



## PROGRAMME NOTE

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## OVERVIEW

**The Defeat-NCD Partnership was established in January 2018** to help tackle the most significant global health problem of the age: premature death, sickness, disability, and the associated social and economic impacts of selected non-communicable diseases (NCDs). Our initial focus is on diabetes and hypertension with expansion to other NCDs in due course probably starting with the early detection and treatment of cervical and breast cancer.

**Our vision is that of a world in which there is universal health coverage for NCDs.** This is a direct contribution to the transformational *2030 Agenda for Sustainable Development* to which all nations subscribed.

**Our specific mission is to enable and assist lower-income and lesser-developed countries to scale-up sustained action against NCDs** so that they can progress on *Sustainable Development Goal (SDG) 3, ensuring healthy lives and promoting well-being for all at all ages* and, more specifically, to achieve target 3.4 to reduce, by one-third, premature mortality from NCDs by 2030. Accordingly, **the priority focus of The Defeat-NCD Partnership is on 49 least-developed and low-income countries with technical capacity building support also available to a further 43 lower-middle income countries.**

**Defeat-NCD is a ‘public-private-people’ Partnership** that is an autonomous inclusive programme of the United Nations system. Our membership and governance include governments, multilateral agencies, civil society, academia, philanthropic foundations, and the business sector. We subscribe to the ethical principles of the UN Global Compact. We follow the technical norms and guidance issued by the World Health Organization. Our operating procedures derive from UN rules but are designed to be fast and responsive. We work in a complementary and coordinated way with other health and development actors at all levels.

**The Partnership works by mobilising** global and national knowledge, tools, capacities, and finances to benefit resource-poor countries according to their specific needs and defined NCD action plans. This includes the additionally vulnerable populations of humanitarian concern, such as people living in conflict and disaster contexts including refugees and the internally displaced, that are hosted by them.

**In practical terms, the Partnership is focused at the country level.** We work to enable their populations to access a range of interconnected essential services and resources, through four tracks: the Defeat-NCD National Capacity Strengthening Facility, the Defeat-NCD Community & Health Systems Scale-up Facility, the Defeat-NCD Essential Supplies and Distribution Facility, and the Defeat-NCD Financing Facility.

## THE NCDs CHALLENGE

**The Partnership was born from the recognition that NCDs are now the major contributor to the global burden of disease.** They kill 40 million people each year, equivalent to 70% of all deaths globally. Each year, there are 15 million “premature” deaths (i.e. below the age of 70 years) from NCDs. Continuing with business as usual will increase this by a third by 2030. NCDs are not just medical problems. Their huge personal, social and economic impacts and their rising prevalence is a serious setback for human and national development.

**Our focus on diabetes and hypertension is justified by their huge public health significance.** Each, on its own and in combination, cause most of the global NCD deaths. At the same time, the risk factors that lead to raised blood sugar and blood pressure are reducible. Both diabetes and hypertension are easily treatable and their complications largely avoidable. See **Annex 1** for a background note on the technical aspects of diabetes and hypertension.

**The Defeat-NCD Partnership prioritises poorer countries because they bear the brunt of the enormous impact of NCDs** with some 47% of premature deaths occurring in low and lower-middle income countries. The resident of a low-income country faces a lifetime chance of 20-30% of dying from an NCD under the age of 70; this is two-to-four-fold higher than the equivalent risk for a high-income country resident. Meanwhile, when poor countries start getting a little more prosperous, the prevalence of NCD risk factors tend to initially increase.

The cumulative economic losses due to NCDs in low- and middle-income countries are estimated at US \$7 trillion for 2011-2025. This sum far outweighs the estimated annual US \$11.2 billion cost of interventions to reduce the burden. Meanwhile, less than 2% of global development assistance for health goes to NCDs of which only a miniscule share is for diabetes and hypertension.

Resource poor countries are constrained in their response by several factors. To start with, poorer people are more vulnerable because they are more likely to have to endure unhealthy living and working conditions and to be less able to afford healthier lifestyle options. They are also often less educated on risks and the knowledge to manage them. These countries have weak institutional capacities and invest less in prevention, public health protection, and curative care. Furthermore, prevalent inequalities mean that the poorest groups can least afford the remedies on offer that include lifetime medication.

