



South Africa's Real Nutrition Problems Ashleigh Furlong

Based on how much of our public space Tim Noakes and the Banting diet occupy, you might think that one of the most important nutrition problems facing South Africa is the carbohydrate vs. fat intake in our diets. It just isn't.

David Sanders is Emeritus Professor at the University of Western Cape's School of Public Health. A paediatrician, for 30 years he has been explaining the links between politics, poverty and nutrition. He is outspoken on the steps that need to be taken to improve childhood nutrition, and a passionate advocate for breastfeeding. While not nearly as well known to the general public as Noakes, he is a leading figure in public and child health and respected by scientists in his field. He has published a long list of peer-reviewed papers as well as several books.

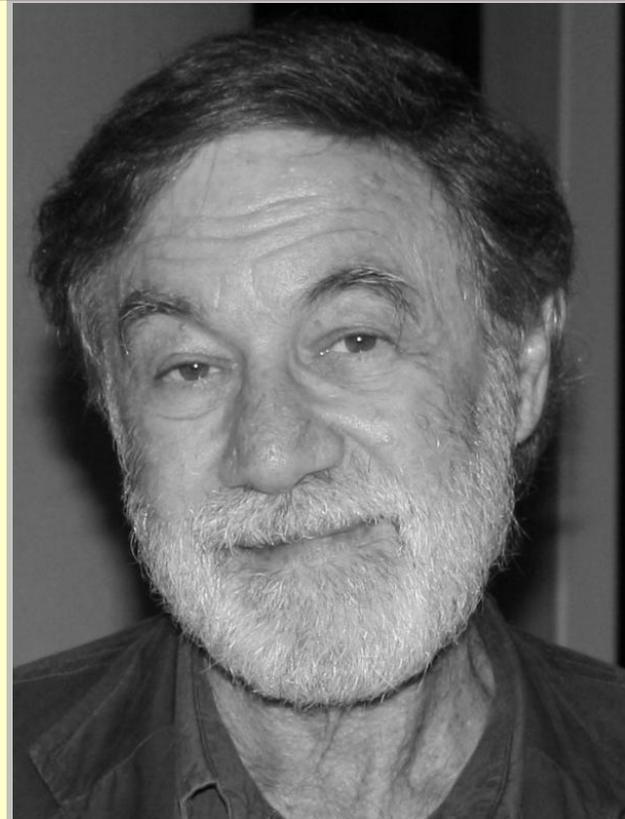
Sanders is not entirely opposed to Noakes' diet for adults. He agrees that "the amount of refined carbohydrates in what has become the modern diet is excessive and dangerous." He also says that research has shown that saturated fats are a lot less dangerous than previously thought but that the long term effects of a diet high in animal fat and protein have yet to be determined.

"But Noakes goes overboard in his extremely stringent recommendations about carbohydrate intake," says Sanders. "It seems to be ahistorical and also infeasible for most people."

Instead, Sanders points to the country's high rates of low birth weight, malnutrition, obesity and disease, and how these occur in an environment where large food corporations have penetrated the market, offering food of questionable nutrition that is cheaper than healthy alternatives.

The latest data from the South African National Health and Nutrition Examination Survey SANHANES indicates that 28% of South African households were at risk of hunger and 26% experienced hunger in 2012. Undernutrition among children is high, with the prevalence of stunting sitting at 27% of children under three. About 6% of children under 14 are underweight, about one in a hundred severely so.

On the other end of the scale, 19% of children aged between two to five were classified as overweight and 5% were classified as obese in 2012. At six to nine years these results dropped slightly but at ten to 14 years 17% of children in the survey were overweight and nearly 6% were obese.



"Noakes goes overboard ... his extremely stringent recommendations ... seem to be ... ahistorical and also infeasible for most people."

Low birth weight is correlated with poor infant health. 15% of all live births have a low weight at public healthcare facilities according to the 2013 Saving Babies report. These low birth weights are associated with the majority of deaths within the first 28 days of life.

Sanders says that one of the main causes of low birth weight is suboptimal nutrition of the mother, especially before and during the early months of pregnancy. Hard physical labour as well as substance abuse in the form of tobacco, alcohol and drugs can also cause low birth weight. HIV and other sexually transmitted infections also contribute. All these factors can lead to preterm births as well as babies carried to full term but born at low weights.

A baby with a low birth weight may be unable to breastfeed properly and therefore can't receive adequate nutrition. He or she is also more susceptible to infections and has a greater tendency to become undernourished as a young child.

“There is increasing evidence that low birth weight infants, especially those who were small for gestational age, if exposed to an environment where nutrients are unlimited, have a greater tendency to early obesity, diabetes and heart disease,” says Sanders. “The idea is that because this foetus has been relatively starved in utero, it becomes very efficient at utilising all nutrients offered.”

