Review

South-South Cooperation in health professional education:
A literature review

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In the literature on the evolution of funding approaches there is criticism of traditional funding strategies and the promotion of inclusive models, such as South-South Cooperation (SSC) and triangular models. The latter are felt to have a number of advantages. This article has four broad objectives: (*i*) to present a literature review on the evolution of Southern approaches to development co-operation; (*ii*) to indicate examples of current co-operative programmes in health and health professional education in Africa; (*iii*) to assess the advantages and disadvantages of these models; and (*iv*) to mention some emerging issues in monitoring and evaluation. The Boolean logic approach was used to search for applicable literature within three topic layers. Searches were conducted using PubMed, PLoS and other accessible databases. An initial draft of the article was presented to a group of academics and researchers at the Flemish Inter-University Council (VLIR-UOS) Primafamed annual workshop held in August 2010 in Swaziland. Comments and suggestions from the group were included in later versions of the article. It is important to note that the existence of various funding models implemented by a variety of actors makes it difficult to measure their effects. In health and health professional education, however, SSC and triangular models of aid provide conditions for more effective programming through their focus on participation and long-term involvement. With an eye towards evaluating programmes, a number of salient issues are emerging. The importance of context is highlighted.

International aid can take on a number of forms. Traditionally, official development aid via governments and global institutions is provided by members of the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD). Funding through these channels is commonly referred to as DAC funding. It is, however, important to note that various other players are also active in the global aid arena, such as international foundations, non-governmental organisations (NGOs), inter-governmental organisations (INGOs) and private funders.[1,2]

There is a global debate on the effectiveness of different implementation models of aid and the eventual measurement of impacts and outcomes on recipient countries and populations. There is much theorising over the intended outcomes of development and, therefore, by implication, what aid aims to achieve. The current focus in discussions around development shows a relatively holistic conception of wellbeing and quality of life, rather than narrowly defined economic measures.[3] There is furthermore an expressed need to understand the desires and intentions of all the parties involved in the aid relationship, from the political/foreign policy intentions of donors to the goals of recipients, and how these intentions and the consequent relationships were formed historically.[4]

In the literature on the evolution of approaches to funding there is a trend towards criticism of traditional funding modalities and the promotion rather of more inclusive models of aid, such as South-South Cooperation (SSC), comprising collaboration between partners in the global South, and triangular models, involving development partners supporting Southern collaborations.[1,5] The latter models are thought to have advantages,[6] notably a greater focus on partnerships and co-operation.

This article has four broad aims: firstly, to present the evolution of Southern approaches to development co-operation. SSC will be situated historically against the backdrop of aid generally in the post-World War II period. There is a particular theoretical background to the concept of SSC, which is importantly derived from the post-colonial experience of Africa, Latin America and Asia, loosely referred to as the developing world in current discourse. This historical positioning gives rise to a number of criticisms of traditional aid models, from terminology to practice.

Secondly, it aims to indicate examples of current co-operative programmes in health and health science education in Africa, which are based on the principles of SSC and triangular aid. Some of these programmes (notably the United States President's Emergency Plan for AIDS Relief (PEPFAR)) have evolved away from strategies based on vertical interventions, and at the time of writing were active in the brokering of co-operative partnerships and the facilitation of 'twinning' relationships.[7] The latter approach is in line with those typical of SSC and triangular models. In a policy document on approaches to collaborative projects, Rosseel *et al.*[8] mention a number of approaches combining Northern and Southern partners. The document makes specific reference to the social role of universities, and the role of higher education in human development, emphasising the role of institutions in promoting and supporting training that is beneficial to various communities, not only those communities in which they are based. Important to note is the key advantage of universities as co-creators of knowledge and facilitators of participation, producing types of science that are socially relevant to the needs of people. This is even more relevant in the area of health professions education.

The third aim is to note the advantages of these funding models as policy responses to the criticisms levelled against traditional funding arrangements. It is important to note that one cannot postulate a blanket assumption about the effectiveness of a funding model for all contexts. An understanding of the context where a programme is being implemented is of paramount importance in the decision on the funding model and definition of goals. These Southern models have particular relevance in the field of health and health science education. Health and education have been identified as the main drivers of SSC; yet, they have been given little attention. There is a need, therefore, to focus on these because of the long-lasting benefits; health professional education has particularly long-term outcomes.