**Special attention is needed for the hundreds of millions of people of humanitarian concern.** These are the people seriously affected or displaced by disasters and conflicts. The life chances of people among them that suffer from NCDs are known to be severely compromised by the discontinuities in provision that happen in crisis contexts.

## FRAMING THE DEFEAT-NCD PARTNERSHIP APPROACH

Initially slow to react to this growing public health challenge, countries finally adopted a *Political Declaration on NCDs*<sup>1</sup> at the UN in 2011. In 2013, the World Health Assembly endorsed the *WHO Global Action Plan for the Prevention and Control of NCDs 2013-2020*<sup>2</sup>. The centrepiece of this are nine voluntary targets for 2025 against a baseline in 2010:

- *Target 1: A 25% relative reduction in the overall mortality from cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases*
- *Target 2: At least 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context*
- *Target 3: A 10% relative reduction in prevalence of insufficient physical activity*
- *Target 4: A 30% relative reduction in mean population intake of salt/sodium*
- *Target 5: A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years*
- *Target 6: A 25% relative reduction in the prevalence of raised blood pressure or containing the prevalence of raised blood pressure, according to national circumstances*
- *Target 7: Halt the rise in diabetes and obesity*
- *Target 8: At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes*
- *Target 9: An 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major NCDs in both public and private facilities*

Subsequently, the control and management of NCDs was brought into the centre of the *2030 Agenda for Sustainable Development*<sup>3</sup>. SDG 3 seeks to “ensure healthy lives and promote well-being for all at all ages”. Specifically, target 3.4 commits to *reduce by one-third premature mortality from non-communicable diseases through prevention and treatment*. Target 3.8 aims for *universal health coverage (UHC), including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all*. This has immense implications for NCD related promotion, prevention and treatment interventions.

The *2030 Agenda* asks for “no one to be left behind” and calls for “those furthest behind now,” i.e. the poorer and more vulnerable populations, to be given priority attention. This is both a moral issue and a necessary response to the mood of the turbulent age we live in, where we have growing discontent over widening inequalities at a time of unprecedented accumulation of wealth, knowledge, and capabilities that should benefit everyone.

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<sup>1</sup> UN (2011). Political declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-Communicable Diseases. [\[Online\]](#)

<sup>2</sup>WHO (2013) Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020. [\[Online\]](#)

<sup>3</sup> UN (2015). Transforming our world: the 2030 Agenda for Sustainable Development. [\[Online\]](#)

The WHO's 2014 *Global Status Report on NCDs*<sup>4</sup> describes the constraints and challenges for lesser developed countries including the lack of national policies, health system capacities, availability and affordability of medicines, and financing. The WHO Director General Dr Tedros has called for<sup>5</sup> "*changing the NCD paradigm*" through choosing healthy policies right across the national policy spectrum, recognising that "*all roads lead to Universal Health Coverage*"<sup>6</sup>.

Accordingly, the Partnership strives to advance Universal Health Coverage (UHC) in resource-poor countries through tackling NCDs in a systematic and sustained manner through nationally-led health policies, and systems, and driven by their own National NCD Action Plans. The WHO-recommended "*best-buys*"<sup>7</sup> for NCD management are pursued, and impact tracked through the *WHO NCD Progress Monitor*<sup>8</sup>.

## THE SCOPE OF THE DEFEAT-NCD PARTNERSHIP

The Defeat-NCD Partnership prioritises countries according to their development and income status. Top priority is given to the least developed countries (LDCs) as defined by the UN and low-income countries (LICs) as defined by the World Bank. By and large, these lists overlap. Accordingly, 49 countries are designated **Priority I countries** for the purposes of this Partnership. Middle-income countries (MICs) are classed by the World Bank into upper and lower middle-income countries. Forty-three lower-middle income countries (LMICs) are designated **Priority II countries** for our purpose.

The criteria for the classification of countries and the consequent list of countries within our scope are found on **Annex 2**. This list is periodically reviewed as the status of countries changes. The intention is to cover all these countries so that "no one is left behind". However, practical considerations require further prioritisation within the list. This will depend not just on relative needs but also market analyses to determine where there is an optimal mix of official policies and commitments, a minimum level of capacities that can be utilised, and a core of interested partners with whom to engage.