Nutrition in South Africa

- About one in four people (26%) experienced hunger in 2012.
- More than one in four children under three have stunted growth.
- 1% of children are severely underweight. About 6% are underweight.
- 6% of children aged 10 to 14 are obese.
- 15% of live births are underweight.

According to Stats SA's Mortality and Causes of Death 2013, the leading cause of death for children under five in 2013 was intestinal infectious diseases (which results in diarrhoea), followed by respiratory and cardiovascular disorders specific to the perinatal period (before and during birth). Third was influenza and pneumonia. Many of these deaths are attributable to HIV infection, but nutritional factors are also likely often the primary cause or a contributory one.

The first form of nutrition most babies receive upon birth is breastmilk. It contains all the nutrients needed for growth and it provides immunity to diseases. Sanders is a strong proponent of exclusive breastfeeding, which is nothing but breast milk for the first six months of life.

“We have the lowest breastfeeding rates in the world. The best data tell us that our exclusive breastfeeding rates at six months are 8%,” says Sanders. “One [reason for the purchase of formula milk] is that it is perceived as modern. Another is that the infant formula companies have had virtually a free hand in South Africa, although recently legislation has been introduced to regulate their operations.”

The International Code on the Marketing of Breastmilk Substitutes was compiled in 1981 but South Africa only translated the code into regulations in 2012. The regulations limit how formula milk can be marketed, and prevent it from being provided at clinics. Until recently, formula milk was provided to infants if the clinic deemed them undernourished.

Before studies showed that antiretroviral medicines could almost eliminate transmission of HIV to breastfeeding babies, South Africa's HIV clinicians were divided on the role of formula milk (Sanders was outspoken against formula milk during this debate). Now there is consensus that exclusive breastfeeding coupled with antiretrovirals is the best option for HIV-positive mothers, and this is what guidelines recommend.



“Once you start to provide formula milk inside a health clinic you are sending a message that this is good,” says Sanders. He says that studies show that nearly all women who received free formula milk at South African clinics were actually mixed feeding – formula feeding in private and breastfeeding in public because formula feeding in poorer communities was seen as a sign of being HIV-positive.

Sanders explains that the dangers of mixed feeding are a higher risk of HIV transmission and that the protection against disease provided by breastfeeding is reduced. “So children were not only dying of HIV, [they were dying] of pneumonia and under-nutrition related problems. All of these can be significantly reduced by breastfeeding because breastfeeding protects from infection,” he says.

Once infants begin to be weaned off breastmilk, the average South African mother feeds their baby watered down maize meal, a low nutrient food that will fill up the baby’s stomach but not provide them with the necessary nutrients. Sanders says that high energy foods should be added to a weaning diet such as oils and peanut butter, as well as proteins such as sour milk, beans and lentils.

The explanation for why one will find an undernourished child in the same family as an obese mother can be linked to a diet that is nutrient poor and monotonous. “They are both existing on the same diet, but the mother can accommodate enough mealie pap in her stomach to give her enough calories,” Sanders says.

Despite this, the obese mother will likely have a high level of micronutrient deficiency, explains Sanders.

Micronutrient deficiencies, such as iron deficiency are particularly problematic for women of reproductive age. In 2012, 23% of South African women of reproductive age were anaemic, according to the SANHANES data. Sanders also says that anaemia can increase the risk of a low birth weight baby.

Sanders argues that one of the major problems with nutrition in South Africa is the proliferation of food corporations that relentlessly market and sell unhealthy food. He says that transnational food corporations are targeting middle income countries such as South Africa. “We have got this poor population, a large percentage of whom receive cash child support grants and other cash, and the supermarkets are spreading,” he says.

“Not only do we have significantly higher number of people living in towns than other African countries, but even the rural areas are urbanised in the sense that very few people undertake significant agricultural activities. So people live in rural areas, they don’t produce much of their food, and they purchase food.”

The SANHANES study found that it is mostly females who shop for groceries and that the most important factor for women when purchasing food was the price. Health was a much smaller consideration for most shoppers, especially if it was a male doing the shopping.

Sanders wants government intervention to reduce the costs of healthy foods by subsidising them and increase the costs of unhealthy foods by taxing them. “We are in a serious situation both from undernutrition and obesity,” he says.

http://groundup.org.za/article/south-africas-real-nutrition-problems_3355#sthash.9FRwASoc.dpuf

Sanders advocates subsidising healthy foods and increasing taxes on unhealthy ones.



SAVE THE DATE

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WORLD NUTRITION *Cape Town*

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WORLD PUBLIC HEALTH NUTRITION ASSOCIATION

Interview with Dr Fabio da Silva Gomes, President of the World Public Health Nutrition Association (WPHNA)

Shun

Welcome to the School of Public Health! Tell us something about yourself and your work in Latin America.

Fabio

I am an Officer of the Ministry of Health. I work at the Food and Nutrition Division of the Cancer Prevention and Surveillance Coordination Unit of the National Cancer Institute which is a branch of the Ministry of Health.