Finally, there is a discussion on some issues that are indicated as having particular relevance in the process of monitoring and evaluating these programmes. Some suggestions of future areas that may be important in research are made. It is felt that there is a strong need for monitoring and evaluating data that move beyond financial and logistical reporting. Research that produces information on qualitative issues, such as buy-in and participation among partners, programme evolution over the long term, and contextual factors of programme design, is felt to be of importance when describing programme impacts and outcomes.

Methods
Literature searches for this article included those within three interlocking 'layers' of the topic, i.e.:
- examples of and literature on SSC in the field of health science education
- examples of and literature on SSC in the field of health
- examples of and literature on SSC in education.

Most information retrieval systems used on the web use Boolean logic when searching.[9] In this review, the Boolean logic approach was used to search for applicable literature within the three topic layers described above. Databases searched included Pubmed, PLoS (Public Library of Science) and *BMJ*. Searches were also done using Google Scholar. Searches were conducted using different combinations of keywords, including: South-South Cooperation, funding, health, education, health science, health science education, and Africa. Key literature sources were identified and their lists of references were reviewed to identify particular literature trails on the topic.

Criteria for the selection of literature included: (*i*) reference to international aid or co-operation in the field of education, and more specifically health science education; (*ii*) reference to aid and co-operation in the field of health; (*iii*) human resources for health; (*iv*) specific reference to SSC and/or triangular models of aid; and (*v*) focus on programmes in Africa.

Peer-reviewed books and journal articles were included, along with reports (not necessarily peer reviewed) from institutions and organisations. Content was scanned using the criteria listed above. Those selected for analysis were then reviewed and their content tabulated, categorised in relation to the four aims.

It is noted that there is a dearth of literature on programmes that focus on health professional education specifically, which was the key area of interest in the current study. There was much to be found on SSC and triangular models in health on the African continent, and furthermore very broadly on programmes in education. The review strategy was therefore to start with the broader literature on SSC and triangular models in education, progressively narrowing down to literature on health, and then further narrowing down to health science education.

As a final stage in the process, an initial draft of the article was presented to a group of academics and researchers involved in health and health science education (from Europe and Africa) at the Flemish Inter-University Council (VLIR-UOS) Primafamed annual workshop held in August 2010 in Swaziland. Comments and suggestions from the group were included in later versions of the article.

Results
Historical positioning of aid and global presence of the South
Criticism of international development aid and different funding models begin by pointing out the conceptual problems with the terms associated with the field (such as global South), and the very idea of development itself.[10] Reference is made to the roots of the idea of development in Western, positivist ways of thought. It is posited that use of the concept and term has essentially disguised a close relationship between funding/aid, colonialism and the workings of global capitalism.[10] Critics of the concepts encapsulated in the traditional aid paradigm point out that the use of these discursive constructs in essence describes a relationship of inequality between the global North and South, between the First World and the Third World.[11]

The term Third World as a concept emerged in 1952 in an article entitled *Trois mondes, une planète* by French demographer, historian and anthropologist, Alfred Sauvy. This article described the ideological division of the world during the Cold War, the term itself referring to countries, particularly those in the Middle East, South Asia, Latin America, Africa, and Oceania, that were *not aligned* with either the communist Soviet bloc or the capitalist North Atlantic Treaty Organization (NATO) bloc.[10] The original meaning of the concept therefore refers more pertinently to political alignment rather than to economic and social realities in these countries.

The Cold War had a particular impact on the implementation of aid for large parts of the 20th century. This conflict dominated the international policy stances of the then hegemonic states, i.e. the USA and what was then the Union of Soviet Socialist Republics (USSR), during the 1950s, with the two superpowers vying for ideological control over newly decolonised states in Africa, Asia and Latin America.

Partly in reaction to the experience of the Cold War in developing countries, and the perceived neocolonialist movement of international aid, SSC became prominent in development circles when Asian-African leaders met at the Bandung Conference, Indonesia, in 1955. The purpose of this meeting was to forge links in cultural and economic areas by and for the global South.

