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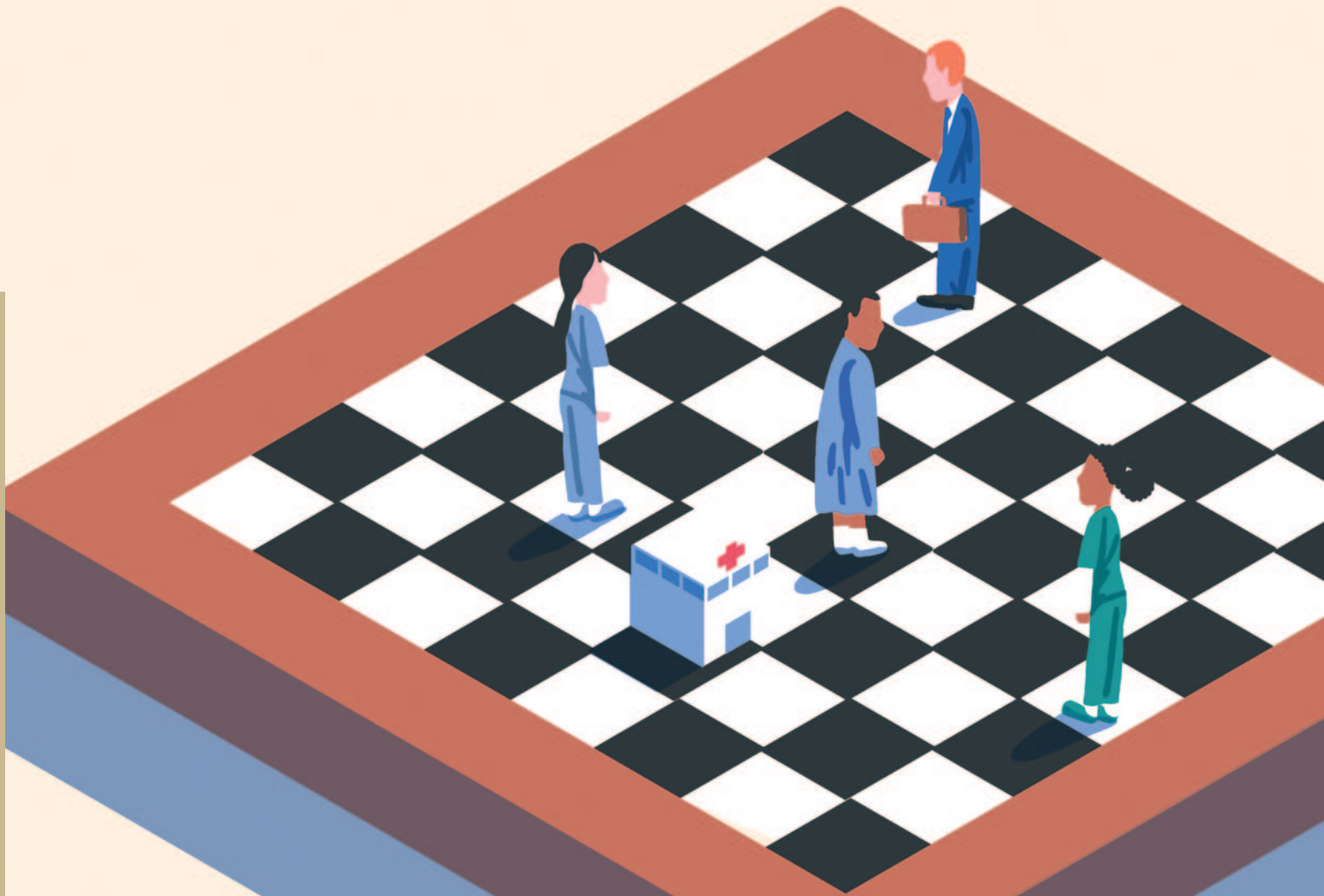
Meeting the challenge of noncommunicable diseases

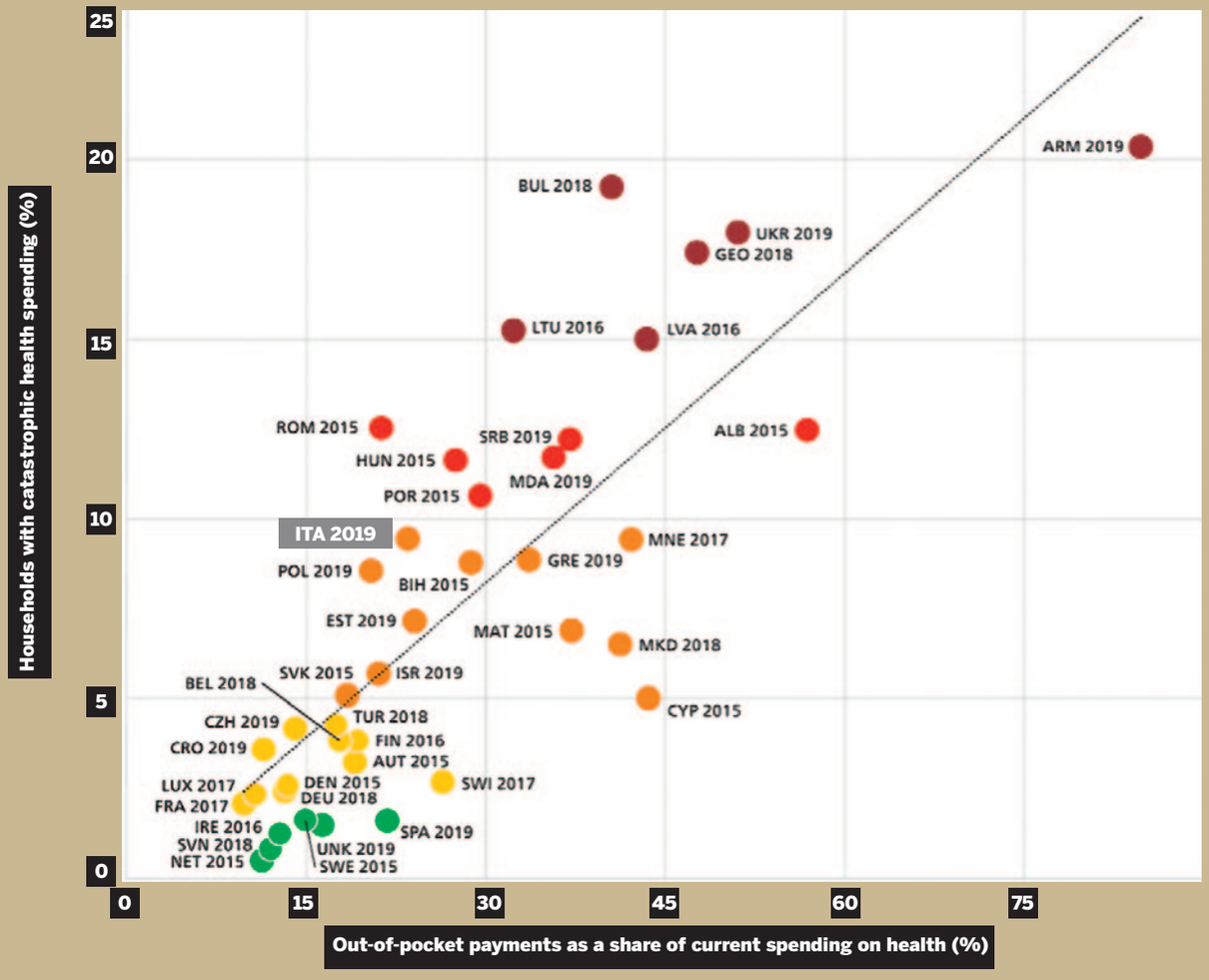


NEWS

Can people afford to pay for health care?

More and more households worldwide are experiencing catastrophic healthcare expenses that push them into poverty and, in many cases, force them to abandon treatment altogether (see Gavino Maciocco's editorial on page 3). As highlighted in a recent (2023) report by the WHO Regional Office for Europe, this issue also affects both poorer and better-off European countries. Moreover, since the report is based on data collected prior to the COVID-19 pandemic, the situation worldwide has only gotten worse in recent years. **Figure 1** shows two indicators for the 40 countries in the WHO European Region (2019 or latest available year before COVID-19):
1) On the vertical axis is the **share of households with catastrophic health spending (%)** (i.e. out-of-pocket spending exceeding 10% of the household budget). Different colors represent the different shares: green <2%, yellow <5%, orange <10%, red <15%, and dark red 15%+. Although Italy's dot is orange, it is close to the 10% threshold in the upper half of the ranking, while the best rankings fall into the lower half.
2) On the horizontal axis are **out-of-pocket payments** (direct, private household spending) **as a share of current spending on health (%)**. This share ranges from 10% to 15% (in France, Scandinavian countries, and others) to over 80% (in Armenia). Out-of-pocket spending by Italians as a share of total health spending is around 25%, and is primarily spent on private specialist consultations and exams, medicines and dental care.