In Brazil my main work is related to public policy and articulating food and nutrition and health policies. This relates to collaborations with other countries on advancing regulations on food, nutrition and health. It also relates to the World Public Health Nutrition Association (WPHNA) that I am currently President of.

The WPHNA is an organisation that is really moving now to connect the dots between the health system, nutrition, the food system, agriculture, food security.

At the international level we had historically lots of organisations working on Non-communicable Diseases (NCDs), on Nutrition specifically, and some others working separately on agriculture, nutrition security, human rights to food. But in a way they were not well connected internationally. Since the preparation of the International Conference on Nutrition that was held by the Food and Agricultural Organisation (FAO) and the World Health Organisation (WHO) in Rome (2012) these associations got together and helped bring together the groups of organisations that historically worked separately to give public health nutrition a broad approach and perspective on how we should deal with public health nutrition problems, looking at malnutrition in its different forms as expressions of food systems sabotage, for instance, by big transnational corporations and their influence.

Our main work relates to how can we strengthen, preserve and restore food systems so that they can effectively fulfill their objectives which are to feed populations and natural resources that populations need to feed themselves properly in terms of nutritional dimensions as well as the chronic social dimensions of nutrition.

The World Public Health Nutrition Association really has moved to support countries as well on putting forward their regulations and advocacy tools that can progress actions in several countries. Especially in Latin America more recently, but it's our aim in the coming years to develop this support to the African continent as well.



Shun

One would think that we in Africa would be the most challenged on this issue.

Fabio

Exactly, because you are living in what Latin America passed through, namely a very deprived situation where you have strong or high prevalence of under nutrition as well as of obesity or excess consumption. This is really a very big issue, framed and in a way determined by upstream factors. We need to see this being dealt with through changing structures, changing political and economic structures that really can be sustained to transform this reality.

So I think that organising the next World Nutrition Conference in South Africa for 2016 is a natural choice, not only because of our own agenda but also because of the particular challenges you face on the African continent.

In addition I think that there is huge capacity and knowledge production in South Africa – at UWC and groups of researchers, linked to government, to civil society and social movements that really connects knowledge, policy and action. Which in fact will be the main theme of the conference

Shun

My sense is that associations like the World Public Health Nutrition Association are facing an uphill battle and that the terrain is going to become much more contested and difficult to gain victories. Is that your sense too, and what kind of strategies will the next conference come up with to manage that and who will be your allies?

Fabio

I think that as the challenges grow so does the need for us to identify allies in the field of health, food and nutrition security, rights and protection of children, human rights in general, land reform – all these organisations should be connected to public health nutrition in terms of the different specific components of the food system.

As our challenges increase we need to get more allies. As we open and make our perspectives wider and broader we will start to identify allies where we initially did not see them as such. I think that this is happening. Of course, it seems that as we increase our allies we also increase our opponents as well.

For instance, if we had only the manufacturing part of the food system as an opponent producing sugary drinks, we now also have the seeds and the biocides corporations. But I think that the strategy is to advance each of the agendas, sometimes separately, sometimes in group, but always in an alliance, always sharing common struggles. I think this is the way that we can make progress.

There are some interesting examples we've been supporting, like the Mexican case of proving the need for taxation of sugary drinks which involved not only the legislators but also a lot of pressure from civil society. This happened when civil society organised themselves between consumer defense organisations, small farmers organisations, and those struggling against the seeds corporations. They all got together to push for something specific, namely sugary drinks. So the focus is there and there is a whole group of organisations working together.

Shun

So are you saying that it will be individual struggles and victories that will build the strength of a global movement?

Fabio

Let's say that it should be that there are some specific challenges and organisations can have specific strategies to deal with them, but they are faced in alliance and not isolated. So the struggle sometimes may be specific but the group should move always together regardless of each agenda that is being faced and challenged.

I think that the conference will express that because the participants will not only come from the field of nutrition. On the contrary, we expect to have economists, small scale farmers, health practitioners; but also policy makers, legislators and people that are coming with different perspectives and see the world through different lenses.

And we will engage together to find out what are the different challenges in each of these micro-worlds, but also what they are doing to resist and counteract that.

Shun

What is the contribution that public health research could make in this overall alliance and strategy on nutritional issues - that would be valuable?

Fabio

I think there are many areas of contribution that could be made. For instance, in every country – and this is becoming more essential – there is evidence that increasing the price of unhealthy products is something that is very cost effective to reduce purchase and consumption. But this requires that for each country the study of what is the tax, what are the products you want to tax, what is the size of the taxes that you have to increase so it really impacts sufficiently on the final price for consumers - so consumers start to buy less of that product.

There are things that each country should investigate very specifically. Without that you cannot progress a policy or an action for it to be effective.

