

CSC Evaluation and Monitoring Programme

Improving Health Outcomes in Underserved Communities in Ghana

Dr Shadrach Dare



More than 40% of Ghana's population of approximately 31 million reside in rural areas, and out of its 16 administrative regions, the Upper East Region is the least urbanised.

In this region of 91,000 people, 79% are rural-dwellers, and it is one of the most underdeveloped parts of Ghana, characterised by a lack of adequate infrastructure and services, such as housing, roads, electricity, and water supplies. This lack of development is aggravated by inconsistent rainfall patterns leading to a high prevalence of hunger, child undernutrition, and incidences of disease outbreaks such as malaria, and child mortality from measles and meningitis. In 2020, UNICEF estimated the neonatal mortality rate in Ghana, [the death of new-born babies within the first 28 days of life] at 23 deaths per 1000 live births, while the under-five mortality rate was pegged at 45 deaths per 1000. Inadequate availability and capacity of professional staff, a lack of basic medical equipment and infrastructure deficits have all exacerbated the tragic health outcomes in this rural area. Innovative solutions are urgently required to address these multifaceted barriers to healthcare and to prevent more avoidable deaths.

Shadrach Dare, a Commonwealth alumnus who studied for a Master's degree and subsequently a PhD in Public Health at the University of Glasgow, serves as a Trustee for the Dr Nana Gruer Health Initiative, an NGO that he co-founded with his UK PhD supervisor, Professor Laurence Gruer,

which is committed to funding and managing projects aimed at improving health outcomes in rural Ghana. The organisation's work is currently focused on the Upper East Region, where there is an urgent need for improved health care facilities and services. Shadrach leads the organisation's fundraising efforts which have contributed to providing in-service training programmes for community health staff, improving community health infrastructure and sourcing vital medical equipment.



The Dr Nana Gruer Maternity Centre donated to the Balungu community in 2018.

Dr Shadrach Dare was awarded a Commonwealth Scholarship in 2012 to undertake a Master's degree in Public Health at the University of Glasgow, an achievement he repeated in 2014 when he was awarded a Commonwealth Scholarship to undertake a PhD, also at the University of Glasgow. His PhD thesis focused on investigating causes of death for children within the first 28 days of life in three regions of Ghana, and Scotland. While studying for his PhD, he co-founded the Dr Nana Gruer Health Initiative (NGO) in 2015 with his PhD supervisor, where he currently serves as a Trustee. He has successfully led fundraising activities that have directly contributed to improving health services in rural Ghana, for example by providing motorcycles as a means of transport for healthcare staff to deliver home services, distributing food supplements for children, and offering clinical and logistical training for maternity care providers. He has also been instrumental in fighting the Covid-19 pandemic in Talensi District in Ghana by providing funds to train health volunteers and purchase materials for constructing the Tippy Tap system to improve hand-hygiene and prevent the spread of the pandemic. In his current position as a lecturer at the School of Health Sciences at the Glasgow Caledonian University, he is also leading research on maternal and child health in Ghana and other West African countries.

A Practitioner in Public Health

Shadrach began his healthcare career by obtaining a degree in nursing from the University of Cape Coast in Ghana in 2011. He joined the Cape Coast Teaching Hospital where he worked as a general nurse and gained exposure to various nursing roles including Public Health Nursing, which quickly became his passion. Shadrach was highly motivated and determined to pursue further studies to sharpen his knowledge and skills in this area to make a meaningful contribution to improving public health in Ghana. Laying out his ambitious professional goals, and commitment to uplifting the quality of healthcare in his country, in his motivation statement for the Commonwealth Scholarship he wrote:

'I have applied for admission to a Master of Public Health (MPH) in the University of Glasgow, UK. After reviewing the course content for the MPH in Glasgow, I am convinced that such an innovative curriculum will prepare me to face health challenges in Ghana through multidisciplinary approaches that apply the latest scientific knowledge and teamwork to solve health problems. I will take advantage of the social environment to build a network of student leaders committed to improving society. It is also my dream to institute a series of training, on my return to Ghana, for public health officials nationwide to gain a fuller understanding of the application of epidemiology to public health practice.'

Upon being awarded a Commonwealth Scholarship in 2012, Shadrach embarked on an MPH in Public Health at the University of Glasgow in the UK and following completion of the degree, he returned to Ghana as a clinical instructor at the University of Cape Coast and a lecturer at West End University College. Realising that he needed to develop even more nuanced knowledge and expertise to deliver his ambitious goals in the field of public health, in 2014 he commenced his second Commonwealth Scholarship, this time embarking on a PhD in Public Health. As part of his doctoral studies, he examined records of neonatal mortality rates [the death of new-born babies within the first 28 days of life] in Ghana, investigating specific causes of death and risk factors. Based on his research findings, he highlighted the need for more staff training and an increase in the number of community maternity clinics to enable midwives to perform uncomplicated deliveries.