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<sup>4</sup> WHO (2014). Global status report on non-communicable diseases 2014. [\[Online\]](#)

<sup>5</sup> Tabaré RV, Tedros A.G. (2017). Lancet. Beating NCDs can deliver universal health coverage. [\[Online\]](#)

<sup>6</sup> Tedros A.G. (2017). Lancet. All roads lead to universal health coverage. [\[Online\]](#)

<sup>7</sup> WHO/WEF (2011). From Burden to "Best Buys": Reducing the Economic Impact of Non-Communicable Diseases in Low- and Middle-Income Countries. [\[Online\]](#)

<sup>8</sup> WHO (2017) Noncommunicable Diseases Monitor [\[Online\]](#)

## PROGRAMMING STRATEGY

The **values that inspire our programming principles** are those of health as a basic human right, enshrined originally in the *1948 Universal Declaration on Human Rights*<sup>9</sup>. A challenge as extensive as the NCDs needs an equally far-reaching strategy: nothing less than the creation of a **people-centred “NCD Movement” to bring about the wide-scale changes that are needed**. Gender, age, social and geographical considerations are vital to ensure that practical approaches are relevant to specific contexts.

While we support all efforts that enable the making of healthy public policy and lifestyle choices such as WHO’s “best buys” in NCDs, **our own attention is centred on people who are currently suffering from NCDs**. They are in two categories: firstly, those who are diagnosed with NCDs but not receiving any or adequate treatment and care according to WHO norms and standards; and, secondly, the majority, who are undiagnosed.

Both groups are at risk of premature death and catastrophic decline in the quality of their lives that, in turn, also generate serious consequences for their families, communities, and nations. Human compassion dictates that their unmet needs be tackled with urgency. Concurrently, we know from experience that **people with NCDs are themselves the best-placed advocates for primary risk reduction changes in society**. Enabling their voice to be heard loud and clear is, for us, also a “best buy”.

Thus, **the scaling-up of effective screening and treatment provision is at the core of our initial programming strategy**. We do this firstly, by demystifying and democratising the knowledge that underpins this so that people with diabetes and hypertension are enabled to recognise when they need treatment and empowered to seek effective and sympathetic support from accessible and well-trained healthcare providers who have the necessary diagnostics, medicines, and equipment to do their job. Nationally led healthcare systems and provisioning are vital to sustain this. Second, we stimulate innovations that can systematically reduce the costs and other obstacles that hinder access to quality treatment and care.

## THE FOUR TRACKS OF THE PARTNERSHIP

The Defeat-NCD Partnership helps to reduce the burden of diabetes and hypertension in resource-poor countries through four tracks: the Defeat-NCD National Capacity Strengthening Facility; the Defeat-NCD Community & Health Systems Scale-up Facility; the Defeat-NCD Essential Supplies and Distribution Facility; and finally, the Defeat-NCD Financing Facility.

### 1. The Defeat-NCD National Capacity Strengthening Facility

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<sup>9</sup> UN (1948). Universal Declaration of Human Rights. [\[Online\]](#)

We start with the agreement of a strategic partnership with the government ministry of health and identify national NCD capacity development needs where we could help.

This can include assistance to conduct epidemiological, economic, or service delivery studies to fill knowledge gaps, establish or update national NCD policies and strategies, prepare costed action plans in an inclusive and participatory manner, NCD management protocols, and learning and training if needed. In doing so, we prioritise national expertise and institutions including national civil society, academic, and business partners, and work closely with the World Health Organization (WHO) and other international partners.

Our overall intent is to ensure that our programme partner countries have fully costed and credible action plans and unified and nationally coordinated financing frameworks to tackle NCDs in a practical manner. We can then help national authorities to organise partnership processes to ensure that the appropriate mixture of domestic and international financing is generated to fulfil the framework.

## **2. The Defeat-NCD Community & Health Systems Scale-up Facility**

We help countries to advance Universal Health Coverage for NCDs through expanding community-based screening for risk factors and early disease manifestation, followed up by easy and affordable access to quality treatment. This requires close inter-linkage between community-based and primary healthcare systems, and strong partnership with private care providers.

Our operating model centres around “demystifying, democratising and wherever possible digitising, and demedicalising” the management of NCDs. We do this through community education to foster gender-sensitive self and family prevention and care, and community-based financing approaches. We partner with volunteer-based civil society groups that specialise in “walking the last mile” to bring essential NCD services directly to people. We also seek to empower and enable those who are living with NCDs to be more proactive in advocating for their prevention through tackling lifestyle and societal factors.