The Bandung Conference paved the way for the eventual establishment of the Non-Aligned Movement (NAM) in 1962, and finally the Group of 77 (G77) in 1964. The G77 issued a joint declaration at the conclusion to the United Nations (UN) Conference on Trade and Development in 1964. This declaration was based on the realisation that newly decolonised countries were at a disadvantage when it came to global trade and development, and that this disadvantage was endemic to the process of decolonisation. The vulnerabilities of the developing world in terms of international trade and labour division indicated the need to co-operate in leveraging international influence. Key in this era is the perception among countries of the global South that the funding flows of international aid were determining the

development agendas of recipient countries, more in line with the interests of donor countries than those of developing countries.[12]

The collaboration of NAM therefore strongly reflected a desire among newly decolonised countries to participate in global trade and investment on equal terms. There is furthermore strong reference in the joint declaration of this conference to the need to address issues around development and living standards of developing world populations.[12]

SSC as distinct funding model

It is important to point out that the SSC and triangular models of aid form a specific type of funding model among various different types. Some authors[2,13] identify the funding community as comprising donors that do not form part of DAC, OECD and the Organization of the Petroleum Exporting Countries (OPEC). There is further grouping of these 'others' into the categories: emerging donors, SSC and Arab donors.[2] Three distinct funding models become apparent: the DAC model, the Arab model and the Southern model. SSC and triangular models therefore fall under the Southern group of funding modalities.[1]

In terms of defining SSC, Sa e Silva[5] notes that SSC has probably existed since the very first independence movements in colonised nations. However, only in the 1940s did it acquire an institutionalised character. For the purposes of this article, and in line with the reference to the Bandung Conference, SSC is defined similarly to the view espoused by Sa e Silva. We will therefore demarcate our discussion to those initiatives displaying an institutionalised character, which fall under the banner of SSC.

Evolution of SSC

Sa e Silva[5] describes a very useful division of the three eras of SSC in the 20th century. It is interesting that this three-phase process mirrors the evolution of the development paradigm through its modernist, Marxist and postmodernist phases.

Phase 1. Self-reliance and political strengthening (1949 - 1979)

The colonial period in many ways represents the modernist era of development, with its hallmarks of positivist thinking, and the belief in a linear, almost natural developmental process. This way of thinking implies that all countries are at a certain stage on one, single development continuum, and that underdeveloped countries therefore need to follow the path that has been followed by the ex-colonial powers. The modernist era of development, which characterises the period immediately after World War II, was facilitated by technical consultants and multilateral agencies, with the rise of the influence of multinational corporations furthermore being an identifying characteristic of this phase.[14]

This history of colonialism and neocolonialism provides the backdrop to the start of various independence movements, and ideas around self-reliance (often referred to as de-linking from the world system), with widespread acknowledgement among newly decolonised states that the world economic system is exploitative of the global South. The idea of SSC in this context arose out of calls for collective action, presented as an 'alternative to the traditional path of development'.[5] The G77 was interestingly referred to by Tanzanian president, Julius Nyerere, as 'the trade union of the poor'.[15]

The Cold War backdrop to this phase provides a certain 'flavour' to the development discourse at the time: dependency theory and world systems theory emphasise the vagaries of capitalism and espouse values of socialism,

communalism and human need over market processes. This background therefore lent itself to the structuring of exchanges and co-operative agreements, especially between countries that promoted socialist ideals.[14]

Phase 2. Demobilisation (1980 - 1998)

The second definable phase of SSC was characterised by a certain sense of disillusionment, with the promises of socialist economics, self-reliance and the new international economic order. During these two decades, a number of countries in the global South faced similar domestic difficulties, i.e. high levels of foreign debt, high levels of domestic inflation, and economic recession. A decision by the USA in 1980 to increase interest rates by ~20% resulted in what is commonly referred to as the debt crisis for developing countries.[5]

The demise of the Soviet block and the end of the Cold War during this period furthermore appeared to confirm the superiority of market-based economies over what seemed like the obvious failure of socialist systems. This circumstantial evidence of the need to follow neoliberal economic policies can be seen at work in the implementation of structural adjustment programmes of the International Monetary Fund (IMF) and the World Bank; the programmes involved austere economic policy measures that were required to be implemented by a country seeking financial assistance from these bodies. During the 1990s, the net result of these structural adjustment programmes was to drastically cut government spending on social services, notably health, education and social assistance, in both the North and the South, but with particularly negative consequences in the global South, especially in Africa.[10]