'My public health training, with my Master's and PhD were sponsored by the Commonwealth Scholarship Commission. As a nurse my focus was caring for patients and treating diseases, but it was public health studies that gave me that community perspective, to look at tackling situations from a community level, or a bottom-up approach, speaking to community people, and identifying community needs, and how to evaluate projects. So, on that front I owe everything I do now as a public health professional to the Commonwealth Scholarship Commission.'

For Shadrach, offering recommendations based on his PhD studies was not enough. He wanted to take the first steps towards giving rural communities an opportunity to access health facilities and services.

'The main benefit of my Commonwealth Scholarship was the ability to do my research in Ghana, a developing region. As part of my fieldwork, I visited Dodowa, Kintampo and Navrongo, places I had not visited before. I spoke to midwives, doctors, and traditional birth attendants. Through this work, I understood how health services were delivered in these rural areas. That is what also sparked my interest in Dr Nana, the NGO that I work with now. Through that research that I did in Ghana, I have a better understanding of how health in the rural areas is very different from health in the urban areas in Ghana. That explains Dr Nana.'

In 2015, Shadrach teamed up with his UK PhD supervisor, Professor Laurence Gruer, who shared his commitment for promoting development in Ghana, to found an NGO, named Dr Nana Gruer Health Initiative. This initiative is committed to protecting and improving the health of people in rural Ghana by supporting in-service training programmes for community health staff and improving community health infrastructure and access to medical equipment.

Shadrach also acknowledged Professor Jill Pell and Professor Daniel Mackay for their immense encouragement and support with regards to Dr Nana while he remained as a PhD student.

Improving Access to Health Care Facilities and Services in Rural Ghana

Shadrach's PhD research findings revealed that high neonatal mortality rates in Ghana were exacerbated by inadequate resources such as lack of nurses with expertise in mother and child health care, insufficient medical equipment, and limited community clinics that were additionally difficult to access due to poor road infrastructure in rural Ghana. Alongside recommending that the improvement of these resources had a huge potential to reduce deaths of mothers and new-born babies, he has contributed towards this mission through the work of Dr Nana Gruer Health Initiative which is currently focused on the district of Talensi in the Upper East Region, a rural and underdeveloped region that is in urgent need of healthcare facilities and services.



Shadrach and Team donate a motorbike in 2016 for nurses to reach out to mothers and babies in their homes with healthcare services.

‘The advantage that I had from my Commonwealth Scholarship was the ability to do research in Ghana. That opened my eyes to see how different things really are, and to understand health from that perspective, so that informs everything that I do. It’s not just about looking for statistical significance but looking for the real-life impact that my work makes. My research mantra is that children born in Balungu in Ghana should have the same opportunities as children born in Glasgow or born in London.’

As a Trustee for this NGO, Shadrach leads fundraising efforts, and has played a pivotal role in acquiring funds to build community maternity clinics in Balungu, northern Ghana, purchase motorcycles, provide food supplements for children, and to provide vital training for maternity healthcare providers.



Shadrach visits the Dr Nana Maternity Centre for an impact assessment of the number of deliveries since the maternity centre was constructed in Balungu in 2018.

‘We are currently applying for a grant to train more maternity care providers in neonatal care- which was a direct product of my PhD research. My research was based in northern Ghana, and we found a real need for health initiatives because we found malnourished children, and that mothers were not attending health facilities to deliver because of distance and so many other reasons. So, beyond collecting academic data for my PhD, we thought, what else could we do to make a real contribution to improve health and save lives? In 2015, I raised money to purchase some cereal and food supplements to help the children there.’

While working on improving existing community clinics, and building more clinics in rural Ghana, the NGO is also running a motorcycle project which provides nurses with motorcycles as a means of transport to enable healthcare services to be provided to mothers and their babies in the comfort of their homes.



Sawaliga community nurse with her baby on her back, works alone. Until recently she held clinics under a mango tree. As of 2021, the motorbike enables her to carry out home visits.

This has gone a long way in addressing the immediate need for health services in these most underserved communities. The first motorcycle was donated to Talensi District in 2016, a district with roads full of potholes, making it difficult to access, and the only practical way for nurses to move around and deliver health services is by motorbike.

The Dr Nana Gruer Health Initiative is also supported by local partners, such as Talensi District Health Service, and Peal Deng, an NGO dedicated to community development. For example, Peal Deng retained ownership of the motorcycle donated and monitors its usage and running costs.



Mr and Mrs Bangrey representing Peal Deng and Dr Nana; the District Health Director and her senior staff; the three Chairs of the Community Health Committees; and the Talensi Police Commander witness allocation of bikes.



Delivery suite at the Dr Nana Maternity Centre in Balungu, northern Ghana in 2018 for mothers to deliver their babies.