At the same time, we help to ensure that the primary health care facilities and workers of the public and private health system are equipped, supplied and trained to treat those who have been screened and referred to them by the community health workers. Using new technology and communication tools, we help strip out all avoidable constraints and costs.

The Partnership will also have a humanitarian crisis support modality so that people with NCDs who find themselves in desperate crisis circumstances due to disasters and conflicts, including refugees, displaced and others forced to move, can get uninterrupted life-saving treatment and care.

Our overall intent is to make provision for NCDs more universally affordable and sustainable at the community and primary healthcare level, so that people with NCDs lead healthy and productive lives and so that the complications that require expensive secondary and tertiary management are prevented.

### **3. The Defeat-NCD Essential Supplies and Distribution Facility**

We help resource-poor countries to expand the consistent availability of affordable NCD drugs, diagnostics, and devices through the Defeat-NCD Marketplace.

This is designed to tackle overly high prices while ensuring quality control and reliable provision to prevent stock outs. The Marketplace's provision of supplies is based on the WHO List of Essential Medicines and the standards set by respected regulatory bodies. The easy-to use online Marketplace is structured to create a competitive environment serving the interests of both buyers and suppliers and providing a transparency of process that builds mutual trust and confidence.

Market sizing studies, market shaping and price tracking activities to improve efficiency will accompany the Marketplace, which is free to use by purchasers. Technical services are available to help countries to design and articulate their procurement needs more efficiently. This can mean, for example, regional and other pooled procurement options to get more cost effective deals.

The returns from the functioning of the Marketplace are ploughed back into countries to assist them to build national capacities in procurement systems and supply chain management (customs clearance and exemptions; warehousing, stock control and rotation; and secondary distribution to delivery points), which are frequently encountered choke points.

Our overall intent is to ensure that NCD-related drugs, diagnostics, and devices are reliably and affordably available close to where people live, to drive down out-of-own-pocket and health system expenditures while achieving better health outcomes.

### **4. The Defeat-NCD Financing Facility**

We help resource-poor countries to find the financing that is necessary to achieve universal health coverage (UHC) for NCDs, through a mix of public-private-people approaches that must also be sustainable as the NCDs are a long-term challenge.

Aware that official development assistance is a small and shrinking resource that must also provide for other health and development needs, we advise countries on finding the fiscal space that would permit them to invest more into NCDs from their own national health and social welfare budgets. That is accompanied by cost-sharing through insurance, microfinance and other community financing schemes that must also ensure that out-of-own-pocket expenditure is kept to less than 20% to avoid catastrophic financial hardship.

Recognising that the magnitude of the NCD challenge requires significant additional resources, we seek extra donor and philanthropic funding for countries alongside designing innovative financing instruments such as commercial bonds. Country specific public-private-people partnerships are developed linked to their specific plans and requirements.

Our overall intent is to expand financial provision for resource-poor countries, so that UHC for NCDs is progressed in a sustainable manner.

## **ACHIEVING RESULTS AND ASSESSING IMPACT**

The principal thrust of the Partnership is to help achieve UHC for NCDs, and our overall impact will be determined by the extent to which we are an effective contributor to the NCD-related targets contained in the SDGs.

Our key strategic results areas are:

- The number of Defeat-NCD programme partner countries that have developed costed action plans and the extent to which they have been financed.
- The extent of population coverage achieved in Defeat-NCD assisted community programmes, and the health gains made.
- Trends in the costs, availability, and access to essential NCD drugs, diagnostics, and devices in countries utilising the Defeat-NCD Marketplace.
- The number of public-private-people financing mechanisms that are developed, and the volume of additional resources for NCDs that are generated in Defeat-NCD partner countries.

The Partnership's framework of indicators covers these strategic results areas along with a method for tracking progress. An independent evaluation of the Partnership will be conducted in 2021.

## **THE DEFEAT-NCD PARTNERSHIP IMPACT AND SUSTAINABILITY**

The most important benefit of the Partnership is directed towards people with NCDs and particularly diabetes and hypertension along with their families and communities by saving their lives, maintaining their healthy functioning, and securing their livelihoods. A critical benefit concerns reduction of the out-of-own-pocket expenditure of people who need life-long treatment and often get catastrophically impoverished as a consequence. A hundred million people around the world fall below the poverty line every year as a result of crippling medical bills.