During this phase of development aid, there emerged a realisation among those in the global South (but certainly also visible in the aftermath of various movements around human and civil rights in the global North) that the goals of development have systematically been shown to be more about economics than social change.[16]

Phase 3. Best practice transfer (1999 - present)

As the developing world went through a phase of disillusionment with socialism, so there was also a stage of disillusionment with the 'gospel' of free market economics. The results of attempts by Southern countries to adopt the doctrines of the Washington Consensus (i.e. structural adjustment programmes) were far removed from the prosperity promised by neoliberal ideology. High levels of unemployment and poverty, coupled with less access to education and healthcare, saw the re-emergence of the situation that originally inspired SSC.[5]

SSC increasingly became an official part of the foreign policies of various developing nations, with a number of trade agreements emerging between 2003 and 2004. Examples are the India-Brazil-South Africa (IBSA) trilateral forum and the Brazil-Russia-India-China-South Africa (BRICS) forum.[5,17,18]

In this current era of SSC, there is an emphasis on the transfer of best practice policies and programmes. Therefore, the experiences of the developing world in terms of policy and programming are useful for discussion among other developing nations, as there is a sharing of similar domestic situations, problems and possible advantages. The approach of a linear development path so characteristic of modernist views earlier in the 20th century is replaced with a sense of exchange and co-operation around multiple experiences of development and social change. The current era furthermore expresses dissatisfaction among developing countries of the traditional development aid paradigm: strong criticisms emerged of the work

developed by international agencies, highlighting their ineffectiveness in producing positive change in the South by means of development projects.[5]

In the current phase of SSC the concept has increasingly been adopted as a co-operation tool rather than a political movement. Its politically correct character makes it an appealing tool for international agencies, which have increasingly changed their involvement in aid to the facilitation of South-South agreements and co-operative arrangements (as opposed to the sponsoring of projects).[5]

Health and health science education in Africa

In an era where Southern governments were dealing with the fall-out of structural adjustment programmes of the early 1990s, the Cuban healthcare model, focused on primary, community-based care, promised to be a particularly relevant approach in the developing world. The principles of community-orientated primary care emphasise the role of the social determinants of health (e.g. sanitation, education, housing, nutrition).[19]

This model is different to the curative model that is largely associated with the colonial system in Africa, being more focused on preventive strategies. The primary care model furthermore has a particular focus on equity in access to care.[20] The understanding of the interaction between social realities and the health and wellbeing of people and communities, provides a unique vantage point from which to do research, to advocate and to design programming.[21] The impact of attention to the primary healthcare needs of populations in developing countries provides a unique lens through which to view larger processes aimed at human development.

There are therefore a number of good reasons for promoting the primary care approach in healthcare and health science education for developing countries. A health system based on the primary care approach has been shown in a number of studies (in the developed and developing world) to have the greatest impact on public health as measured, for example, by maternal and infant mortality rates.[22-24]

In relation to the primary healthcare focus and SSC associated with healthcare and the training of health professionals, one cannot fail to mention the example of Cuban medical professionals in other parts of the developing world. Cuban involvement in co-operation around healthcare, specifically in Africa, can be traced back to the 1960s and the first era of Southern mobilisation focused on self-reliance.[20]

An article in *The Economist*[25] noted that one in three Cuban doctors work abroad (mainly in other developing countries) at any given time. The Cuban model of co-operation in Africa has focused more on the building of capacity than on the provision of infrastructure, which is an approach characteristic of SSC programmes.

The co-operative initiatives around health and health science education mentioned in this article have very real intentions around the promotion of primary healthcare in developing countries in Africa. This is done mainly through the support of training, which promotes the recruitment and retention of relevant, effective medical professionals for the diverse settings in Africa. A number of current examples of SSC and triangular programmes in health science education in Africa are described.