'We are very much in touch with the district director, and to the local NGOs. If agreed, then we find ways to raise the money to do these projects. I know this approach ensures that the work is accepted by the community, through my knowledge in public health, which is very much what I learnt in my Master's and the PhD.'

Shadrach is dedicated to working very closely with the local communities concerned. This involves conducting meetings and discussions with local communities to identify their needs, and how best the Dr Nana Gruer Health Initiative can address them. He has been able to draw on his communication skills [enhanced during his time studying in the UK] to effectively get his message across to a wide variety of audiences.

'The Commonwealth Scholarship gave me the confidence to speaking to a roomful of academics or market women. Because through these development impact meetings and seminars that we had, sometimes you're in a room full of people from different fields who have no idea what neonatal mortality is. I remember, as a Commonwealth Scholar, I was invited to a meeting attended by UK ministers to talk about the work that I do. So, I have developed my communication skills to be a public speaker and the passion to speak about the work that I do.'

The Commonwealth networks established through the Scholarship have also played a pivotal role for Shadrach when it comes to raising funds for his NGO.

'The contacts that I made on the Commonwealth Scholarship, the friends that I made, particularly with my unique position as the Commonwealth Regional Coordinator, I know so many scholars. I have contacted my Commonwealth colleagues on fundraising ideas, and donations to purchase motorbikes or to build clinics for the Nana project in Ghana.'

Shadrach also acknowledged the support he received from the Institute of Health and Wellbeing at Glasgow University which promoted his fundraising campaigns in weekly emails circulated across the Institute.

Between 2015 and 2021, Dr Nana Gruer Health Initiative donated **10** motorcycles, trained **17** senior community nurses to take up management roles in their CHPS compounds. It also renovated **2** community clinics, built **1** community clinic, and installed an electric pump and pipe network from a borehole to the nurses' quarters and community clinic. Medical equipment such as delivery beds, autoclave sterilisers, surgical lights on a stand, sterile wipes, trolley bowls and food supplements such as cereal, beans, and corn have been distributed by this initiative to malnourished children.

'Based on the response we heard two years ago, after donating two motorbikes, we found that the motorbikes were making a huge impact. The work with Dr Nana, the motorbikes, is serving a constituency of people who would otherwise not have access to healthcare. Last month, we donated five more motorbikes, and we had some tremendous responses from community leaders and the district health directors about the impact the motorbikes were making.'



Pipe flowing in Awaaredone after an electric pump was installed on one of the boreholes in 2019.



The bikes are recalled to the District Headquarters once a month for routine maintenance.

Tackling Covid-19 in Talensi District

During the Covid-19 pandemic, the impoverished communities of Talensi District have struggled to maintain hand-hygiene, one of the most important measures, alongside social distancing and wearing face-coverings, to prevent the spread of the virus. This is due to a lack of available running water, with most of the district's population obtaining their water from boreholes, some of which are located a great distance from where they live. A Tippy Tap system [a one-gallon plastic container filled with water, suspended between large twigs, and held together with a string that can be tipped to produce a steady stream of water with which to wash one's hands] is a potential solution to this problem. However, implementing this system requires specialist knowledge and skills.

Responding to a request from Talensi's District Health Director for funding to train health volunteers and to purchase the materials required to install the Tippy Tap system, Shadrach's Dr Nana Gruer Health Initiative agreed to fund a Covid-19 preventative training project in the region.

A total of **144** community health volunteers from the **72** communities of Talensi District were trained, going on to become trainers themselves, showing local communities how to construct and use Tippy Taps. They have also been instrumental in leading awareness raising campaigns on Covid-19 prevention. Funding was also used to purchase **1,440** one-gallon plastic containers. By the end of 2020, four communities had installed all the Tippy Taps, and at least **95%** were still functional.

'My biggest achievement would be my work through Dr Nana. Because there are many other scholars who would have academic publications or have had great careers. I think the Commonwealth Scholarship added the humanity aspect to the work that I do, so that it goes beyond academic papers or academic impact.'

Shadrach's work with the Dr Nana Gruer Health Initiative has positively contributed towards enhancing the

capability of community health staff to deliver healthcare more effectively to the underserved communities of rural Ghana. This is a big step towards fulfilling the NGO's commitment to ending all preventable deaths under 5 years of age as part of its contribution to achieving Sustainable Development Goal 3: Ensuring healthy lives and promoting well-being for all at all ages.

Research Collaborations to Promote Good Health in Developing Countries

Apart from the work of his NGO, which has undoubtedly changed and saved lives, Shadrach is also involved in research collaborations that are focused on addressing public health issues and promoting good health in developing countries. As a specialist in maternal, new-born, and child health, he is a member of a research group at Dundee University, and also part of the university's mother and infant research unit. Moreover, in his previous role as a Research Associate at the University of Glasgow, he initiated a research collaboration that has contributed to capacity building in the health sector in Ghana.