For health services, the capacity building component concerned with enhancing the quality of prevention and care brings greater effectiveness and efficiency for the scarce resources that countries have at their disposal, through reducing wastage from misused medication and diagnostics, and achieving better clinical outcomes.

For the governments of low income countries faced with the escalating burden of NCDs, this initiative reduces the overall burden of conditions that generate major social and economic costs, while enhancing the productivity of the NCD-affected labour force and getting better returns from the 'sunk costs' of their education and training.

## Sustaining impact

Trends in the underlying risk factors and behaviours that influence health outcomes take a long time – perhaps a generation or more – to manifest themselves. Furthermore, diabetes and hypertension management require the permanent provision of medicines and risk factor modification inputs. Thus, long-term programming is essential to achieve sustained and sustainable impacts. Therefore, **this Partnership is envisioned up to at least 2030, coinciding with the remaining period of the SDGs**. There would be regular reviews as NCD epidemiology evolves, and adaptations will be necessitated by advances in scientific knowledge, new medicines and technologies.

This Partnership is targeted at poorer countries. It is not possible to meet the essential health needs of poor people / countries without external subsidisation until the point that they can afford to pay for themselves, either individually (out-of-own-pocket expenditures) or through pooled cost-sharing arrangements, e.g. health insurance schemes and employer or taxpayer-funded national health systems. Additionally, NCD programming for populations of humanitarian concern are likely to need external financing until a crisis moves into rehabilitation and recovery.

In general, **the sustainability for diabetes and hypertension programming depends on increasing the affordability of essential products and services**. With this in mind, this Partnership fosters longer-term sustainability by:

- First, pursuing affordability through the Essential Supplies Procurement and Distribution Facility, by seeking maximum reductions in the cost of providing medicines and diagnostics through economies of scale that are negotiated centrally or through marketplace mechanisms that drive down costs. Pharma has incentive to do so, not just as part of their corporate social responsibility (CSR) commitment but also because of the expanded market that is created for their products as greater treatment coverage is achieved. Over time, this would more than make up for initial discounts or subsidies, especially when the country graduates to higher income status. Meanwhile, the market for pharmaceuticals in less developed countries is already growing at about 50% faster than the market in mature economies.
- Second, the Partnership engages with developing country governments and assists them through technical assistance and capacity building so that their health policies incorporate NCD costs into national health budgets, in a progressive manner. The Partnership engages actively with national health financing debates, for example, with the World Bank, in finding context-specific options for sustainable financing, e.g. employment based and social security based health insurance schemes.
- Third, with the gap between total health needs and available resources (of at least US \$40 per capita), the Partnership's Financing Facility aims to attract additional innovative investments into NCD programming supplemented by some greater transfer of resources from richer countries (e.g. OECD donor nations), and rich entities (e.g. CSR contributions from private sector companies, philanthropies) to poorer ones as part of the shared commitment to universal health coverage.

However, the Defeat-NCD Partnership is not conceived as a ‘charitable’ project. Its progressive business model seeks financing diversity and long-term sustainability. This is defined as the ability of programme countries to finance their own long-term NCD handling requirements.

## HOW IS THE DEFEAT-NCD PARTNERSHIP ORGANISED?

The Partnership is guided and overseen by a Governing Board. The day-to-day work is the responsibility of a Chief Executive supported by a small secretariat based in Geneva that is hosted by a competitively selected international organisation.

The Governing Board decides on Partnership policies and strategies, approves work plans and budgets, monitors performance and progress, and provides accountability to donors and other stakeholders<sup>10</sup> The Board is committed to gender equality and strives to ensure a gender-nuanced approach in all Partnership programming, as well as equal representation by women and men in our own internal processes.

The Board composition reflects constituencies relevant to NCDs and that are also providing financial, technical and other practical support to the Partnership. These include donor governments/public sector, governments of programme countries, groups representing people with NCDs, international agencies, philanthropies, research and academia, private business sector, and those with other specialist expertise deemed to be relevant and useful. The World Health Organization, as the lead global health agency for the United Nations system, and a representative from the hosting agency have ex- officio observer membership on the Board.