FIGURE 1 / SHARE OF HOUSEHOLDS WITH CATASTROPHIC HEALTH SPENDING AND OUT-OF-POCKET PAYMENTS AS A SHARE OF CURRENT SPENDING ON HEALTH (%), 2019 OR LATEST AVAILABLE YEAR BEFORE COVID-19



1 World Health Organization, Can people afford to pay for health care?, Regional report 2023 https://www.who.int/europe/publications/i/item/WHO-EURO-2023-8969-48741-72485

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Meeting the challenge of noncommunicable diseases

The right to health is universal, yet global efforts to uphold it are far from adequate. Waning attention and funding have left health systems everywhere, particularly in Africa, in crisis. Against this backdrop, the escalating burden of noncommunicable diseases (NCDs) poses a complex challenge that demands urgent action.

It's like a game of chess, where each move counts to ensure that people are not reduced to mere pawns on the board. How can we develop responses that empower everyone to take an active role in this crucial "game", rather than remain passive spectators?

CONTENTS

DIALOGUE

PRIORITIZING HEALTH: IMPOSSIBLE OR "NEGLIGIBLE"?

In the face of countless challenges on the global agenda – from conflicts and political and economic crises to fast-moving changes of every sort – Doctors with Africa CUAMM remains laser-focused on the most critical issues for vulnerable communities: health service access, equity and coverage.

TEXT BY / DON DANTE CARRARO / DIRECTOR OF DOCTORS WITH AFRICA CUAMM

In an increasingly interconnected world where information travels at the speed of light and the global issues on political and media agendas pile up one on top of the other, health seems to have lost its place of honor. This phenomenon is especially pronounced in Africa, a continent grappling with an unprecedented combination of demographic, economic and health challenges. Despite the global rhetoric surrounding the importance of universal health coverage (UHC), the concept seems to have lost its meaning by now.

Yet the declining focus on the issue stands in cruel contrast to the reality on the ground. For decades dominated by infectious diseases such as HIV, malaria and tuberculosis, the epidemiological landscape in Africa has changed dramatically in recent years, with chronic noncommunicable diseases (NCDs) like diabetes, cardiovascular disease and cancer now emerging as major threats to public health. Africa's rapid population growth adds yet another layer to the crisis: the United Nations projects that the continent's population will rise from 1.4 billion in 2021 to about 2.5 billion by 2050[1], with more and more individuals living beyond the age of 60. This ageing population is already bringing about a new reality, with the growing numbers of people affected by age-related NCDs posing an unprecedented challenge to the continent's fragile health systems.

In this issue of *Health and Development*, we will primarily explore how NCDs are affecting countries in the world region we know best – Africa – but also their impact on other low- and middle-resource nations. We will delve into the crucial issue of UHC, and the specific needs and challenges of African countries in this context. We'll also take a look at the WHO's PEN-Plus strategy, which aims to expand access to care for those affected by NCDs by decentralizing it away from central hospitals to primary health care facilities, and take you with us into the field to survey our own work towards UHC.

In Tanzania's Tosamaganga hospital, CUAMM is working on both the optimal management of NCD patients and the prevention of diseases like diabetes and hypertension. In Mozambique, we've conducted research that will be key to improving our work on the ground: a study on the health costs of NCDs. Also in Mozambique, and highlighting the importance of good mental health, we will hear about the use by two young researchers of an innovative method to prevent and treat mental health disorders among adolescents. Last but not least, we will tell you about our work in Ukraine, a country at the gates of Europe that has been at war for two years, where we are helping to support a fragile and crisis-stricken healthcare system.

Ours is a collective effort, one in which we are increasingly engaged in comprehensive health initiatives on a continent faced with multiple and unremitting challenges. Lack of funding, weak health infrastructure and a dearth of qualified personnel are just some of the factors that make UHC so difficult to achieve. Health cannot be seen as an exclusively technical or medical issue; it must also be viewed as a matter of global social justice: the *right* of people to access quality health services, which will vary from country to country, based on financial protection mechanisms to help prevent the most vulnerable populations from becoming impoverished through catastrophic health spending. The key to building resilient health systems capable of meeting the needs of a rapidly growing and ever-changing population? An inclusive and participatory approach that puts health back at the center.

NOTES

1 ONU, *World Population Prospects 2024*
https://population.un.org/wpp/

DIALOGUE

HEALTH FOR ALL

Universal health coverage in 2024 presents a stark balance sheet. Only a handful of countries worldwide have made progress toward the goal of making health services more accessible to their citizens; most continue to fall behind.

TEXT BY / GAVINO MACIOCCO / DEPARTMENT OF HEALTH SCIENCES, UNIVERSITY OF FLORENCE

On 6 December 2012, the United Nations General Assembly passed a historic resolution[1] recognizing the importance of universal health coverage (UHC) to guarantee access to health services for all, especially the poorest segments of the population, and instituting a requirement for member states to implement health financing systems to prevent direct payment for services by patients ("out-of-pocket payments"), introducing prepayment and risk-sharing mechanisms to avoid catastrophic healthcare expenditures and the consequent impoverishment of households.

"**Worldwide,**" a 2013 Lancet editorial read, "**about 150 million people a year face catastrophic healthcare costs because of direct payments such as user fees, while 100 million are driven below the poverty line**. To the extent that people are covered by a risk-pooling mechanism, their out-of-pocket expenditure will not cause financial hardship. (...) A system-level approach working towards UHC could have a transformative effect in the battle against poverty, hunger, and disease"[2].

Yet despite the commitments made – in 2015 UHC became one of the UN's 17 Sustainable Development Goals (SDGs) – the situation has only gotten worse over time: **it has been estimated that in 2019 about two billion people incurred catastrophic health spending** (i.e., out-of-pocket health spending exceeding 10% of the household budget). **A significant proportion (1.3 billion) incurred impoverishing health spending at the relative poverty line, and 344 million were dragged below the absolute poverty line[3]**.

Not surprisingly, the countries that bore the heaviest burden were the world's poorest, including nearly all of those in sub-Saharan Africa, a region where international financial institutions such as the World Bank and the International Monetary Fund have **severely constrained public spending on health and education** since the 1980s. Consequently, the health services provided by both public and private facilities in these countries have to be paid for, triggering not only the aforementioned economic consequences, but also delays in seeking treatment (as those in need of it attempt to pull together the necessary monetary resources) or, often, the abandonment of treatment altogether.

At the WHO's most recent annual World Health Assembly, held in Geneva in May 2024, an assessment was made of where the world stands in terms of achieving UHC. **The resulting balance sheet was unsparing: only a handful of countries have made progress toward the goal of making health services more accessible to their citizens, while most continue to lag behind**. Moreover, this dismal state of affairs also applies to medium- and high-income countries, including Italy and Great Britain (see *News*). Overall, the WHO paints an extremely bleak picture: "**The available evidence presents a potentially dire prospect for further progress toward UHC without urgent political action**"[4].

But what is so critical – an urgent political response – is precisely what is lacking. A recent Lancet editorial[5] laid out the four main reasons ("the four elephants in the room") that have relegated health so low down in the list of priorities.

The first is a lack of political will both by local governments, and – above all – by the international institutions that have the clout to define broad objectives and allocate the resources necessary to achieve them. **This political failing is the consequence of the appalling mix of public and private at the highest levels of the WHO**, the fragmented objectives and interests, the multiplicity of actors, each busy defending their own priorities, and thus the **fragmentation of advocacy efforts** as well. Instead, what we need is a single voice, a unifying political call: "**Health for All**!"

NOTES

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2 Vega J, Universal health coverage: the post-2015 development agenda, Lancet 2013; 381: 179–80.
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FORUM

THE CHALLENGE OF NON-COMMUNICABLE DISEASES

Non-communicable diseases – a group of medical conditions responsible for 74% of global deaths each year, killing approximately 41 million people – represent one of the most pressing health challenges of our time, particularly in low- and middle-income countries.

TEXT BY / GIOVANNI TORELLI / DOCTORS WITH AFRICA CUAMM

A GLOBAL PHENOMENON

Non-communicable diseases (NCDs) are the leading cause of death worldwide[1]. Although these conditions are typically associated with older age groups, each year 17 million people die of NCDs-related causes before the age of 70, with 86% of these premature deaths occurring in low- and middle-income countries (LMICs). Among the many alarming statistics related to NCDs, this one perhaps best illustrates how devastating the impact of NCDs is in these settings[2].

AFRICA: CAUGHT BETWEEN EMERGENCIES AND CHRONIC CONDITIONS

In LMICs, cardiovascular diseases, cancers, chronic respiratory diseases and diabetes are estimated to account for over 70% of NCDs[3]. In addition, a significant proportion of NCDs in these countries are classified as severe, leading to early disability and/or mortality in the absence of treatment. These include insulin-dependent or complicated diabetes mellitus, congenital and rheumatic heart disease, severe arterial hypertension, sickle cell anemia and severe persistent asthma.

However, NCDs are not the only burden weighing on the health care systems of low-income countries. Communicable (infectious) diseases also weigh very heavily on these nations, especially those in sub-Saharan Africa. This dual burden overwhelms already fragile health systems, which struggle to provide accessible and qualitatively adequate services to meet the needs of the population.