Another example is research that can be done on connecting all the dots in the food systems. Some research could focus on the outcomes on health, on purchase and consumption of food. I know for instance that in the UWC School of Public Health there has been some research that is expanding the issue of the food environment which is gaining traction around the world for people to include study on how the food environment is determining outcomes. This can be research at the individual country level but they are determined at a higher level.

Something that I think is still missing and could be looked at more carefully is the upstream determinants. For instance one of the things that I am focusing on now is how the increase in the volume of ultra-processed products such as sugary drinks and other superfluous products – mainly the assemblage of flours, fats and sugar – how the increase of these products in the population's food systems and diets is impacting on agriculture, for instance, what are the links between the sugarcane industry and the sugary drinks industry, what are the links between bread or chocolate industries and the agro-biodiversity that is linked through the agricultural systems that produce ingredients for these products.

Let's take soya for instance. If you have an ultra-processed product that has soya as an ingredient, that would be the reason why farmers who produced eggplants a one time now produce soya, given that the population is no longer eating eggplants but is eating chocolate instead - which contains soya lecithin that farmers could sell to the chocolate industry. Such connections that go from the consumption of products to the production.

This kind of research which is being done at UWC by the School of Public Health, by PLAAS, by the Centre of Excellence in Food Security – which is unique from a global perspective - would be given visibility at the conference.

Dr Johann Cailhol My PhD Journey...

While my first enrollment as a PhD student dates back to 2009, my PhD journey started way back in 2005 when I started to work as a medical doctor in Burundi. It was part of a bilateral French cooperation program, aiming at building partnerships between hospitals in Burundi and in France, in the area of HIV-care. This experience opened my eyes as a biomedical person to the health system aspect of health. To run a program, one needed not only drugs, training and software, but most importantly staff with motivation to work and low turn-over rates, sustainability in financing salaries or purchasing drugs. Moreover, Burundi was a recent post-conflict country, where issues related to the conflict were affecting the health system in all its components, and mistrust made collaboration and coordination difficult. This latter issue was the reason which motivated me to undertake a PhD on the lack of aid coordination applied to human resources for health policies.



I chose to undertake this PhD at UWC since I was attracted by the history of this university and also by the dynamism of the School of Public Health (SOPH). I was also aiming at learning “to do public health” differently from epidemiology.

The entire journey was a tremendous learning process, very demanding for a brain trained initially for quantitative work. While immersed in the SOPH environment, I first learned how to work in a multidisciplinary way, surrounded by academics who were not necessarily medical doctors, and how to work in close contact with stakeholders, in order to contribute to evidence-based policies for community health. I got highly interested in health policy analysis, and inevitably linked to it, that of power analysis. I realized, indeed, that power was the core issue in coordinating aid. That is how I decided to choose power analysis as the conceptual framework for my thesis. I learned also how to juggle with a multitude of disciplines from social sciences, since not one unique discipline was sufficient for a comprehensive analysis of power.

After 3 years of fieldwork and part-time work at UWC, as part of 2 EU consortiums, and my huge frustration from my multiple failed attempts to get registered with the Health Professionals Council of South Africa (HPCSA), I decided to return to France. In fact, I was missing clinical work. I finished the PhD write-up while working part-time and then full time in France as a medical practitioner. This second part of PhD work while back in France, was very challenging, since I was not anymore in the rich academic environment such as SOPH. Thanks to the perseverance and encouragement of my 2 supervisors, Prof Uta Lehmann and Prof Lucy Gilson, who provided complementary critiques, I managed to finish the thesis. I am very grateful to both of them, especially since the PhD graduation coincided almost perfectly with the arrival of a real baby! I am also grateful to the staff of SOPH, who welcomed me warmly and supported me during the 3 years I spent with them.

In the near future, I am aiming at an academic position at an university-hospital in Paris, which will allow me to practice clinical work in the field of infectious diseases, to teach a combination of infectious diseases and public health in a cross-disciplinary way and to conduct research on social determinants of health and related health policies in disadvantaged communities in Paris suburbs.



Exploring the Perceptions and Experiences of Community Health Workers using Role Identity Theory

Langelihle Mlotshwa, Bronwyn Harris, Helen Schneider and Mosa Moshabela

Abstract

Background:

Community health workers (CHWs) are an integral resource in many health systems, particularly in resource-poor settings. Their identities – ‘who’ they are – play an important role in their hiring, training, and retention. We explore the perceptions, experiences, and identities of CHWs as they adopt a CHW role in rural South Africa, using ‘role identity theory’.

Design:

From April to December 2010, we conducted 18 semi-structured interviews with CHWs volunteering in non-governmental home-based care (HBC) organisations in one rural sub-district in South Africa. The role identity theory framework was used to understand the work of CHWs within their communities, addressing themes, such as entry into, and nature of, caring roles, organisational support, state resourcing, and community acceptability. A thematic content analysis was used to analyse the collected data.