A wider **Consultative Group** of contributing stakeholders and invited experts enables wider knowledge and experience to be drawn upon to benefit the Partnership and expand its outreach and ultimate impact.

All private business sector members engaging with the Partnership in any role must subscribe to the ten principles of the *UN Global Compact*<sup>11</sup> concerning respect for human rights, labour, environment, and anti-corruption.

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<sup>10</sup> See the Partnership’s website for fuller details of governance arrangements and names of current Board members.

<sup>11</sup> UN. The Ten Principles of the UN Global Compact. [\[Online\]](#)

## WHAT ARE DIABETES AND HYPERTENSION?

### Diabetes

Diabetes mellitus is both an acutely life-threatening as well as a chronic condition in which high blood sugar over a long period of time causes many complications such as heart disease, stroke, kidney failure, eye damage leading to blindness, and difficult-to-treat ulcers that can require limb amputation.

Diabetes is due to specialised cells in the pancreas not producing enough insulin (Type I) or body cells not responding properly to them (Type 2). Type I (10% of all people with diabetes) is not preventable with current knowledge and requires insulin injections without which death within a few days is inevitable. Type 2 (90%) is treated with oral medication but may also need insulin. Diabetes is partly inherited genetically but lifestyle factors such as obesity, high sugar consumption, and low exercise levels are strongly contributory.

In addition, a gestational type of diabetes can occur during pregnancy where there is hyperglycaemia, i.e. blood glucose values above normal but below that diagnostic of diabetes. Women with gestational diabetes are at increased risk of complications during pregnancy and at delivery. They and their children are also at greater future risk of Type 2 diabetes. Gestational diabetes is diagnosed through prenatal screening and insulin may be required to manage it, if dietary measures don't work.

Worldwide, diabetes is the 8<sup>th</sup> overall leading cause of death (5<sup>th</sup> in women) with 3.7 million deaths related to blood glucose levels, in 2012. It is projected to become the 7<sup>th</sup> biggest cause of death by 2030. In 2014, 422 million people had diabetes equating to an adult prevalence of 8.5%. This is expected to increase to 10% by 2035.

Diabetes is highly correlated with obesity, the global prevalence of which has nearly doubled since 1980. In 2014, 11% of men and 15% of women age 18 and older were obese, while more than 42 million children under five years were also overweight in 2013. NCDs may be moving towards striking at younger ages. Meanwhile, many children with type I diabetes already struggle in school and their learning gaps are difficult to remedy later on.

Apart from its own direct consequences, diabetes is a major potentiator of another NCD: about 11% of cardiovascular deaths are attributed to high blood glucose levels. Diabetes complications are also responsible for a significant proportion of the population disability burden. As hypertension frequently co-exists alongside diabetes, their combined complications potentiate each other.

Diabetes registers are useful tools for ensuring universal coverage and for tracking quality of care. Specific intermediary process and outcome Indicators should be in line with WHO standards, e.g. monitoring HbA1c, retinopathy checks and blindness rates, renal function, amputation rates, and body mass index. Optimal diabetes management also requires the

control of cholesterol and blood pressure with appropriate medication provided at the same time.

### **Hypertension**

Hypertension is a long-term condition that occurs when the pressure of the blood pushing against the walls of blood vessels (arteries), is consistently too high. Also known as a ‘silent killer’ because it does not usually cause symptoms, the untreated complications include coronary heart disease, heart failure, stroke, and peripheral vascular disease, as well as renal and visual impairment that can lead, in extreme cases, to kidney failure and blindness. Hypertension is also a risk factor for cognitive impairment such as in dementia, itself a major problem of ageing populations.

Ninety to ninety-five per cent of hypertension is classified as primary high blood pressure due to lifestyle and genetic factors. The remaining cases are secondary to specific identifiable causes. One of these is a particularly dangerous form of high blood pressure that occurs in pregnancy: pre-eclampsia and eclampsia. This can arise as an emergency and kill both mother and baby. Women who suffer from this may have gestational diabetes too and tend to develop chronic hypertension and diabetes later on in life.