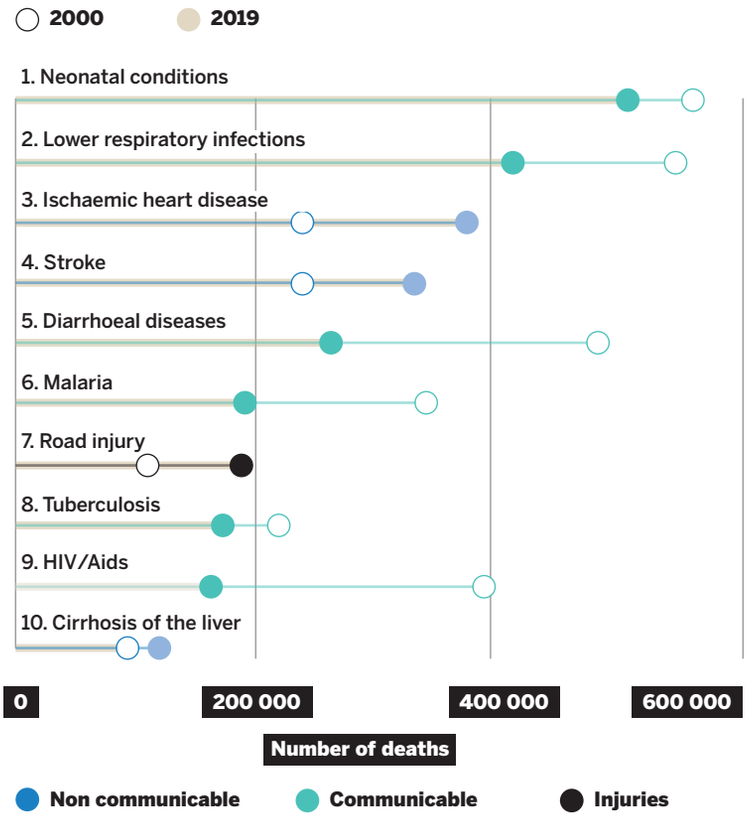
While there have been recent improvements in the capacity to prevent and treat communicable diseases at first-level and more peripheral health centers, the same cannot be said for NCDs. In fact, despite a general fall in mortality from infectious diseases like malaria, HIV and tuberculosis, recent decades have seen an increase in NCD-related deaths, primarily due to strokes and myocardial infarctions, or heart attacks (see **Figure 1**).

RISK FACTORS CONTRIBUTING TO POOR HEALTH

The causes underlying deteriorating health indicators in resource-limited countries can be attributed to a range of behavioral, metabolic and environmental factors. These factors are, in turn, driven by rapid and unplanned urbanization, lifestyle changes and globalization, which have increased people's exposure to risk factors such as smoking and air pollution and led to less healthy dietary habits.

For instance, the growing prevalence of diets rich in sugar, fat and ultra-processed foods, combined with more sedentary lifestyles, has increased the incidence of obesity – a well-known risk factor for diseases such as diabetes and heart disease. Similarly, higher alcohol and tobacco consumption is contributing to a rise in chronic liver disease and malignant neoplasms[4]. The onset of NCDs is therefore often associated with risk factors that, while

FIGURE 1 / LEADING CAUSES OF DEATH IN LOW-INCOME COUNTRIES



Source: WHO Global Health estimates. Note: World Bank 2020 income classification

modifiable and preventable, are challenging to address in low-resource countries due to barriers including limited education and awareness, poor access to healthcare, inadequate health policies, and poverty.

A lack of educational programs and awareness campaigns leaves populations without the information they need to recognize and prevent NCDs. In many low-income countries, healthcare systems also lack the resources – medications, diagnostic tools and skilled personnel – required to effectively manage these diseases. Furthermore, poverty plays a central role in increasing the risk of developing NCDs in limited-resource settings.

POVERTY AND SOCIOECONOMIC IMPACT

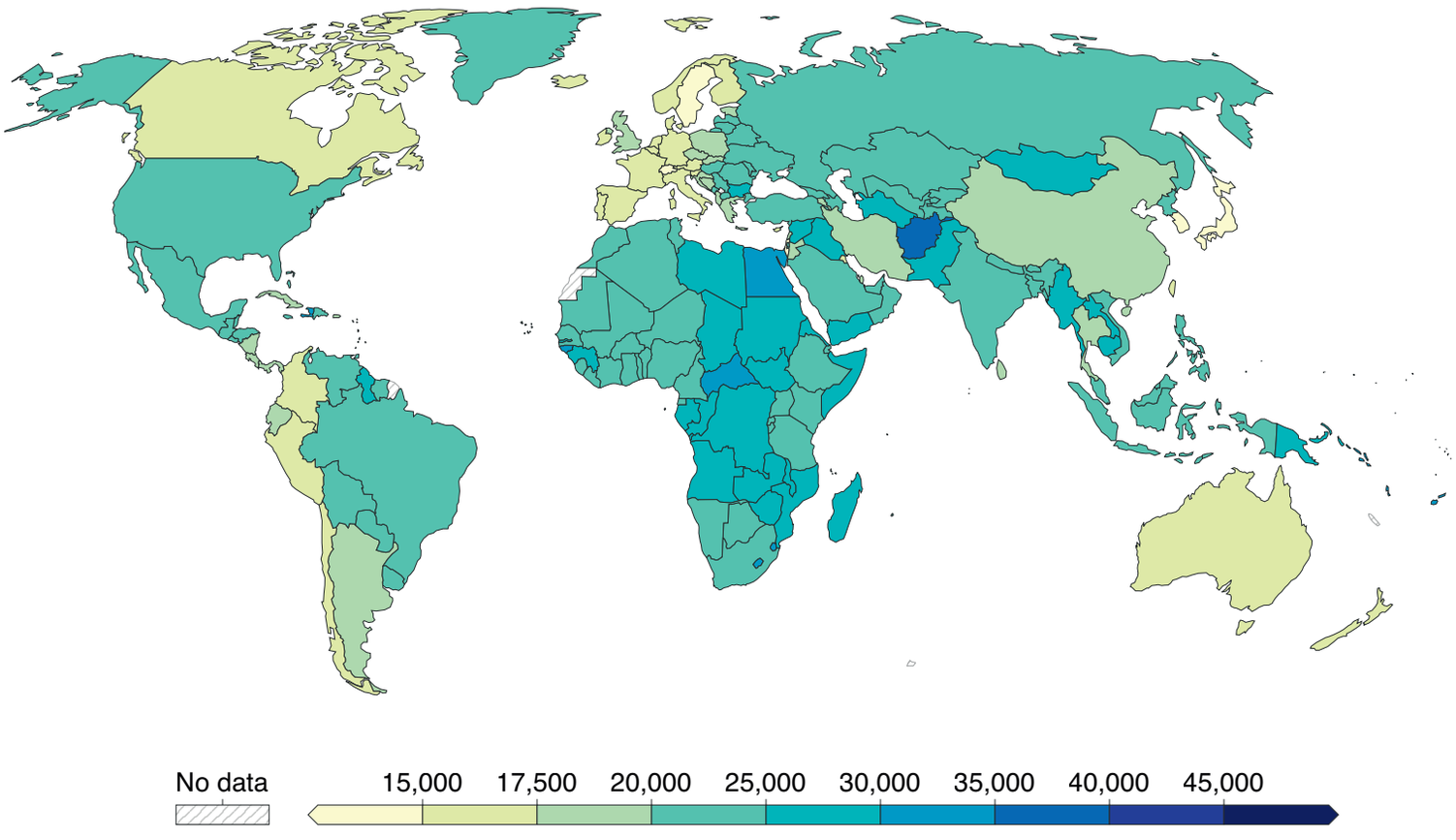
The link between poverty and disease is well documented[5]. According to the most recent estimate, almost 700 million people in low-income countries live in extreme poverty[6], and NCDs are known to play a major role in increasing the incidence of mortality and morbidity among poorer populations (**Figure 2**). Thus, NCDs are part of the vicious cycle of poverty-disease-economic burden.

The poorest segment of a population is the most vulnerable, and the economic burden of illness, due to both the sick person's lost productivity and the cost of their treatment and medicines, further exacerbates their poverty[7].

In fact, economically and socially disadvantaged individuals experience more severe illnesses and die earlier than those from higher social strata, due primarily to their higher exposure to risk factors and limited access to healthcare services. Not only do those affected by NCDs experience loss of income, but their healthcare costs also quickly drain household resources. This is how these diseases intensify poverty for millions of people each year, putting a brake on development.

It is this socioeconomic impact on the poorest in resource-poor countries that prompted the United Nations to make NCDs one of the focuses of the Sustainable Development Goals (SDGs). In

FIGURE 2 / DALY RATES FROM NON-COMMUNICABLE DISEASE (NCDS), 2021
AGE-STANDARDIZED DALY (DISABILITY-ADJUSTED LIFE YEAR) RATES PER 100,000 INDIVIDUALS FROM NON-COMMUNICABLE DISEASES (NCDS). DALYS ARE USED TO MEASURE TOTAL BURDEN OF DISEASE - BOTH FROM YEARS OF LIFE LOST AND YEARS LIVED WITH A DISABILITY. ONE DALY EQUALS ONE LOST YEAR OF HEALTHY LIFE



Source: IHME, Global Burden of Disease (2024) / OurWorldinData.org/burden-of-disease / CCBY

fact, Goal 3 includes an ambitious and challenging target (3.8) for achieving universal health coverage (UHC) by 2030, i.e. to ensure access for all to quality essential healthcare services, medicines and vaccines without experiencing financial hardship.