Results:

The study found that CHWs usually begin their ‘caring work’ before they formally join HBC organisations, by caring for children, neighbours, mothers, fathers, friends, and the community in some way. CHWs felt that becoming a health worker provided an elevated status within the community, but that it often led community members to believe they were able to control resources. The key role identities assumed by CHWs, as they sought to meet patients’ and their own needs, were a complex mix of community ‘insider’, ‘outsider’, and ‘broker’. Each of these role identities served as a unique way to position, from the CHW’s perspective, themselves and the community, given the diversity of needs and expectations.

Conclusions:

These role identities reveal the tensions CHWs face as ‘insider’ members of the community and yet at times being treated as ‘outsiders’, who might be regarded with suspicion, and at the same time, appreciated for the resources that they might possess. Understanding role identities, and how best to support them, may contribute to strategies of retention and sustainability of CHW programmes, as their formalisation in different contexts continues to grow.

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**The Challenges of Reshaping Disease Specific and Care Oriented
Community Based Services towards Comprehensive Goals: A Situation
Appraisal in the Western Cape Province, South Africa**

Helen Schneider, Nikki Schaay, Lilian Dudley, Charlyn Goliath and Tobeka Qukula

Abstract

Background:

Similar to other countries in the region, South Africa is currently reorienting a loosely structured and highly diverse community care system that evolved around HIV and TB, into a formalized, comprehensive and integrated primary health care outreach programme, based on community health workers (CHWs). While the difficulties of establishing national CHW programmes are well described, the reshaping of disease specific and care oriented community services, based outside the formal health system, poses particular challenges. This paper is an in-depth case study of the challenges of implementing reforms to community based services (CBS) in one province of South Africa.

Methods:

A multi-method situation appraisal of CBS in the Western Cape Province was conducted over eight months in close collaboration with provincial stakeholders. The appraisal mapped the roles and service delivery, human resource, financing and governance arrangements of an extensive non-governmental organisation (NGO) contracted and CHW based service delivery infrastructure that emerged over 15–20 years in this province. It also gathered the perspectives of a wide range of actors – including communities, users, NGOs, PHC providers and managers - on the current state and future visions of CBS.

Results:

While there was wide support for new approaches to CBS, there are a number of challenges to achieving this. Although largely government funded, the community based delivery platform remains marginal to the formal public primary health care (PHC) and district health systems. CHW roles evolved from a system of home based care and are limited in scope. There is a high turnover of cadres, and support systems (supervision, monitoring, financing, and training), coordination between CHWs, NGOs and PHC facilities, and sub-district capacity for planning and management of CBS are all poorly developed.

Conclusions:

Reorienting community based services that have their origins in care responses to HIV and TB presents an inter-related set of resource mobilisation, system design and governance challenges. These include not only formalising community based teams themselves, but also the forging of new roles, relationships and mind-sets within the primary health care system, and creating greater capacity for contracting and engaging a plural set of actors - government, NGO and community - at district and sub-district level.

A Systematic Review of Community-to-Facility Neonatal Referral Completion Rates in Africa and Asia

Naoko Kozuki, Tanya Guenther, Lara Vaz, Allisyn Moran, Sajid B. Soofi, Christine Nahwadda Kayemba, Stefan S. Peterson, Zulfiqar A. Bhutta, Sudhir Khanal, James M. Tielsch, Tanya Doherty, Duduzile Nsiband, Joy E. Lawn and Stephen Wall

Abstract

Background:

An estimated 2.8 million neonatal deaths occur annually worldwide. The vulnerability of newborns makes the timeliness of seeking and receiving care critical for neonatal survival and prevention of long-term sequelae. To better understand the role active referrals by community health workers play in neonatal careseeking, we synthesize data on referral completion rates for neonates with danger signs predictive of mortality or major morbidity in low- and middle-income countries.

Methods:

A systematic review was conducted in May 2014 of the following databases: Medline-PubMed, Embase, and WHO databases. We also searched grey literature. In addition, an investigator group was established to identify unpublished data on newborn referral and completion rates. Inquiries were made to the network of research groups supported by Save the Children's Saving Newborn Lives project and other relevant research groups.

Results:

Three Sub-Saharan African and five South Asian studies reported data on community-to-facility referral completion rates. The studies varied on factors such as referral rates, the assessed danger signs, frequency of home visits in the neonatal period, and what was done to facilitate referrals. Neonatal referral completion rates ranged from 34 to 97 %, with the median rate of 74 %. Four studies reported data on the early neonatal period; early neonatal completion rates ranged from 46 to 97 %, with a median of 70 %. The definition of referral completion differed by studies, in aspects such as where the newborns were referred to and what was considered timely completion.

Conclusions:

Existing literature reports a wide range of neonatal referral completion rates in Sub-Saharan Africa and South Asia following active illness surveillance. Interpreting these referral completion rates is challenging due to the great variation in study design and context. Often, what qualifies as referral and/or referral completion is poorly defined, which makes it difficult to aggregate existing data to draw appropriate conclusions that can inform programs. Further research is necessary to continue highlighting ways for programs, governments, and policymakers to best aid families in low-resource settings in protecting their newborns from major health consequences.