If hypertension is picked up through screening programmes or discovered incidentally while investigating other conditions, it can be easily controlled through lifestyle changes (obesity and dietary salt reduction, exercise, not smoking and managing stress) and oral anti-hypertension medication. Some form of medication usually become necessary to prevent progression and complications. Depending on the stage of the hypertension, there are several drug types and combinations available to optimise treatment on an individual basis.

More than a billion people around the world suffer from raised blood pressure and account for 57 million disability-adjusted life years lost. In Africa, for example, the adult prevalence of raised blood pressure is highest at over 40%.

The hypertensive disorders of pregnancy are significant contributors to maternal and perinatal mortality: affecting some 5-10% of all deliveries, rising to as high as 18% in parts of Africa.

### **Why are diabetes and hypertension important?**

While little can be done yet about the genetic factors, type 2 diabetes and hypertension risks can be reduced (primary prevention) through healthy diet and regular physical exercise. People with diabetes and hypertension can reduce complications (secondary prevention) through carefully managed therapy. Once complications have set in, their prompt treatment (tertiary prevention) is essential to preserve life quality and reduce disability and handicap.

The focus on diabetes and hypertension is justified by their huge public health significance. Each on its own and in combination, cause most of the NCD global deaths: some 1.6 million deaths are attributed to diabetes and 5.7 million deaths to hypertension (out of some 17.7 million from cardiovascular conditions more broadly).

These conditions are directly and indirectly associated with three of the most common underlying public health risk factors: raised blood pressure, increased blood glucose, and elevated blood lipids. The interconnections between hypertension/cardiovascular disease and diabetes mean that the prevention, screening, and treatment for raised sugar, blood pressure, and lipids are best done together.

## LISTING OF COUNTRIES BY DEVELOPMENT AND INCOME STATUS

### Development status

The criteria for being considered a least developed country (LDC) is defined by the United Nations Committee for Development Policy, based on the following:

- *Income* based on a three year average estimate of GNI per capita for the period 2011-2013, based on the World Bank Atlas method (under US \$1,035 for inclusion, above US \$1,242 for graduation as applied in the 2015 triennial review).
- *Human Assets Index (HAI)* based on indicators of: (a) nutrition: percentage of population undernourished; (b) health: mortality rate for children aged five years or under; (c) education: the gross secondary school enrolment ratio; and (d) adult literacy rate.
- *Economic Vulnerability Index (EVI)* based on indicators of: (a) population size; (b) remoteness; (c) merchandise export concentration; (d) share of agriculture, forestry and fisheries; (e) share of population in low elevated coastal zones; (f) instability of exports of goods and services; (g) victims of natural disasters; and (h) instability of agricultural production.

### Income status

As defined by the World Bank for fiscal year 2018 based on income status in 2016:

- **Lower middle-income countries (LMIC)** had GNI per capita US \$1006- US \$3955
- **Low-income countries (LIC)** had GNI per capita US \$1005 or less.

NB: this list is subject to change following periodic reviews done by the UN and World Bank.

| Country      | Least Developed Countries (LDC) as in 2017 | Low-income countries (LIC) as for 2018 | Lower middle income countries (LMIC) |
|--------------|--|--|--------------------------------------|
| Afghanistan  | ✓  | ✓                                      |                                      |
| Albania      |  |  | ✓                                    |
| Angola       | ✓  |  | ✓                                    |
| Armenia      |  |  | ✓                                    |
| Bangladesh   | ✓  |  | ✓                                    |
| Belize       |  |  | ✓                                    |
| Benin        | ✓  | ✓                                      |                                      |
| Bhutan       | ✓  |  | ✓                                    |
| Bolivia      |  |  | ✓                                    |
| Burkina Faso | ✓  | ✓                                      |                                      |