INTERVENTION STRATEGIES

To reduce the impact of NCDs on individuals and society and achieve the UN's SDG3 UHC-related target, a comprehensive, multi-sectoral approach will be required – one that integrates health, finance, education, transportation and planning in order to overcome barriers to care. In addition, it will be essential to establish a set of guiding principles for evidence-based, patient-centered strategies that are both accessible and sustainable. Intervention strategies should incorporate educational and training programs, public health policies for strengthening health systems, and the promotion of research and innovation. Key focuses would include:

- Communicating and disseminating information on the environmental and behavioral risk factors for NCDs;
- Training health workers on the implications of long-term NCD treatment and the management of ensuing complications;
- Decentralizing NCD services to first-level health facilities to remove the distance barrier to the greatest extent possible, thereby expanding patient access;
- Implementing protocols at the community level for disease self-management, particularly for those suffering from insulin-dependent diabetes mellitus, and setting up patient-run support groups;
- Strengthening patient referral protocols to ensure continuum of care and implementing support programs for transportation and accommodations during hospital stays;
- Ensuring the availability of essential drugs and equipment;
- Promoting research for the assessment of healthcare system preparedness; and understanding the key barriers to, and developing innovative and low-cost systems for, effective NCD management.

NOTES

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FORUM

THE PEN-PLUS STRATEGY FOR NONCOMMUNICABLE DISEASES

Doctors with Africa CUAMM has been working since 2022 to implement the WHO PEN-Plus model of care. Aimed at expanding access to services for those living with severe noncommunicable diseases (NCDs) in poor rural areas in resource-limited countries, the strategy also points up the importance of achieving universal health coverage (UHC) in such settings.

TEXT BY / FABIO MANENTI, GIOVANNI PUTOTO, GIULIA SECONDINI / DOCTORS WITH AFRICA CUAMM

FROM THE PEN MODEL TO THE PEN-PLUS MODEL

The treatment of severe noncommunicable diseases (NCDs) and their complications is typically available only in tertiary care hospitals, making NCD care services inaccessible to much of the population in low- and middle-income countries (LMICs)[1]. PEN-Plus, an innovative strategy adopted by WHO/AFRO in 2022, aims to improve access to care for patients living with severe NCDs such as type 1 diabetes, rheumatic heart disease, sickle cell disease, and others in poor rural and peri-urban areas in such countries.

The PEN-Plus model grew out of an earlier strategy, the WHO package of essential noncommunicable (PEN) disease interventions for primary health care, driven in part by the need to address the growing global burden of NCDs with complications. It focuses on fostering synergies between primary care networks (i.e., peripheral health facilities) and rural first referral hospitals (FRHs) – aspects that have been largely overlooked by global health policymakers and the academic community in recent years.[2-3].

To help FRHs strengthen their capacity to meet the needs of both the communities they serve and the primary healthcare network, PEN-Plus activities include working to improve the referral system between levels of care, launching integrated clinical services, and enhancing the skills of non-specialist health personnel such as nurses and general practitioners.

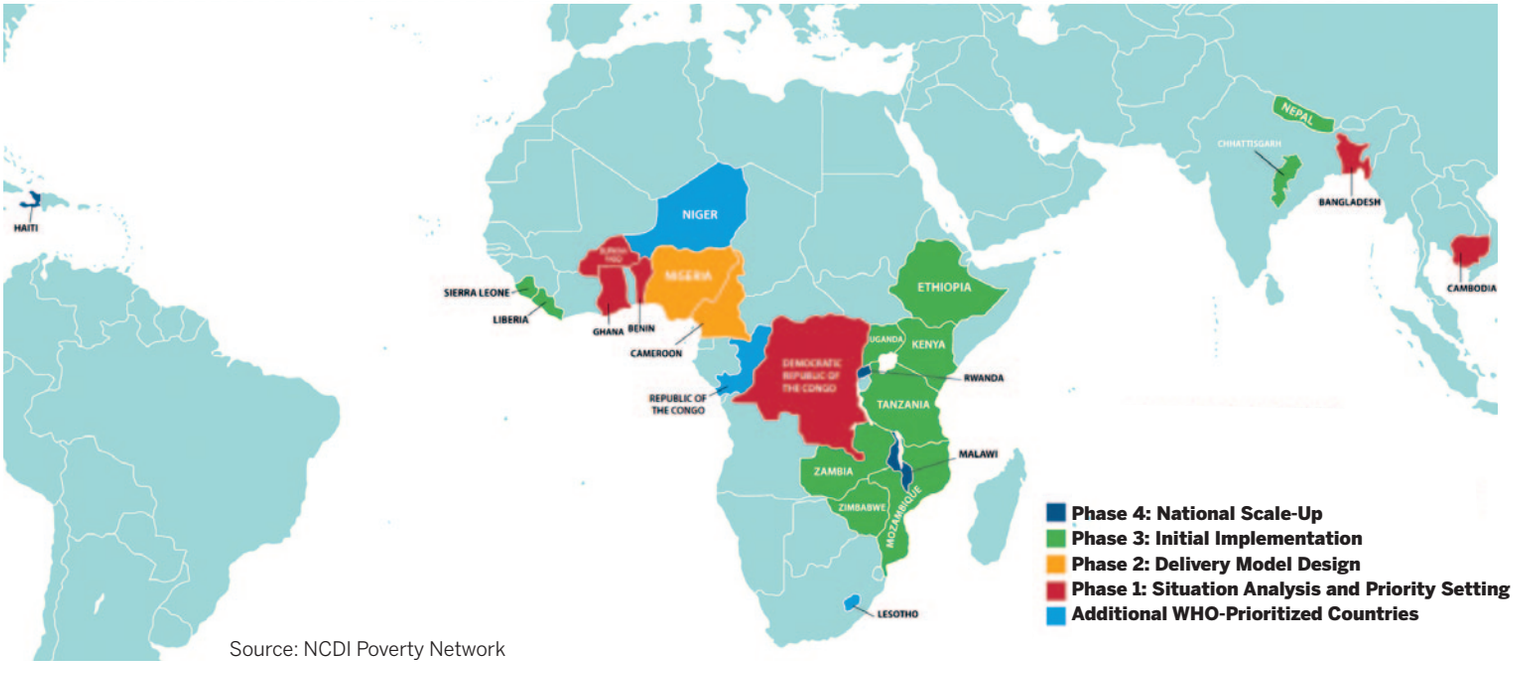
A MULTI-COUNTRY APPROACH AND THE ROLE OF OPERATIONAL RESEARCH

One of the strengths of the PEN-Plus strategy is its multi-country approach, which makes it possible to compare settings that are highly heterogeneous, whether in terms of security, poverty, health financing and/or service organization.

Supported by the Non Communicable Diseases (NCDI) Poverty Network, PEN-Plus was initially developed and scaled nationally in Rwanda.

At present, nine African countries and one state in India have launched PEN-Plus programs with the support of the NCDI

FIGURE 1 / MAP OF COUNTRIES WHERE PEN-PLUS HAS BEEN LAUNCHED AND OPERATIONAL PHASES



Source: NCDI Poverty Network

Poverty Network and other partners, including CUAMM in Sierra Leone and Mozambique (**Figure 1**)
The operational research that CUAMM conducts is also an integral part of the PEN-Plus program; its aim is to generate evidence for the model's effectiveness, equity, sustainability and scalability – or lack thereof.

THE CASE OF PUJEHUN DISTRICT HOSPITAL IN SIERRA LEONE

In 2022, Phase 3 of implementation of the PEN-Plus strategy was begun in Sierra Leone, in Pujehun, a rural district with 430,000 inhabitants and a health network consisting of a government referral hospital and over 50 health centers.
With the support of local health authorities, the first outpatient clinic in the hospital for the integrated management of NCDs (screening, triage, management of complications) was renovated and fitted out. A team consisting of 7 mid-level health workers – clinical technicians, nurses, and a nutritionist – supported by a doctor acting as trainer, supervisor and internal medicine department liaison was instituted. Intensive training on specific project-related topics was provided to both the hospital team and the team from the peripheral health centers. Instrumental and laboratory diagnostics and the dispensary were strengthened, and a patient-led data collection system was set up to enable the clinical management of patients in toto follow-up (referrals, appointments, check-ups, active search for lost patients), and socioeconomic profiling. Finally, activities to raise awareness about NCDs were conducted both in the hospital wards and in venues such as schools and markets.