Cardiovascular Disease Screening By Community Health Workers Can Be Cost-Effective In Low-Resource Countries

*Thomas Gaziano, Shafika Abrahams-Gessel, Sam Surka, Stephen Sy, Ankur Pandya,
Catalina A. Denman, Carlos Mendoza, Thandi Puoane, and Naomi S. Levitt*

Abstract

In low-resource settings, a physician is not always available. We recently demonstrated that community health workers—instead of physicians or nurses—can efficiently screen adults for cardiovascular disease in South Africa, Mexico, and Guatemala. In this analysis we sought to determine the health and economic impacts of shifting this screening to community health workers equipped with either a paperbased or a mobile phone–based screening tool. We found that screening by community health workers was very cost-effective or even cost-saving in all three countries, compared to the usual clinic-based screening. The mobile application emerged as the most cost-effective strategy because it could save more lives than the paper tool at minimal extra cost. Our modeling indicated that screening by community health workers, combined with improved treatment rates, would increase the number of deaths averted from 15,000 to 110,000, compared to standard care. Policy makers should promote greater acceptance of community health workers by both national populations and health professionals and should increase their commitment to treating cardiovascular disease and making medications available.

Health Affairs, 34, no.9 (2015):1538-1545 doi: 10.1377/hlthaff.2015.0349
<http://content.healthaffairs.org/content/34/9/1538.full.html>



CONFLICT AND HEALTH

Health Service Resilience in Yobe State, Nigeria in the Context of the Boko Haram Insurgency: A Systems Dynamics Analysis using Group Model Building

*Alastair K. Ager, Martina Lembani, Abdulaziz Mohammed, Garba Mohammed Ashir, Ahmad
Abdulwahab, Helen de Pinho, Peter Delobelle and Christina Zarowsky*

Background:

Yobe State has faced severe disruption of its health service as a result of the Boko Haram insurgency. A systems dynamics analysis was conducted to identify key pathways of threat to provision and emerging pathways of response and adaptation.

Methods:

Structured interviews were conducted with 39 stakeholders from three local government areas selected to represent the diversity of conflict experience across the state: Damaturu, Fune and Nguru, and with four officers of the PRRINN-MNCH program providing technical assistance for primary care development in the state. A group model building session was convened with 11 senior stakeholders, which used participatory scripts to review thematic analysis of interviews and develop a preliminary systems model linking identified variables.

Results:

Population migration and transport restrictions have substantially impacted access to health provision. The human resource for health capability of the state has been severely diminished through the outward migration of (especially non-indigenous) health workers and the suspension of programmes providing external technical assistance. The political will of the

Yobe State government to strengthen health provision — through lifting a moratorium on recruitment and providing incentives for retention and support of staff — has supported a recovery of health systems functioning. Policies of free-drug provision and decentralized drug supply appear to have been protective of the operation of the health system. Community resources and cohesion have been significant assets in combating the impacts of the insurgency on service utilization and quality. Staff commitment and motivation — particularly amongst staff indigenous to the state — has protected health care quality and enabled flexibility of human resource deployment.

Conclusions:

A systems analysis using participatory group model building provided a mechanism to identify key pathways of threat and adaptation with regard to health service functioning. Generalizable systems characteristics supportive of resilience are suggested, and linked to wider discussion of the role of factors such as diversity, self-regulation and integration.

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<http://www.conflictandhealth.com/>

Announcements/Notifications/News

European Commission

The Maternal and Newborn Health conference being organised on 8 December by the Health Directorate of DG Research and Innovation is now live:

<http://ec.europa.eu/research/conferences/2015/mnh/index.cfm>
[cid:image001.png@01DoFC40.65C266Do]

See the website for the agenda and further information, and please share this with anyone you think would be interested!

Yours sincerely,

Marina Van Cleemputte

on behalf of Line MATTHIESSEN, MD PhD

Head of Unit

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European Commission

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Bill and Melinda Gates Foundation

Dear Colleagues:

The Bill & Melinda Gates Foundation is inviting applications that address specific challenges defined in the grant programs below. For details and application instructions, please visit the new Grand Challenges website:

(<http://response.notifications.gatesfoundation.org/t?ctl=4CA9E45:4853CFC2F478215E3DEE104ECC7E5169538FCF89A05644BF&>

Please note that descriptions of the challenges are available on the website in Chinese, French, Portuguese and Spanish.

1) **Grand Challenges Explorations** is seeking innovative global health and development solutions and is now accepting proposals for its latest application round. Applicants can be at any experience level; in any discipline; and from any organization, including colleges and universities, government laboratories, research institutions, non-profit organizations, and

for-profit companies. Initial grants will be US \$100,000 each, and projects showing promise will have the opportunity to receive additional funding of up to US \$1 million.