|                          |   |   |   |
|--------------------------|---|---|---|
| Burundi                  | ✓ | ✓ |   |
| Cambodia                 | ✓ |   | ✓ |
| Cameroon                 |   |   | ✓ |
| Cape Verde               |   |   | ✓ |
| Central African Republic | ✓ | ✓ |   |
| Chad                     | ✓ | ✓ |   |
| Comoros                  | ✓ | ✓ |   |
| Congo, Dem Republic of   | ✓ | ✓ |   |
| Congo, Rep               |   |   | ✓ |
| Cote d'Ivoire            |   |   | ✓ |
| Djibouti                 | ✓ |   | ✓ |
| Egypt                    | ✓ |   | ✓ |
| El Salvador              |   |   | ✓ |
| Eritrea                  | ✓ | ✓ |   |
| Ethiopia                 | ✓ | ✓ |   |
| Fiji                     |   |   | ✓ |
| Gambia                   | ✓ | ✓ |   |
| Georgia                  |   |   | ✓ |
| Ghana                    |   |   | ✓ |
| Guatemala                |   |   | ✓ |
| Guinea                   | ✓ | ✓ |   |
| Guinea-Bissau            | ✓ | ✓ |   |
| Guyana                   |   |   | ✓ |
| Haiti                    | ✓ | ✓ |   |
| Honduras                 |   |   | ✓ |
| Indonesia                |   |   | ✓ |
| India                    |   |   | ✓ |
| Iraq                     |   |   | ✓ |
| Jordan                   |   |   | ✓ |
| Kenya                    |   |   | ✓ |
| Kiribati                 | ✓ |   | ✓ |
| Korea DPR                | ✓ | ✓ |   |
| Kosovo                   |   |   | ✓ |
| Kyrgyz Republic          |   |   | ✓ |
| Laos                     | ✓ |   | ✓ |
| Lesotho                  | ✓ |   | ✓ |
| Liberia                  | ✓ | ✓ |   |
| Madagascar               | ✓ | ✓ |   |
| Malawi                   | ✓ | ✓ |   |
| Mali                     | ✓ | ✓ |   |

|                           |   |   |                                   |
|---------------------------|---|---|-----------------------------------|
| Marshall Islands          |   |   | ✓                                 |
| Micronesia, Fed States of |   |   | ✓                                 |
| Mauritania                | ✓ |   | ✓                                 |
| Moldova                   |   |   | ✓                                 |
| Mongolia                  |   |   | ✓                                 |
| Morocco                   |   |   | ✓                                 |
| Mozambique                | ✓ | ✓ |                                   |
| Myanmar                   | ✓ |   | ✓                                 |
| Nepal                     | ✓ | ✓ |                                   |
| Nicaragua                 |   |   | ✓                                 |
| Niger                     | ✓ | ✓ |                                   |
| Nigeria                   |   |   | ✓                                 |
| Pakistan                  |   |   | ✓                                 |
| Papua New Guinea          |   |   | ✓                                 |
| Paraguay                  |   |   | ✓                                 |
| Philippines               |   |   | ✓                                 |
| Rwanda                    | ✓ | ✓ |                                   |
| Samoa                     |   |   | ✓                                 |
| Sao Tome and Principle    | ✓ |   | ✓                                 |
| Senegal                   | ✓ | ✓ |                                   |
| Sierra Leone              | ✓ | ✓ |                                   |
| Solomon Islands           | ✓ |   | ✓                                 |
| Somalia                   | ✓ | ✓ |                                   |
| South Sudan               | ✓ | ✓ |                                   |
| Sri Lanka                 |   |   | ✓                                 |
| Sudan                     | ✓ |   | ✓                                 |
| Swaziland                 |   |   | ✓                                 |
| Syria                     |   |   | ✓                                 |
| Tajikistan                |   |   | ✓                                 |
| Timor-Leste               | ✓ |   | ✓                                 |
| Tanzania                  | ✓ |   | ✓                                 |
| Togo                      | ✓ | ✓ |                                   |
| Tonga                     |   |   | ✓                                 |
| Tunisia                   |   |   | ✓                                 |
| Tuvalu                    | ✓ |   | (is actually Upper Middle Income) |
| Uganda                    | ✓ | ✓ |                                   |
| Ukraine                   |   |   | ✓                                 |
| Uzbekistan                |   |   | ✓                                 |
| Vanuatu                   | ✓ |   | ✓                                 |

|                         |  |                |   |
|-------------------------|--|----------------|---|
| Vietnam                 |  |                | ✓   |
| Yemen                   | ✓  |                | ✓   |
| Zambia                  | ✓  |                | ✓   |
| Zimbabwe                |  | ✓              |   |
|                         |  |                |   |
| <b>93 LICs and MICs</b> | <b>49 LDCs</b><br><i>of which 30 are also<br/>low-income<br/>countries</i> | <b>30 LICs</b> | <b>63 LMICs</b><br><i>of which 43 are also<br/>LDCs</i> |