2023 AND 2024 (JANUARY-SEPTEMBER) RESULTS

In just over a year and a half, some 2,061 patients were enrolled at or referred to the PEN-Plus clinic in Pujehun. A quarter of them were over 65, while 40.4% were aged between 45 and 64 years. 77.3% of the patients were residents of the district, while the rest came from neighboring ones. The most common diseases were hypertension (65%), diabetes (17.6%) and sickle cell disease (12.2%).
There were 211 ascertained comorbidities, 75% of which were hypertension and diabetes. Patients with complications, notably those with type 1 diabetes and sickle-cell disease, accounted for 33% of the cases. 952 patients, primarily women, have been in treatment or active since the program was initiated; 603 of all of the patients seen at the clinic (29%) have had a consultation in the last three months.
Until recently, consultations, tests and treatment were free of charge for all. However, due to the growing number of patients and budget restrictions, and in agreement with local health authorities, as of the third quarter of 2024 those with uncomplicated cases of type 2 diabetes mellitus and hypertension were required to pay for their treatment. As a result, in the last quarter under review (July to September), new cases declined by 35% and cases lost to follow-up grew by 70% compared to the previous quarter (April to June) – numbers broadly in line with the values of the first half of 2023.

SOME PRELIMINARY CONSIDERATIONS

We will limit ourselves to some preliminary considerations as we await the results of the comparative research involving 18 hospitals (including Pujehun) from 10 countries, which will assess clinical effectiveness, training and policy development[4].
NCDs in Sierra Leone represent an increasingly significant epidemiological burden. In the adult population, the prevalence of individuals with hypertension is 35%; with type 2 diabetes it is 8.3%. Despite their prevalence, the country's health system completely disregards severe conditions such as type 1 diabetes, rheumatic disease and sickle cell disease[5]. In fact, it is grossly unprepared to tackle the challenge of NCDs: fewer than 30% of health facilities offer screening services, fewer than 40% have NCD medications, less than 5% of the health budget is allocated to NCDs[6], and doctors specializing in internal medicine are a rarity.
Our experience in Pujehun shows that when free quality services are provided, demand grows exponentially, as does the phenom-

TABLE 1 / OVERVIEW OF THE DISTRIBUTION OF PATIENTS ENROLLED AT THE PEN-PLUS CLINIC IN PUJEHUN BY AGE (REFERENCE PERIOD: 2023-2024)

AGE–RANGE 0	FREQUENCY	PERCENT	CUM. PERCENT	
>65	519	25.18%	25.18%	
0 - 5	41	1.99%	27.17%	
6 - 17	235	11.40%	38.57%	
18 - 44	432	20.96%	59.53%	
45 - 64	834	40.47%	100.00%	
TOTALE	2061	100.00%	100.00%	

enon of bypassing, whereby hypertensive and diabetic patients bypass peripheral health facilities, often because they lack the skills and resources to manage even stable cases. This phenomenon is both well-known and understandable, but also concerning from a public health perspective, as it can lead to ineffective disease management and unequal access to care. It also can have a negative impact on the planning and management of health services by institutions[7].

To remedy this phenomenon in Pujehun, patient management has begun to be decentralized to several peripheral health facilities; the process needs to be strengthened further, including through community engagement. There is evidence that in isolated and disadvantaged areas, a control strategy based primarily on the involvement and responsibility of community health promoters can ensure adequate monitoring of the hypertensive patient population and improve their overall cardiovascular risk level[8]. This possibility has yet to be studied and tested.

NCDs AND UNIVERSAL HEALTH COVERAGE: AN ONGOING CHALLENGE

The issue of health financing and financial protection remains critical in Sierra Leone. Although the national plan stipulates the inclusion of NCDs in the package of guaranteed services, the latter are not part of the Free Health Care policy, which thus far is limited (and not always applied) to maternal and child services alone. Moreover, there are no plans for an insurance-style public financing system.

The country's strategic plan to tackle NCDs involves a total cost to the government of $8 per capita per year for five years, compared to a per capita expenditure of $43 in 2021, of which only $9.50 was provided directly by the government[9].

Not surprisingly, in 2020 out-of-pocket (OOP) spending by households in Sierra Leone reached 55.7% of current health expenditure (CHE), one of the highest levels in sub-Saharan Africa[10]. This OOP spending by patients was primarily for the purchase of essential medicines.

This data not only highlights the critical need to increase public, community, and international funding for healthcare in general, and for noncommunicable diseases (NCDs) in particular, but also raises – yet again – the pressing question of what type of organizational model could be adopted in the most disadvantaged and impoverished settings to treat the most severe NCDs and other significant diseases in an effective, equitable and sustainable manner[11]. The ongoing challenge to be addressed, in other words, is: which priority services should to be provided, to whom, with what resources and how.

NOTES

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STAYING ON ON THE SIDELINES

As part of our ongoing work on the diagnosis and treatment of NCDs, CUAMM has put a sharp focus on decentralization in recent years.

Established in December 2022 at the government hospital in Pujehun, a rural town in Sierra Leone, the PEN-Plus clinic for chronic NCDs aims to ensure access to quality NCD care at a peripheral health center. The clinic serves as the first point of contact for those affected by significant to severe NCDs, providing medication, laboratory tests and a focus on prevention.

Since its opening, 2,061 patients have been enrolled at or referred to the clinic, 1,285 with hypertension, 363 with Type 2 diabetes, 253 with sickle cell anemia and others with chronic liver, heart and other conditions.

Decentralization helps overcome barriers to healthcare, improving both service accessibility and delivery.

ARCHIVO CUAMM

EXPERIENCES FROM THE FIELD

NEW APPROACHES TO NCD MANAGEMENT IN TANZANIA

Working effectively in a resource-limited setting requires a deep understanding of that setting, and the ability to act in ways that are best suited to it. This is especially true when it comes to developing health strategies and innovations in such areas. CUAMM's work on managing NCD treatments in Tanzania highlights the importance of knowing how to adapt interventions to specific socioeconomic contexts.

TEXT BY / MARIO SAUGO / DOCTORS WITH AFRICA CUAMM

ADDRESSING HYPERTENSION AND DIABETES

In July 2024, I was given the opportunity to stay for a couple of weeks at the Tosamaganga Hospital guesthouse while studying noncommunicable diseases (NCDs) in this rural area of Tanzania. These conditions are increasingly prevalent in sub-Saharan Africa, especially in urban areas, due primarily to the pervasiveness of Western lifestyle habits such as smoking and the consumption of sugary drinks and processed foods high in sodium and fat. The high prevalence of hypertension and diabetes mellitus – which affect one in three and one in ten adults, respectively – is therefore not surprising.

NCDs are also prevalent in Tosamaganga, exacerbating the economic challenges faced by its residents. Only 25% of the patients in this region, in fact, have health insurance; the other 75% must pay out of pocket for medical appointments and tests. This can become a very costly burden, especially when it comes to NCDs. Thanks in part to CUAMM's support and other donations, in Tosamaganga screening and treatment are provided free of charge to those in need.

TOSAMAGANGA AND CUAMM'S INTERVENTION: THE NUMBERS

A screening and treatment program for hypertension and diabetes mellitus has been up and running at the Tosamaganga hospital since 2019. Analysis of the data collected since then shows that one-third of the 2,038 patients with hypertension had very high blood pressure levels, while the same percentage of the 687 patients with diabetes mellitus had very high fasting blood sugar levels. In sub-Saharan countries, there is as yet little awareness – both among health policymakers and citizens – of the gravity and consequences of these diseases, which many perceive as "new".

Given the challenging combination of high numbers of patients with NCDs and extremely limited human and material resources, CUAMM's intervention is aimed at implementing and demonstrating the feasibility and sustainability of a primary care model by training and supporting health policy decision makers, health workers and patients themselves in the prevention and treatment of these "new" diseases. Our organization is fully committed to this end, including the provision of resources. The project is coordinated by an Italian doctor, and medicines and diagnostic tests are provided to anyone who needs them and does not have health insurance.

Three years into the intervention, we are seeing encouraging results: the percentage of hypertensive patients whose blood pressure has been brought within the recommended range has risen from 13.0% to 53.2%, while the percentage of diabetics who have achieved target blood glucose levels has increased from 19.0% to 43.6%. This outcome only underlines how much work remains to ensure the continuity of this care in limited-resource settings like that of Tosamaganga.

CREATIVE TREATMENT AND PREVENTION STRATEGIES

Clinical experience, a motivation to work together with local doctors, and a certain amount of creativity: in low-resource settings, all of these are useful for identifying innovative and sustainable solutions for the future.

For example, we are now testing a simplified protocol for our diabetic patients, including twice-daily administrations of pre-mixed insulin, visit-by-visit patient education on how to independently use glucometers and blood glucose test strips, and guidance on regulating food intake. And as a first step in the treatment of hypertension, we are testing the use of Nifedipine, an inexpensive, easy-to-use drug that is far more effective than Bendroflumethiazide, an old diuretic still used in Tanzania.

Finally, we are experimenting with the use of Absolute Cardiovascular Risk Charts to estimate the risk of cardiovascular disease, using Body Mass Index (BMI) instead of LDL cholesterol, which is an uncommon and costly laboratory test in this setting. Such experiments, aimed at finding frugal and sustainable, yet effective and scientifically-based techniques, have already been conducted in the USA and South Africa.

Working in Africa spurs us not only to be creative, but also to determine what the *true* primary health needs of a given population (including Italy's own) are, and how public healthcare systems can best meet them.