Proposals are being accepted online until November 11, 2015 for the following challenges:

- Novel Approaches to Characterizing and Tracking the Global Burden of Antimicrobial Resistance
- Explore New Solutions in Global Health Priority Areas
- Addressing Newborn and Infant Gut Health Through Bacteriophage-Mediated Microbiome Engineering
- Explore New Ways to Measure Delivery and Use of Digital Financial Services Data

2) **New Interventions for Global Health: Vaccine Manufacturing.** This challenge focuses on innovations in vaccine manufacturing platforms designed to lower production cost for vaccines that target diseases of great global burden and that are among the most costly to produce with current technologies.

Letters of Intent will be accepted until November 5, 2015. Read more about this grant opportunity [here](#)

<http://response.notifications.gatesfoundation.org/t?ctl=4CA9E46:4853CFC2F478215E3DEE104ECC7E5169538FCF89A05644BF&>

3) **The Global Innovation Fund** is accepting application on a rolling basis. Please visit the [website](#) for more information

<http://response.notifications.gatesfoundation.org/t?ctl=4CA9E47:4853CFC2F478215E3DEE104ECC7E5169538FCF89A05644BF&>

4) An **Interactive Biostatistics Course** will be held from 16-20 November 2015 at the KwaZulu-Natal Research Institute for TB and HIV (K-RITH), based at the Nelson R. Mandela School of Medicine in Durban, South Africa. The primary goal of this course is to give participants an overview of the various biostatistical methods used in medical research so that they can both employ these techniques in their own research and better understand the results presented in medical literature. Lori Chibnik, PhD, MPH, a Biostatistician at Harvard University, will run an inspiring and hands-on training course on biostatistics where students will work with data from their own projects to understand basic statistical concepts and methods used in medical research. Travel Scholarships are available to allow trainees from across Africa to attend. For more information and to apply please visit www.k-rith.org. Deadline for applications: 1 October 2015.

5) In addition, the African Academy of Sciences (www.aasciences.org) and the New Partnership for African Development (www.nepad.org) have launched Grand Challenges Africa in Nairobi, Kenya. This program joins others within the Grand Challenges family of grant programs supported by the Bill & Melinda Gates Foundation and its partners. Grand Challenges Africa will build on the global success of Grand Challenges programs in India, Brazil, and South Africa, as well as the strong base of Africa Grand Challenges grantees already funded by the Bill & Melinda Gates Foundation, Grand Challenges Canada, and USAID. Please read our latest blogs (www.impatientoptimists.org/Posts/2015/09/African-Innovation-for-African-Challenges-1#.VgsAb7SFPIW) including one from the Global Health President (www.impatientoptimists.org/Posts/2015/09/Celebrating-new-African-Scientific-Leadership-Welcome-Grand-Challenges-Africa#.VgsAcLSFPIW). For more information please visit AAS (www.aasciences.org).

Furthermore, as a forum for sharing ideas, pursuing new opportunities and keeping abreast of new developments in the field of global health, The Gates Foundation (www.gatesfoundation.org) together with Grand Challenges Canada (www.grandchallenges.ca) has set-up a LinkedIn group. All you need to join is a free LinkedIn account - go to Global Health Innovations (www.linkedin.com/grp/home?gid=3839474) and click "Join"

We look forward to receiving innovative ideas from around the world and from all disciplines. If you have a great idea, please apply. If you know someone else who may have a great idea, please forward this message.

Thank you for your commitment to solving the world's greatest health and development challenges.

The Grand Challenges Team

Beating Parasites Wins Three Scientists Nobel prize for Medicine

Simon Johnson and Ben Hirschler

Three scientists from Japan, China and Ireland whose discoveries led to the development of potent new drugs against parasitic diseases including malaria and elephantiasis won the Nobel Prize for Medicine on Monday.

Irish-born William Campbell and Japan's Satoshi Omura won half of the prize for discovering avermectin, a derivative of which has been used to treat hundreds of millions of people with river blindness and lymphatic filariasis, or elephantiasis.

China's Tu Youyou was awarded the other half of the prize for discovering artemisinin, a drug that has slashed malaria deaths and has become the mainstay of fighting the mosquito-borne disease. She is China's first Nobel laureate in medicine.

Some 3.4 billion people, most of them living in poor countries, are at risk of contracting the three parasitic diseases.

"These two discoveries have provided humankind with powerful new means to combat these debilitating diseases that affect hundreds of millions of people annually," the Nobel Assembly at Sweden's Karolinska Institute said.

"The consequences in terms of improved human health and reduced suffering are immeasurable."

Today, the medicine ivermectin, a derivative of avermectin made by Merck & Co, is used worldwide to fight roundworm parasites, while artemisinin-based drugs from firms including Novartis and Sanofi are the main weapons against malaria.

