

An additional component of this SSC is attendance on the part-time Glasgow Course in Tropical Health (1). This was established as a Glasgow university CPD course in 2003 (by MC) and is approved by the Royal College of Physicians (London) for medically qualified doctors to sit the Diploma in Tropical Medicine and Hygiene (DTMH) examination. SSC students thus have an opportunity not only to learn by attending lectures and laboratory training but also from meeting senior colleagues with significant clinical experience. In Glasgow, SSC students undergo formative assessment of a short clinical presentation on the tropical medicine course. Examples include:

- Sell me a VIP toilet! Physical and psychosocial steps to community sanitation
- Guinea worm prevention for beginners

Importantly, this SSC emphasises not only the clinical and the tropical but also "the global at home". Contributors to the course emphasise personal experiences of global health, be it an East African doctor's clinical work at home or a pharmacist's role supporting minority ethnic groups in Glasgow. The most highly evaluated part of the course is when students meet with an asylum seeker to learn about their journey coming to the UK.

In a globalised world, global health is no longer a foreign concept(2). A truly global viewpoint is increasingly important to prepare trainee doctors for the world on their own doorstep. In our experience SSCs provide an excellent opportunity to share and enhance students' natural enthusiasm for this subject and allow clinicians from all specialities to maintain and develop their interest.

These SSCs have laid the groundwork for the development of a new 'Global Health in a Primary Care context' intercalated BSc course in the clinical medicine programme in Glasgow. This is the first of its kind in Scotland. An additional consequence has been the recent establishment at Brighton and Sussex medical school of two SSCs on the same topic. We therefore believe that establishing SSCs not only contributes to the international perspectives of individual students, but also promotes wider awareness of global health as a core component in the formation of modern doctors.

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