EXPERIENCES FROM THE FIELD

MENTAL HEALTH AND PREVENTION IN MOZAMBIQUE

Mental health has become a significant global health issue. Mental distress and disorders harm the psychophysical well-being of those affected by them; however, it is not easy to take care of one's own mental health. This is especially true in the case of adolescents, particularly African youth living in challenging environments. A study in Beira, Mozambique, analyzes a psychodrama intervention among adolescents.

TEXT BY / ROBERTO BENONI / DDEPARTMENT OF PUBLIC HEALTH AND INFECTIOUS DISEASES, SAPIENZA UNIVERSITY OF ROME AND NATIONAL CENTRE FOR GLOBAL HEALTH, ISTITUTO SUPERIORE DI SANITÀ, ROME, ITALY; CHIARA MALESANI / CHILD NEUROPSYCHIATRIST, UNIVERSITY OF PADUA

MENTAL HEALTH IN MOZAMBICAN ADOLESCENTS

No matter what country one is born into, adolescence is a period of profound physical, psychological and social transformation. The World Health Organization estimates that one in seven 10-19-year-olds experience mental health issues, accounting for 15% of the global burden of disease in this age group[1]. In 2015, 21.2% of Mozambican adolescents struggled with psychosocial distress, and 18.5% of the latter even attempted suicide.

A NON-MEDICAL INTERVENTION

Recognizing the growing need to prioritize mental health, Doctors with Africa CUAMM has been active in Mozambique for around 15 years, supporting *Servicios Amigos dos Adolescentes* (SAAJs) – outpatient clinics that provide services to adolescents in the areas of reproductive health, sexually transmitted diseases and psychosocial support. Working alongside the SAAJs and led by activists from youth associations, a separate network of *Cantinhos de Escuta* ("listening corners") reaches out to young people in places they are likely to frequent, such as playgrounds and cultural centers, inviting them to participate in activities designed to promote good mental health and prevent mental distress. It was in this non-medical setting that we decided to test a preventive approach through emotional psychoeducation, with the active involvement of adolescents themselves. Funded by the Italian Agency for Development Cooperation (AICS) with the collaboration of the University Hospital of Padua's Child Neuropsychiatry Operative Unit (UOC), the *Conoscere per Curare* project, based on the psychodrama therapy technique, saw the participation of over 300 young people aged 15 to 24.

THE PSYCHODRAMA THERAPY TECHNIQUE

Developed by Jacob Levy Moreno in the early 1920s, psychodrama is a group therapy method with deep roots in theater, psychology, and sociology[2]. It offers participants the opportunity to explore their emotions, thoughts and behavior in an environment where they can safely express themselves and connect with others. Feelings, memories and relationships are "staged" as a sort of theatrical performance, allowing participants to reenact their life experiences, and observers to gain insight into underlying elements of discomfort.
Co-led by a Junior Project Officer (JPO) specializing in child neuropsychiatry and specially trained local activists from the Anandjira Association, our psychodrama therapy project consisted of ten sessions focused on four key areas: i) breaking the stigma around mental health, ii) recognizing and managing emotions, iii) learning assertive communication and empathic listening, and iv) developing effective coping strategies[3]. By administering questionnaires both before and after the psychodrama therapy sessions, we found that participants had gained a better understanding of mental health and greater ability to recognize and express feelings through actions, and were also experiencing fewer feelings of hopelessness. Their responses also highlighted the importance of peer-to-peer support and relationships during the critical phase of adolescence.

SOCIAL-EMOTIONAL LEARNING AND PREVENTION OF MENTAL HEALTH ISSUES

Our goal was to help these young people develop social-emotional skills such as improved interpersonal communication, emotional regulation, higher-order thinking (for example, decision-making and problem-solving), self-esteem and coping strategies. These skills are essential for empowering individuals to actively foster their own mental health, while also promoting supportive and effective relational networks within the community.
"*During the face-to-face game I realized that others were facing the same challenges as me, that I wasn't alone.*"
(Testimony by a session participant)

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EXPERIENCES FROM THE FIELD

UNIVERSAL HEALTH COVERAGE: THE CASE OF UKRAINE

The focus on universal health coverage is relevant not only to limited-resource countries, but also to those affected by conflict, which erodes national health systems. A prime example is Ukraine, where the ongoing war has made continuity of care, especially for noncommunicable diseases, increasingly difficult. While CUAMM's long-term focus is on Africa, we are also addressing this health crisis at Europe's doorstep.

TEXT BY / ANDREA ATZORI / DOCTORS WITH AFRICA CUAMM

THE IMPACT OF CONFLICT AND WAR ON HEALTH SYSTEMS

Universal health coverage (UHC) is a global goal promoted by the World Health Organization (WHO), aiming to ensure that all individuals can access essential health services without facing financial hardship. In conflict zones, where access to care is severely disrupted, achieving this goal becomes even more challenging. Ukraine, embroiled in a brutal conflict since 2022, is a prime example. The country's healthcare system has come under immense strain, with millions of people experiencing reduced or interrupted access to essential services, including the management of NCDs.

In conflict settings such as the ongoing war in Ukraine, implementing UHC presents enormous challenges, with attacks on health infrastructure, the destruction of hospitals and clinics, and the shortage of medical resources exacerbating already critical situations. Forced to work under extremely difficult conditions and often to flee their place of work to avoid danger, health personnel in conflict zones become overwhelmed; this too severely limits a health system's capacity to meet its population's needs.

A COUNTRY IN (A HEALTH) CRISIS

Before the conflict began, Ukraine had introduced health reforms to improve access to services and the management of noncommunicable diseases (NCDs). However, the war has reversed much of this progress, and the WHO estimates that some 15 million people in the country are now in need of healthcare. The situation is particularly dire for patients with NCDs such as diabetes, hypertension, asthma and cardiovascular disease, which necessitate regular check-ups, medication and monitoring. As healthcare systems grapple with the chaos of conflict, their care is frequently overlooked as resources are shifted to address more immediate crises, like treating the wounded or controlling epidemics. Such discontinuity of care and disruptions in the supply of essential medicines put these patients' lives at significant risk. Doctors with Africa CUAMM, which has extensive experience in addressing health crises in vulnerable contexts, has shown that it is possible to develop care models that address both immediate and long-term needs. Part of our work involves close cooperation with local governments and international agencies to help rebuild health systems. In Ukraine, our focus is on restoring essential drug supply chains and enabling access to diagnostic and monitoring services, both key components in the effective management of NCDs.

THE DOMINO EFFECT OF DISRUPTED CARE

The war in Ukraine has disrupted the supply of essential drugs for the treatment of NCDs such as diabetes and hypertension. Many patients have been forced to rely on suboptimal therapies, often dependent on donated medicines. Cancer treatments have also been significantly affected, with direct consequences for patient survival. Reduced access to diagnostic and monitoring services has created a "domino effect", whereby the dearth of preventive care leads to a rise in severe cases requiring advanced treatments, which are often unavailable, which leads in turn to higher mortality.

Addressing chronic diseases in conflict settings like Ukraine demands an integrated, multi-level approach involving the strengthening of hospitals and health centers as well as the empowerment of communities and families to manage chronic conditions both during and in the aftermath of crises. Achieving UHC in such settings is a daunting challenge; but much depends on a country's ability to utilize emergency resources to reinstate routine healthcare programs as quickly as possible, thus ensuring continuity of care for all – especially those with NCDs.

EXPERIENCES FROM THE FIELD

RESARCH ON THE COSTS OF NCDS IN MOZAMBIQUE

What are the costs of noncommunicable diseases (NCDs)? How do they impact health systems and households? These questions highlight a range of issues that demand answers; a clear understanding of these costs is, in fact, crucial to ensuring equitable access to care. A study in Mozambique analyzes the financial burden of NCDs on both the healthcare system and patients.

TEXT BY / PAOLO BELARDI / DOCTORS WITH AFRICA CUAMM; LAURA NOLLINO / UOC ENDOCRINE, EXCHANGE AND NUTRITION DISEASES AZIENDA ULSS 2 MARCA TREVIGIANA; GIOVANNI PUTOTO / DOCTORS WITH AFRICA CUAMM

MOZAMBIQUE AND NONCOMMUNICABLE DISEASES

In Mozambique, noncommunicable diseases (NCDs) are a leading cause of morbidity and mortality, with significant impacts on both the population and the national health system. The country is in the midst of an epidemiological transition where NCDs have begun to surpass infectious diseases as the primary cause of mortality, and now account for 28% of all deaths. Exacerbating this trend are factors including an ageing population, urbanization and changes in dietary and lifestyle habits[1]: 33% of the population now has hypertension[2] and 14.1% of adults use tobacco (STEP data; WHO). In response to these statistics, CUAMM worked together with local authorities and Milan's Bocconi University to assess the costs of implementing an integrated health program in the country's Maputo and Sofala provinces, as well as the economic burden for patients affected by these diseases.

THE COSTS OF NCDS FOR MOZAMBIQUE'S HEALTH SYSTEM

The total cost of implementing the program was US$1.2 million, equivalent to an average cost of US$3.20 for each consultation. Personnel costs represented the largest cost item (42%), followed by durable goods (26%), drugs and consumables (23%) and service costs (9%).