Omura and Campbell made their breakthrough in fighting parasitic worms, or helminths, after studying compounds from soil bacteria. That led to the discovery of avermectin, which was then further modified into ivermectin.

The treatment is so successful that river blindness and lymphatic filariasis are now on the verge of being eradicated.

Omura, 80, said the real credit for the achievement should go to the ingenuity of the *Streptomyces* bacteria, whose naturally occurring chemicals were so effective at killing off parasites.

"I really wonder if I deserve this," he said after learning he had won the prize. "I have done all my work depending on microbes and learning from them, so I think the microbes might almost deserve it more than I do."

Omura is professor emeritus at Kitasato University in Japan, while Campbell is research fellow emeritus at Drew University in Madison, New Jersey.

"This was the work of a team of researchers so it is by no means my work, it's our work," said Campbell, 85, who learned of his prize in a pre-dawn phone call from Reuters that woke him at his home in North Andover, Massachusetts.

"In the first decade, there were 70 authors that I co-authored papers with. That gives you some idea of the number of people involved," he said.

Traditional Chinese Medicine

Tu, meanwhile, turned to a traditional Chinese herbal medicine in her hunt for a better malaria treatment, following the declining success of the older drugs chloroquine and quinine.

She found that an extract from the plant *Artemisia annua* was sometimes effective but the results were inconsistent, so she went back to ancient literature, including a recipe from AD 350, in the search for clues.

This eventually led to the isolation of artemisinin, a new class of anti-malaria drug, which was available in China before it reached the West. Tu, 84, has worked at the China Academy of Traditional Chinese Medicine since 1965.

World Health Organization spokesman Gregory Hartl said the award of a Nobel prize for the discovery was a great tribute to the contribution of Chinese science in fighting malaria.

"We now have drugs that kill these parasites very early in their life-cycle," said Juleen Zierath, chair of the Nobel Committee. "They not only kill these parasites but they stop these infections from spreading."

Death rates from malaria have plunged 60 percent in the past 15 years, although the disease still kills around half a million people a year, the vast majority of them babies and young children in the poorest parts of Africa.

The 8 million Swedish crowns (\$960,000) medicine prize is the first of the Nobel prizes awarded each year. Prizes for achievements in science, literature and peace were first awarded in 1901 in accordance with the will of dynamite inventor and businessman Alfred Nobel.

Last year, the medicine prize went to three scientists who discovered the brain's inner navigation system.



William C. Campbell, a parasitologist and RISE Associate with Drew University, poses near paintings he made of parasites shortly after learning that he was a co-winner of the Nobel Prize for medicine, at his home in North Andover, Massachusetts October 5, 2015.

Carnegie African Diaspora Fellowship Program.

Applications are now being accepted through December 8, 2015 for the Fall 2015 competition of the Carnegie African Diaspora Fellowship Program.

Public and private higher education institutions in Ghana, Nigeria, Kenya, Tanzania, South Africa and Uganda, accredited by the national agency in their country, can submit a project request online to host a scholar. Scholars born in Africa, who live in the United States or Canada and work in an accredited college or university in either of those two countries, can apply online to be placed on a roster of available candidates for a fellowship. Scholars must hold a terminal degree in their field and may hold any academic rank.

Links to the African host institution project request application, scholar roster application and guidelines are all posted on the program website,

<http://www.iie.org/en/Programs/Carnegie-African-Diaspora-Fellows-Program/How-to-Apply>(<http://iie.us11.list-manage.com/track/click?u=600a4fde3754366f3cc267029&id=5ef9139fc9&e=8c4f88681d>).

Selection decisions for the first round will be in March 2016; project visit can begin as early as May 2016.

Activities: African host institutions can request that the scholar participate in mutually beneficial projects in curriculum co-development, research collaboration and/or graduate student mentoring and training. The CADFP Advisory Council seeks applications for innovative projects, and specifically encourages projects that involve collaboration among multiple institutions or from groups of faculty who are addressing related topics. As a way of solidifying links that have already been developed between host institutions and visiting scholars, the council also plans to award some fellowships to faculty members who are alumni from the first two years of the program.

Process: Prospective African host institutions and fellows (scholars) can cooperate in designing a project that the institution submits. An institution may, but is not required to, name a proposed scholar in a project request. Both the proposed scholar and the project request are subject to evaluation by a review committee and approval by the program Advisory Council.

Scholars submit their information online for the roster. The Institute of International Education (IIE) maintains and searches the roster for one or more possible matches, according to the discipline specializations, expertise, activities and objectives described in a project request.

Fellowship: Projects can be conducted in the African host country for 14-90 days. For the fellowship, the African Diaspora Fellow will receive: \$200/day stipend visa costs limited health insurance coverage round-trip international air travel and ground transportation costs to and from home and the U.S./Canadian airport.

IIE manages the fellowships and payments to fellows. Host institutions are encouraged to provide cost-share for the fellow's meals, lodging and in-country transportation during the project

For more information, please contact:

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