CHESTRAD: Southern civil society dialogue on health and accountability

The Centre for Health Sciences Training, Research and Development (CHESTRAD) international is an African-based non-profit organisation with support from donors in the UK and USA. The organisation's main aim is to support dialogue and co-operation among various actors involved in health and health systems in Africa (and beyond) through advocacy activities based on reliable research.

CHESTRAD is active in a number of initiatives on the African continent aimed at health system strengthening and human resources for health. A number of initiatives, declarations and documents actively refer to the need to address human resource shortages in healthcare in Africa, including the Global Health Workforce Alliance, International Health Partnership, the United Nations Action Plan on Maternal and Child Health, the Millennium Development Goals and the African Health Workforce and Systems Strengthening Solidarity Programme.[26]

PEPFAR initiatives in Africa

PEPFAR is a broad programme aimed at addressing some of the health system problems on the African continent by supporting (through funding and technical assistance) programmes that are related to health and healthcare delivery, health systems and human resources for health. Important to this initiative are the brokering of partnerships and 'twinning' agreements between health science education institutions in the global North and South. The twinning programmes are based more on the best practice model of co-operation, illustrating a general shift in approach between the initial PEPFAR programme (characterised by vertical programme delivery) and the second phase (focus on system strengthening and support).

MEPI and NEPI: medical and nursing education partnership initiatives

The Medical Education Partnership Initiative (MEPI) and Nursing Education Partnership Initiative (NEPI) programmes represent major collaboration between PEPFAR and its partner agencies, i.e. Health Resources and Services Administration (HRSA), the US Agency for International Development (USAID), and the PEPFAR country teams with a number of partner organisations. External partners included the World Health Organization (WHO) and a number of US- and Africa-based funding, teaching and research organisations.

The programme aimed at encouraging partnerships in Africa, supporting the development of skills and research capacity. There was a focus on collecting quality information on the health needs of countries on the African continent, system challenges and opportunities, as well as the production of health professionals in Africa. A further aim was to support the development of health education programmes in institutions in Africa, with the ultimate objective of increasing the production and retention of health professionals in Africa.

SAMSS: Sub-Saharan Medical Schools Study and African Medical Education Symposium

The objective of the Sub-Saharan African Medical Schools Study (SAMSS) was to promote knowledge and dialogue among key stakeholders in Africa by sourcing and collating quality research and information on health and health systems. The study furthermore collected information on medical education programmes in Africa and co-operative arrangements (often called twinning agreements) among health science education institutions in Africa.[27]

The promotion and development of national and global policies around human resources for health is increasingly being debated and discussed

in international forums, an example being the African Medical Education Symposium (AMES) held in Dar es Salaam, Tanzania.[28]

Family Medicine Educational Consortium
The Family Medicine Educational Consortium (FaMEC) worked in supporting the development of family medicine training, focusing on primary healthcare in southern Africa since 2003.

This co-operative model had as its later focus the building of partnerships between African countries in the development and establishment of training for family medicine in the framework of the Primafamed-network (www.primafamed.ugent.be). This phase supported the twinning of established family medicine programmes in South Africa (SA) with other countries in southern Africa, with the purpose of developing training and assessment methods.

This programme had at its core a belief that the experiences of Southern partners are sufficiently different from the experiences of the global North to create the understanding that 'all the expertise was in the South'.[29]

Discussion
The literature describes the primary advantage of SSC and triangular approaches as being the increase in a sense of ownership among beneficiaries of aid. The major criticism against traditional funding relationships between North and South was that the lack of ownership and input in the process among the beneficiaries seriously affected the sustainability and cost-effectiveness of programmes.[6]

It is also felt that the South shares many common problems and issues, and can therefore provide more contextually appropriate experience and assistance.[6,11,12] The major criticism against traditional aid relationships was that it often introduced inappropriate technology and technical skills that did not match the environment in which these were supposed to work. This led to higher costs and serious concerns around sustainability, as the recipients of the assistance could often not maintain the technology.[6,10,30]

A number of salient issues are emerging in health and health science education. These issues are often, but not always, quite distinctive of the African context.

Variability of socioeconomic and sociocultural life worlds
Cultural understandings of health and medicine can be highly variable. Primary care that focuses on the individual rather than the illness, can garner great synergy and impact when it is cognisant of traditional indigenous knowledge systems.[31] There is much opportunity to combine social teaching and research in health science education to make professionals more responsive to the needs of communities, and to promote and facilitate participation in the definition of health needs.