The study's results also provided valuable insight into the disproportionate economic impact of illness across different income groups. Specifically, the average monthly cost incurred by an individual patient was $49.80, with non-medical direct costs (i.e., a healthier diet and transportation) as the main cost drivers, accounting for 74% of total recurring costs. Patients from rural areas incurred higher direct costs, while their indirect costs, due to lost productivity, were lower than those experienced by patients from urban areas. For patients in the lowest income group, the average monthly cost ($44.80) for managing their diseases represented a sizeable share (71%) of their reported monthly income. For 3% of our sample, the costs incurred proved catastrophic.

A POLICY EFFORT

To address this growing challenge, the Mozambican Ministry of Health developed the *Plano Estratégico Nacional para as Doenças Não Transmissíveis* (National Strategic Plan for Noncommunicable Diseases) 2020-2029[3], which outlines a series of targeted interventions. CUAMM actively contributed to drafting the plan, which is organized around key focus areas: i) primary prevention through awareness campaigns to address modifiable risk factors such as unhealthy dietary habits and physical inactivity; ii) expanding access to primary healthcare services and enhancing NCD diagnosis and treatment at first referral hospitals; and iii) strengthening the capacity of the epidemiological surveillance system to monitor and evaluate the patterns and trends of these diseases.

Other central measures include regulating and reducing tobacco and alcohol consumption through advertising restrictions and taxation, providing continuous training for healthcare workers, and adopting clinical protocols for the early detection and management of NCDs. However, the implementation of these measures faces significant challenges due to chronic and systemic underfunding of the healthcare system, which amounted to just US$32 per capita in 2021[4].

This financial shortfall results in the shortage of qualified healthcare personnel, inadequate infrastructure, and geographical disparities in access to health services.

The prevalence of NCDs underscores the urgent need to structurally increase healthcare system financing and to identify alternative risk-sharing mechanisms for out-of-pocket spending by patients. Approaches tested in other sub-Saharan countries, such as the introduction of universal basic health insurance, offer potential solutions.

In this context, partnership between Mozambique, international organizations like the WHO and development partners such as CUAMM will be essential in helping to achieve the objectives outlined in the country's national strategic plan, particularly the goal of reducing premature mortality from NCDs by 2030.

NOTES

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OPERATIONAL RESEARCH FOR QUALITY DEVELOPMENT COOPERATION

Operational research (OR) as a "vital lever for improving the quality of health cooperation in Africa": convinced of its key role in improving and adapting health interventions, CUAMM has made such research an integral part of our organization's strategic plan for the past decade.

As part of our commitment to OR, in June 2024 we organized an event focused on the topic – *Research for quality health cooperation: Experience, evidence and perspectives from Africa*. The participation of those who actually do such work in the field, including both African and European researchers, made it possible to share different experiences and perspectives and to delve into the topical issues arising from practical needs on the ground. From mental health to tuberculosis to the impacts of climate change, each story recounted underscored the value of working *with* Africa.

Sponsored by the University of Padua and attended by over 300 participants, the event cast a spotlight on OR's strategic role in mounting effective responses to emerging challenges and improving health cooperation in Africa.

ARCHIVIO CUAMM

FOCUS

NONCOMMUNICABLE DISEASES AND GENDER

For many African women, noncommunicable diseases (NCDs) are a double burden. Not only are the most vulnerable among them often burdened with illnesses that may persist throughout their lives, but they also face greater difficulties in accessing and continuing the care they need. Complex intermixes of traditions, cultural factors and educational and financial barriers are often additional obstacles to their health.

TEXT BY / JESSICA MARZARO / DOCTORS WITH AFRICA CUAMM

NCDS AND GENDER

The World Health Organization estimates that 37%[1] of deaths in the sub-Saharan region in 2019 were caused by NCDs; it uses the term "invisible numbers" to denote the true scale of the threat posed by these ailments. Indeed, NCDs, which are generally of slow progression, receive far less media attention than other diseases.
These numbers become even more "invisible" when it comes to African women, whose mortality rate from NCDs is 39%, while for their male counterparts it stands at 35%. Behind this percentage hides an array of challenges and difficulties[2] that impede women's access to health care, including a lack of financial resources, the burden of daily work and low levels of education and emancipation.

A COMPLEX BACKDROP

As reported in the Institute of Health Metrics and Evaluation (IHME)'s *Global Burden of Disease 2021 Study*, NCDs often begin to affect women in childhood, worsening with age.
The mortality rate due to NCDs (including congenital, autoimmune, metabolic and blood disorders such as anemia) in girls aged 5 to 14 in sub-Saharan Africa rose from 4.5% in 1990 to 7.7% in 2021.
Girls and young women in sub-Saharan Africa often form unhealthy lifestyle habits early on that become risk factors for the development of NCDs. For example, 39% of women in the region are estimated to be overweight or obese compared to 24% of their male counterparts, a condition that becomes a major risk factor for diseases or disorders like diabetes and hypertension, sometimes associated with pregnancy. In addition, due to their urbanized and overly sedentary lifestyles, some 20% of women in the region do not get enough regular physical activity. These factors often lead to the onset of NCDs in older women as well, with the most severe cases in those aged 50 to 69. Cardiovascular disease and cancer are the second and third leading causes of mortality in women in sub-Saharan Africa (20% and 13%, respectively), with the most common cancers being those of the breast and the cervix. This is driven in part by a lack of prevention including access to HPV vaccination, screening for early detection, and treatment services. For over-70 women in the region, the leading cause of mortality (29%) is cardiovascular disease; diabetes is the fourth, followed by neoplasms.

WOMEN'S HEALTH IS COMMUNITY HEALTH

Sociocultural factors are among the complex root causes of the growing burden of NCDs. For example, tradition demands that girls engage in a range of domestic care duties including looking after their siblings when young and their own children once they become mothers, but also tasks such as cooking, collecting wood and field work. These often arduous responsibilities impact women's health, with consequences that present especially in adulthood, including early death, long-term disabilities and other conditions that make it impossible for women to continue to work or do tasks, which in turn leads to impoverishment[3]. Girls also face numerous obstacles in terms of access to health services. This is due to factors including their distance from health facilities or from their childhood homes as well as the cost of services, which weighs heavily on household budgets in settings where there is no guarantee of affordable care. The cost of care for NCDs can easily put families at risk of impoverishment (catastrophic health spending), so here too, it is women who bear the burden, often going without care themselves since traditional family hierarchies prioritize and give control of household financial resources to men.
What is central to achieving universal health coverage? Furthering education and prevention, training health professionals, supporting rural communities in early NCD detection and treatment, but also expanding both financing and our understanding of the complex social determinants of NCDs while helping empower women in their household and community roles.

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REVIEW

THE RAPID SPREAD OF MPOX

The recent spread of a new strain of the mpox (formerly monkey pox) virus across Africa has prompted the World Health Organization (WHO) to declare it a "public health emergency of international concern" (PHEIC) for the second time. The Democratic Republic of Congo is currently the hardest-hit nation. As we face yet another crisis, a question arises: what have we learned from past lessons?

TEXT BY / GAVINO MACIOCCO / DEPARTMENT OF HEALTH SCIENCES, UNIVERSITY OF FLORENCE

IN THE AFTERMATH OF COVID-19

We first became familiar with the term 'spillover' during the COVID-19 pandemic. Literally, it means "overflow", but from a biological perspective it refers to the crossing of a pathogen from one species to another. Coronaviruses typically circulated among animals such as bats, dromedaries, and so forth. But at some point they were transmitted – "spilled over" – to humans, and began to spread within our species as well, resulting in an infectious disease to which nobody was immune.

Such events are not novel; they had occurred in the past. What's new, however, and deeply alarming, is the speed and frequency with which these spillovers have taken place since the 1980s: HIV/AIDS, Ebola virus disease, avian influenza (bird flu), SARS, swine flu (H1N1 influenza), MERS and COVID-19. The trend is clearly linked to the growing overlap between animal and human habitats driven by deforestation, the growth of megacities, intensive livestock farming, and other environmental pressures.

MPOX

Mpox – formerly called monkeypox – is an infectious zoonotic disease caused by the monkeypox virus (MPXV). It was first identified in humans in 1970 in rural villages in the rainforest areas of Central and West Africa. Several animal species have been identified as susceptible to MPXV, which is especially widespread among primates and small rodents, primarily in Africa. The virus is rarely transmitted by air; the most common method of transmission is direct contact with infected skin lesions or body fluids.

The World Health Organization (WHO) first made an emergency announcement about a multi-country outbreak of mpox, declaring it a "public health emergency of international concern" (PHEIC), in July 2022. In May 2023, the WHO declared an end to the PHEIC. However, on 13 August 2024, the Africa Centres for Disease Control and Prevention (Africa CDC) declared the ongoing outbreak a "public health emergency of continental security" (PHECS), and the WHO issued a second PHEIC one day later.

The current outbreak is driven by the emergence of a new clade variant of mpox that is better adapted to human-to-human transmission. The Democratic Republic of Congo is the hardest-hit country: since January 2023, it has reported more than 27,000 suspected cases of mpox and over 1,300 deaths, with children under the age of 15 bearing the greatest burden of the disease: among this group, the fatality rate exceeds 8%.