'Through my research, I was able to establish a collaboration between researchers in Glasgow University, the University of Health and Allied Sciences in Hohoe in Ghana, and Navrongo, Kintampo and Dodowa Health Research Centres in Ghana. This collaboration intends to help produce some joint or collaborative research initiatives between the institutions. It helps with capacity building in Ghana- which goes a long way to contribute to both social and economic development. Having these collaborations and these conversations is good, and I guess I'm the glue who's able to put these organisations together.'

His research collaborations have also resulted in two journal publications that have contributed to the body of knowledge in the health sector. His most recent research paper in which he investigated modifiable risk factors, and explored neonatal deaths by place of birth and death, and the cause of death in two administrative areas in Ghana was published in collaboration with researchers in Kintampo Research Centre.

The Commonwealth alumnus is currently managing a Global Health Project based in Tanzania. Funded by the National Institute for Health and Care Research (NIHR) at the University of Glasgow and Kilimanjaro Christian Research Institute the research project focuses on investigating the prevalence, quality of life, economic and societal impact of arthritis in Tanzania.

As part of this project, Shadrach was responsible for training field workers in Moshi, and supervising data collection. In implementing the Global Health Project, Shadrach draws substantially from the knowledge and skills acquired through his PhD research studies, as well as other research projects following his Scholarship.

'I apply a lot of the experience I gained from my own field work in Ghana [as part of the PhD] both to lead the field work as well as develop training materials for the project in Tanzania. This means that I can draw from my own experiences in developing the training materials needed for the project. Overall, in my approach to research, I always ask myself if my research work is contributing to development. That is because of the Commonwealth Scholarship, the development perspective that it added to the work that I do.'

Working alongside local Commonwealth alumni networks that were established by Shadrach during his Scholarship has added value to this project. These Commonwealth connections have played a pivotal role as local contacts with local knowledge about the country and have helped to inform his research work.

'With the colleagues in Tanzania now, those links are open and beneficial for research collaborations and other work that I may want to do. When I was doing a project in Tanzania, I contacted Commonwealth Alumni whom I connected with in Glasgow, they are my friends now. While I was in Tanzania, they hosted me and we had conversations on the work that they are doing in Tanzania. These networks are valuable, and to know what they are involved in, so that when I visit Tanzania, and I need ideas as to how the region is like or what I need to do, I use these ones as my local contacts. The social networks that I formed during my days on the Commonwealth Scholarship have been extremely valuable.'

This project has recently been completed, and the data collected is currently being analysed. The findings will be shared through various publications.

Shadrach further highlighted how he had drawn from these valuable networks established on his Scholarship to successfully deliver his research activities in developing countries.

'I also have a colleague in Malawi. These networks are valuable, we share ideas about developmental issues in the region.'

Noting the value of the skills and knowledge acquired through his Scholarship, as well as enjoying opportunities to network and to establish future partners for collaborative work to realise developmental outcomes, Shadrach is a great advocate of the Commonwealth Scholarship, and aims to encourage and inspire the next generation of Scholars in his field.

'I speak about Commonwealth Scholarship opportunities to students in Ghana and other countries, and I tell them that beyond the academic side you are guaranteed networking opportunities, like the development conferences and seminars.'

Shadrach has also used the knowledge and skills honed on Scholarship in his lecturing activities. As a lecturer at the School of Health Sciences in the University of Dundee, he mentored and supported students interested in pursuing postgraduate studies and provided career advice.

'There is no way I could have been a lecturer in Dundee University without having a PhD, and without the Commonwealth Scholarship.'

Shadrach also shared his philosophy on public health issues and how it guides his efforts towards saving lives and promoting good health in Ghana and beyond.

'My philosophy is that children born everywhere should have equal opportunities to health and education. My real joy would be that the research I do makes a real impact by contributing to improving the lives of others and reducing inequalities within and between countries. I always like to wear a development hat in the kind of research that I do so that as a public health professional, I seek not to do only academic research, but I ask how my research will make a tangible contribution to Ghana and to the developing world.'

Shadrach is currently working as a Lecturer in Public Health at Glasgow Caledonian University.

Looking ahead, Shadrach plans to continue contributing immensely to the improvement of public health through his research, and his community development work focused on saving lives and improving livelihoods.

More about Shadrach Dare's work

<https://www.drnanaghana.com/>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8317945/>

<https://theses.gla.ac.uk/30943/1/2018Darephd.pdf>

<https://www.researchgate.net/profile/Shadrach-Dare>

Commonwealth Scholarship Commission in the UK

Woburn House

20-24 Tavistock Square, London WC1H 9HF

Email: evaluation@cscuk.org.uk

Website: cscuk.fcdo.gov.uk