Cultural competence of learners and teachers
Related to the above, healthcare that is orientated around communities and sensitive to the contextual realities of people's lives needs to take cognisance of socially and culturally defined ways of thinking about health, illness and healing. Such a cultural competence is more representative of a set of intellectual skills (such as the ability to conduct a community assessment by using different data collection methods) than a particular type of course content.

Related to this issue is the need to produce skilled professionals who are well suited to the social and economic context of the many different settings in the developing world, and furthermore to define clearly what those skills and professional attributes are.[32]

The use of information and communication teaching technology across vast distances and in resource-poor settings
A practical issue in teaching and skills development in southern Africa (and of course, further afield) relates to the use of technology that can bridge the vast distances between community-based health services and often urban-based centres of teaching and research.[33]

Thinking about the development path
With reference to the discussion above on the evolution of development aid away from linear conceptions of development and growth, it is important to mention that the current paradigm of SSC and triangular aid does not easily escape these tensions. When it comes to training, research and engagement at a community level, there is often conflict between the 'modern' and the 'traditional', and the power relations associated with each.

It is important to consider the ability of teaching and training institutions to transcend these tensions, and a tendency among populations to classify the 'modern' with 'imperialist'. Critical in this discussion is the use of language (as a medium of instruction, or to communicate with patients), how it relates to tensions and power struggles, and how it enables or disables the health professional and the patient.

Hountondji[34] refers to the process of grappling with the 'colonial roots of science' and the status of African countries on the 'scientific periphery'. He advocates the need for African institutions to own their own scientific traditions; this can only be achieved by the development of high-quality research and teaching on the continent, which forms the basis of a socially relevant tradition of research, teaching and practice.

Forces influencing the migration of medical professionals
A major field of research relates to the forces impacting on the supply of suitably qualified medical practitioners, especially for rural Africa.

The well-known process whereby medical professionals are trained in the developing world, only to then leave their countries of origin for better working and living conditions in the developed world, is described in the literature.[35] An increasing trend worth noting in this regard is the migration of professionals between different African countries, also with the idea of better living and working conditions in certain places, notably SA. This process results in acute losses in the developing world: not only does the provision of health services in the developing world suffer, the migration of a trained professional represents a significant loss in terms of training investment.

Describing and evaluating innovative programmes
There are a number of existing health science training programmes in the South that are truly innovative in terms of supporting students' knowledge of social realities, community-based teaching, and community-based care. Many Southern countries boast a long history of grappling with the social determinants of health, multiple policy reforms and varying success in either creating new approaches, or adapting old approaches to teaching for their contexts.[36] A large gap in knowledge currently refers to the lack of studies that evaluate the impact of existing programmes under current SSC and triangular co-operation models, especially over a significant period of time, producing longitudinal data. Here it is important to provide information on the quality of curricula, training methods, and the co-operative agreements themselves. Beyond these issues, however, is a much larger question on the human impact of such initiatives, and how a programme affects the provision of services over

a particular period of time. This broader impact needs to be described more effectively for the initiatives that are already in existence.

Harris and Tanner[30] highlight the need in this regard to strengthen structures in the global South that can produce quality 'Southern knowledge'. Betancourt and Schulz[37] point out the need for such evaluation work to help define what should be regarded as good practice or best practice, and what such initiatives should deliver.

Conclusion

SSC and triangular models reflect the historical situation of funding from the colonial era to the current era of co-operation. A number of current co-operative agreements in health and health professional education in Africa follow the SSC and/or triangular models of aid, which are thought to be advantageous in the field of health and health professional education.

With regard to these two aspects, SSC and triangular models of aid provide conditions for more effective programming through their focus on participation and long-term involvement. The need for ongoing funding for these kinds of initiatives remains, and they appear to provide the greatest opportunity for long-term developmental impact.

The existence of various funding models implemented by a variety of actors makes it difficult to measure their impact, but it is important to do so, with a broad development perspective. While context is important in evaluating programmes, common tools that monitor both outcomes and the extent of South-South collaboration, with the long-term benefits that accrue for all partners, are needed.

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