A GLOBAL RESPONSE IS NEEDED

"Following WHO's declaration of this mpox outbreak as a PHEIC," ran a 15 August 2024 opinion piece in the BMJ [1], "rich nations may resort to travel bans against the affected African nations, rather than offer genuine support. The unjust, racist travel bans that were imposed on some African nations during the SARS-CoV-2 omicron wave are stark evidence. We worry about a resurgence of stigma and racism aimed at African nations, as we saw during the omicron wave and the 2022 mpox outbreak."

It certainly doesn't help that at the most recent World Health Assembly in May 2024, no agreement was reached regarding the global sharing of vaccines and medicines during pandemics. In fact, "Africa CDC has reported a need for approximately 10 million vaccine doses to control the outbreak, of which only about 280,000 are available, i.e. less than 3% of the estimated need".

"In declaring the second mpox-related PHEIC, Tedros Adhanom Ghebreyesus, WHO Director-General, stated that 'a coordinated international response is needed to stop these outbreaks and save lives'. This is exactly the need of the hour. In fact, if we had learned the lessons of HIV, Ebola, COVID-19, and the earlier mpox outbreak, we would have already acted to support African countries quickly and cohesively to avert the present crisis. In the immediate term, we must ensure Africa CDC has adequate funding, as well as the full supply of mpox vaccines required to control the outbreak, along with diagnostics and medicines. We need more affordable vaccines and many more manufacturers involved. Africa CDC's response plan needs the full support of the international community. African nations must work together and mobilize domestic resources to widen public health surveillance, contact tracing, and other measures critical to containing further spread".

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DOCTORS WITH AFRICA CUAMM

Founded in 1950, Doctors with Africa CUAMM was the first non-governmental organization focused on healthcare to be recognized by the Italian government. It is now the country's leading organization working to protect and improve the health of vulnerable communities in sub-Saharan Africa.

CUAMM implements long-term development projects, working to ensure people's access to quality health care even in emergency situations.

HISTORY

In over **73** years of existence
- more than **200** programs have been carried out;
- **2,500** individuals have worked on our projects;
- **43** countries have partnered with our organization;
- **239** hospitals have been assisted;
- **1,200** students have lodged at CUAMM's university college, including 900 Italians and 286 citizens from 34 other countries;
- more than **5,000** years of service have been provided, with each CUAMM worker serving for an average of three years.

SNAPSHOT

Doctors with Africa CUAMM is currently active in Angola, the Central African Republic, Ethiopia, Mozambique, Sierra Leone, South Sudan, Tanzania and Uganda with:
- **162 major development projects** and approximately 100 smaller related initiatives. Through this work we provide support to:
  - 21 hospitals;
  - 116 local districts (with activities focused on public health, maternal and infant health care, training, and the fight against HIV/AIDS, tuberculosis and malaria);
  - 843 health facilities;
  - 4 nursing schools (in Lui, South Sudan; Matany, Uganda; and Wolisso, Ethiopia);
  - 1 university (in Beira, Mozambique);
- **3,465 health workers**, including 282 from Europe and abroad.

IN EUROPE

Doctors with Africa CUAMM has long been active in Europe as well, carrying out projects to raise awareness and educate people on issues of international health cooperation and equity. In particular, CUAMM works with universities, institutions and other NGOs to bring about a society – both in Italy and in Europe – that understands the value of health as both a fundamental human right and an essential component for human development.

PLEASE SUPPORT OUR WORK

Be part of our commitment to Africa in one of the following ways:
- **Post office current account** no. 17101353 under the name of Doctors with Africa CUAMM
- **Bank transfer** IBAN IT 32 C 05018 12101 000011078904 at Banca Popolare Etica, Padua
- **Credit card** call +39-049-8751279
- **Online** www.mediciconlafrica.org

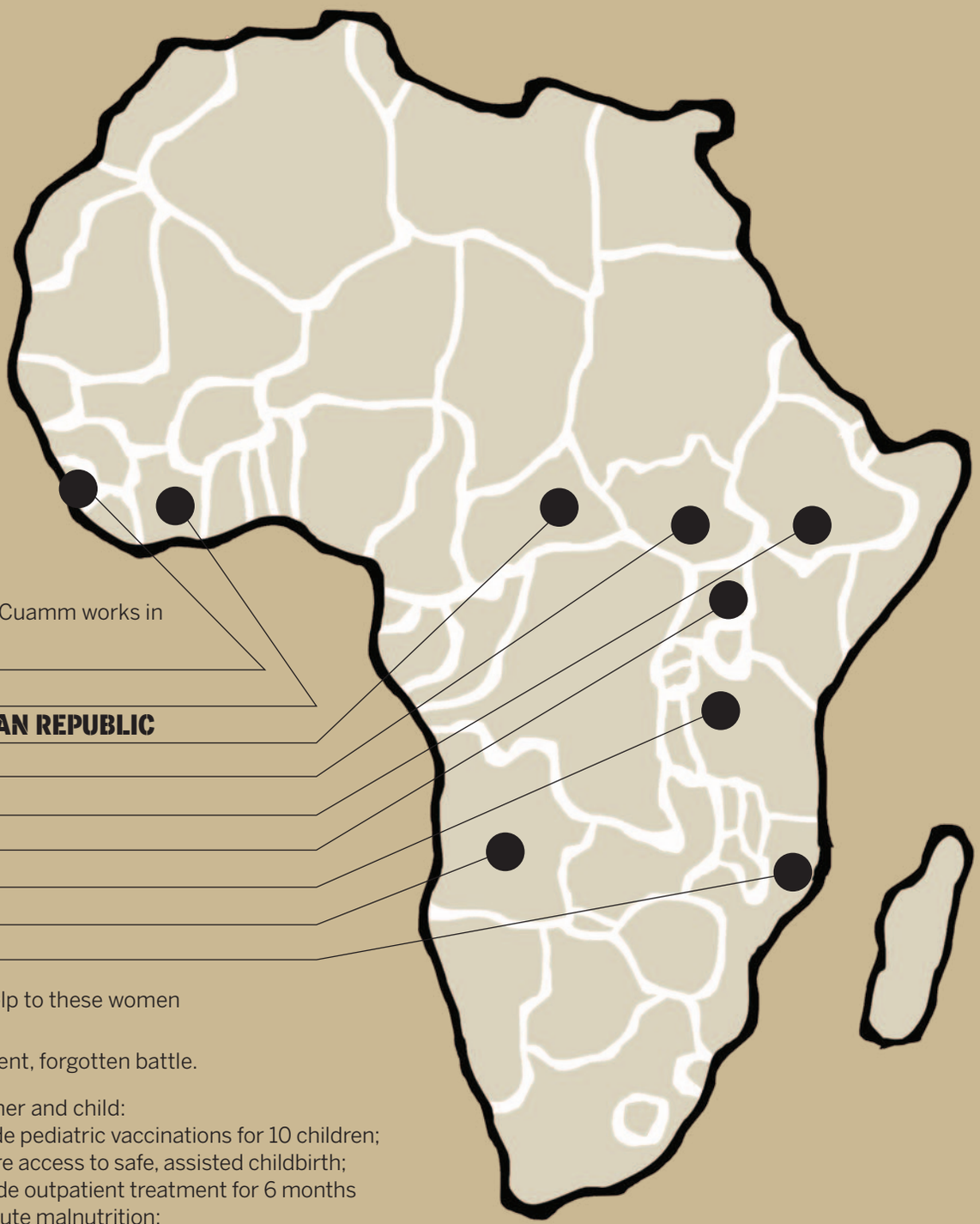
Doctors with Africa CUAMM is a not-for-profit NGO; donations made to our organization are tax-deductible. You may indicate your own in your annual tax return statement, attaching the receipt.

In ***Health and Development*** you will find studies, research and other articles which are unique to the Italian editorial world. Our publication needs the support of every reader and friend of Doctors with Africa CUAMM.

WHAT AFRICA NEEDS

EVERY YEAR IN SUB-SAHARAN AFRICA:

- 4.5 million children under the age of 5 die from preventable diseases that could be treated inexpensively;
- 1.2 million infants die in their first month of life due to lack of treatment;
- 280,000 women die from pregnancy- or childbirth-related complications.



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CENTRAL AFRICAN REPUBLIC
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MOZAMBIQUE

to bring care and help to these women
and their children.

Help us fight this silent, forgotten battle.

Help care for a mother and child:

- 10 euros to provide pediatric vaccinations for 10 children;
- 40 euros to ensure access to safe, assisted childbirth;
- 60 euros to provide outpatient treatment for 6 months for a child with acute malnutrition;
- 80 euros to support a professional training course for a midwife; 100 euros to support a professional training course for a local doctor (continuous training)

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"This data not only highlights the critical need to increase public, community and international funding for healthcare in general, and for noncommunicable diseases (NCDs) in particular, but also raises – yet again – the pressing question of what type of organizational model could be adopted in the most disadvantaged and impoverished settings to treat the most severe NCDs and other significant diseases in an effective, equitable and sustainable manner".