

Medical research in Africa: problems and some solutions

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It is close to 30 years since most countries in sub-Saharan Africa gained independence. During this period, some of these countries have put considerable financial investment into education and health, particularly the training of health workers and research scientists. Sadly, the impact of this investment on research productivity and overall improvement of health standards in these countries has been negligible. In terms of publications, for example, most of the significant contributions from sub-Saharan Africa come from either collaborative work with scientists from the 'West', or institutions with a large presence of scientists from the 'West'.

While this in itself is not a bad trend, it is a worrying situation from the perspective of African scientists working in their own countries who are able to attract independent funding for research. When stripped of collaborations, Africa's scientific 'drought' is evident. Clearly, something is wrong and needs to be addressed.

The problems of medical research in Africa can be broadly categorized as follows:

- * Infrastructural (laboratories, equipment, etc).
- * Institutional, i.e., career structure for trained scientists or those wishing to go into medical research.
- * Financial, i.e., research funds and personal remuneration.
- * Educational, i.e., curricula for medical and allied health professions.

Some of these problems are closely related, although they are considered separately in this article.

Infrastructural problems such as lack of proper laboratories and equipment for research, and poor communication facilities are major factors hampering medical research in Africa, and are largely related to lack of available funds.

In many African countries, there are no proper career structures within medical schools or biomedical research institutions. Highly trained biomedical scientists find themselves doing routine administrative jobs, which have little or no bearing on their training. These scientists are unlikely to be productive in their research and this is a contributing factor to the never-ending brain-drain from Africa. At the same time, partly because of problems of infrastructure, the curricula for biomedical science courses in many African universities do not reflect recent advances in the field of medicine - not the best way to inspire students to consider a career in medical research.

Medical research scientists, like many other professionals in sub-Saharan Africa, are often poorly remunerated. After spending so many years in training, most are unlikely to be happy to spend the rest of their working life earning a salary hardly large enough to make ends meet. This is another contributing factor to the brain-drain from Africa.

The end result of these problems is that, despite years of investment in biomedical education and training in some

African countries, the conditions on the ground have not changed. We suggest the following as some potential solutions.

Despite economic hardship, governments in Africa need to recognise the important role of medical research in the overall economic and social development of their respective countries, and thereby give special attention to increased allocation of funding, particularly for key basic research programmes. Governments can do so by part sponsorship and by sourcing funds from bilateral donors that are targeted specifically towards medical research and made open to competitive funding according to priority areas of research.

Although structures for funding exist on a limited basis, it would be helpful to strengthen further and expand funding in various categories to target scientists at different levels of career development. For example, there would be schemes targeting the training of scientists at Masters degree level, at PhD level, at post doctoral level and the more experienced scientist. Funding for research proposals should go hand in hand with the strengthening of government departments that deal with interpretation and implementation of research findings so that further funding may be justified.

Training curricula in colleges and universities need to re-emphasize the place of medical research in the career development of students who may be thinking about joining research later in life. Some students graduating from these institutions remain ignorant about careers in research. It would be a good idea for, example on university open days to invite prominent research scientists to talk about career opportunities in medical research.

There is a lack of African role models and the apparent disillusionment among role models may have led to some prospective candidates being discouraged from taking up research as a career. Again this is tied in with a lack of funding for most of those already in research which gives the impression that a career in research is not worthwhile.

It is vital that funding of research in Africa be tied to the improvement of remuneration of scientists to be equivalent to that of scientists from the developed countries if they are expected to develop and compete for funding at the international level. This would release more valuable time for dedicated research work, better research outcomes and better prospects at the international level.

Donors funding research in Africa should make available resources in research materials, including access to the internet in African universities and research institutions, so that scientists don't lag behind developments in scientific research and funding opportunities. This would also include setting aside funds by major scientific conference organizers targeting support and scholarships to enable scientists from Africa to attend and present their research findings.

Active institutional collaboration between scientists from resource-rich countries and African scientists should be further strengthened in order to draw more research funding to the continent.

In summary, we believe that there is a great potential for the development and growth of scientific research in Africa by Africans and it is our sincere hope that all stakeholders will play their role in making this a reality.

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References

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