D-8 HEALTH AND SOCIAL PROTECTION PROGRAMME

ABSTRACT

This is the Health and Social Programme document for the Developing-8 countries (D-8) Organization for Economic Cooperation. Developing 8 is an organisation representing Bangladesh, Egypt, Nigeria, Indonesia, Iran, Malaysia, Pakistan and Turkey with a combined population of approximately 1 billion or 60% of all Muslims, or close to 13% of the world's population, covering an area of 7.6 million square kilometres and, 5% of world land area. Though the D-8 has made significant progress and investments in many other sectors such as trade, agriculture and food security, energy, transportation and industrial cooperation, health which is central to development has not been fully explored to reap in desired economic prosperity. The purpose of this concept note is to (i) present a compelling case for incorporating health programs into D-8's portfolio; and (ii) outline an agenda for the acceleration of the health and health related Sustainable Development Goals (SDGs) of member countries to serve as a shiny model to non-D-8 members within the next 12 years that the SDGs will come to an end. The proposed agenda includes a bundle of priority interventions as well as structural and delivery parameters that align with the core mandate of D-8 and leverages on the individual strengths in the group.

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Secretary General

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CONCEPT FOR A HEALTH AND SOCIAL PROTECTION PROGRAMME IN THE DEVELOPING-8 (D-8) ORGANIZATION FOR ECONOMIC COOPERATION

December 10, 2018

Context and objectives

The Developing-8 Organization for Economic Cooperation stands as one of the foremost multilateral platforms for partnerships for development, representing an alliance of 8 emerging economies: including Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkey. The combined population of these countries is approximately 1 billion or 60% of all Muslims, or close to 13% of the world's population, covering an area of 7.6 million square kilometers and, 5% of world land area. The objectives of the Developing-8 (hereafter referred to as (D-8) are to "improve the member states' position in the global economy, diversify and create new opportunities in trade relations, enhance participation in decision-making at the international level, and improve standards of living." Since its inception two decades ago, the D-8 has made considerable multilateral investments in sectors such as trade, agriculture and food security, energy, transportation and industrial cooperation. Unfortunately, health, which is central to human capital development and economic prosperity included in the D-8 charter, has not been fully considered and explored.

As the D-8 forges ahead, it has an opportunity to take stock on progress, reflect on opportunities to consolidate past gains and inspire bold innovative approaches to accelerate improvement in economic development, trade and standards of living as well as enhance its global visibility through a health care delivery initiative. The 2013 Human Development Report – 'The Rise of the South' – described the role of sustainable human development and enhanced human capacities as major determinants of rapid growth in emerging economies, notably the BRICS (Brazil, Russia, India, China and South Africa) and Turkey. According to the report, for the first time in 150 years, the combined output of the BRICS bloc almost equaled that of leading developed states. With competitiveness amongst global South states spurred, emerging nations had begun defining a new model of economic cooperation and development. It is noteworthy, according to the report, that these nations were only able to boost national incomes by making critical investments in core social sectors, particularly healthcare and social safety net programs (social protection schemes) for the vulnerable. Health, nutrition and human capital development also have a direct impact on trade and governance through its effects on worker productivity and competitiveness.

Recognizing that a healthy population promotes economic development and resilience, many emerging governments have started pursuing a Universal Health Coverage (UHC) agenda of the Sustainable Development Goals (SDGs) which will provide financial protection for all especially the poor. The international community, national governments, and private organizations and individuals are converging on the principle that universal access to basic primary health care,

nutrition and family planning services is a goal worthy of increased fiscal investment given its development and economic impact. Poverty, hunger and disease are inextricably intertwined, with one begetting the other in a vicious cycle. Therefore, this initiative will of necessity, address poverty and hunger issues related to health as in the health-related SDG goals 1 and 2 - eliminate poverty and hunger.

The purpose of this concept note is to (i) present a compelling case for incorporating health and social safety net programmes into D-8's portfolio and (ii) outline an agenda for the acceleration of the health and health-related SDGs of member countries to serve as a shiny model to non-D-8 members (progress to ensure that no one is left behind has not been rapid enough to meet the targets of the 2030 Agenda)[1]. The proposed health and health related agenda will include a bundle of priority interventions that aligns with the core mandate of D-8 and leverages on the individual strengths in the group.

Health and economic development

There is a body of evidence that highlights the correlation between health and development. Of note, the experience in Asia demonstrates that improvement in health is a critical precursor to unlocking a country's socio-demographic and economic potentials.

In China, we have seen an inverse correlation between infant mortality and economic prosperity as exemplified in the figure below.

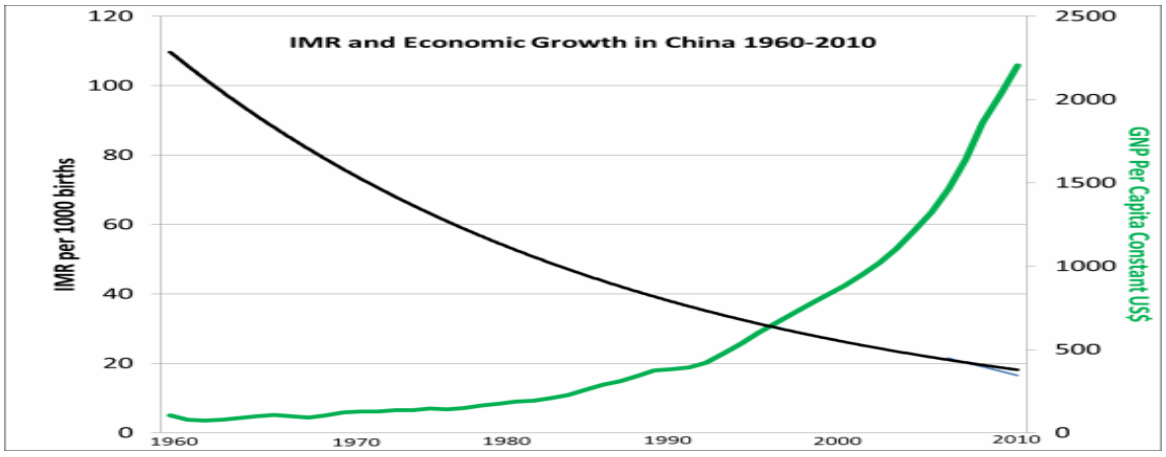


Figure 1: IMR and economic growth in China 1960-2010 (Adapted World Bank Health or Wealth 2013: IMR improvement & Economic Growth in China).

High dependency ratio limits economic growth. For example, Nigeria's high dependency ratio is projected to decrease by only 3% by 2020 compared to that of Indonesia, possibly as a result

[1] https://unstats.un.org/sdgs/.../report/2018/thesustainabledevelopmentgoalsreport2018...The Sustainable Development Goals Report 2018

of the high infant and child mortality, and a high total fertility rate. As at 2016, Indonesia had recorded 18.3-fold increase in GNI from 610PPP[2] dollars to 11,220 while Nigeria has seen only 7.7-fold increase i.e. 750 to 5740PPP dollars[3].

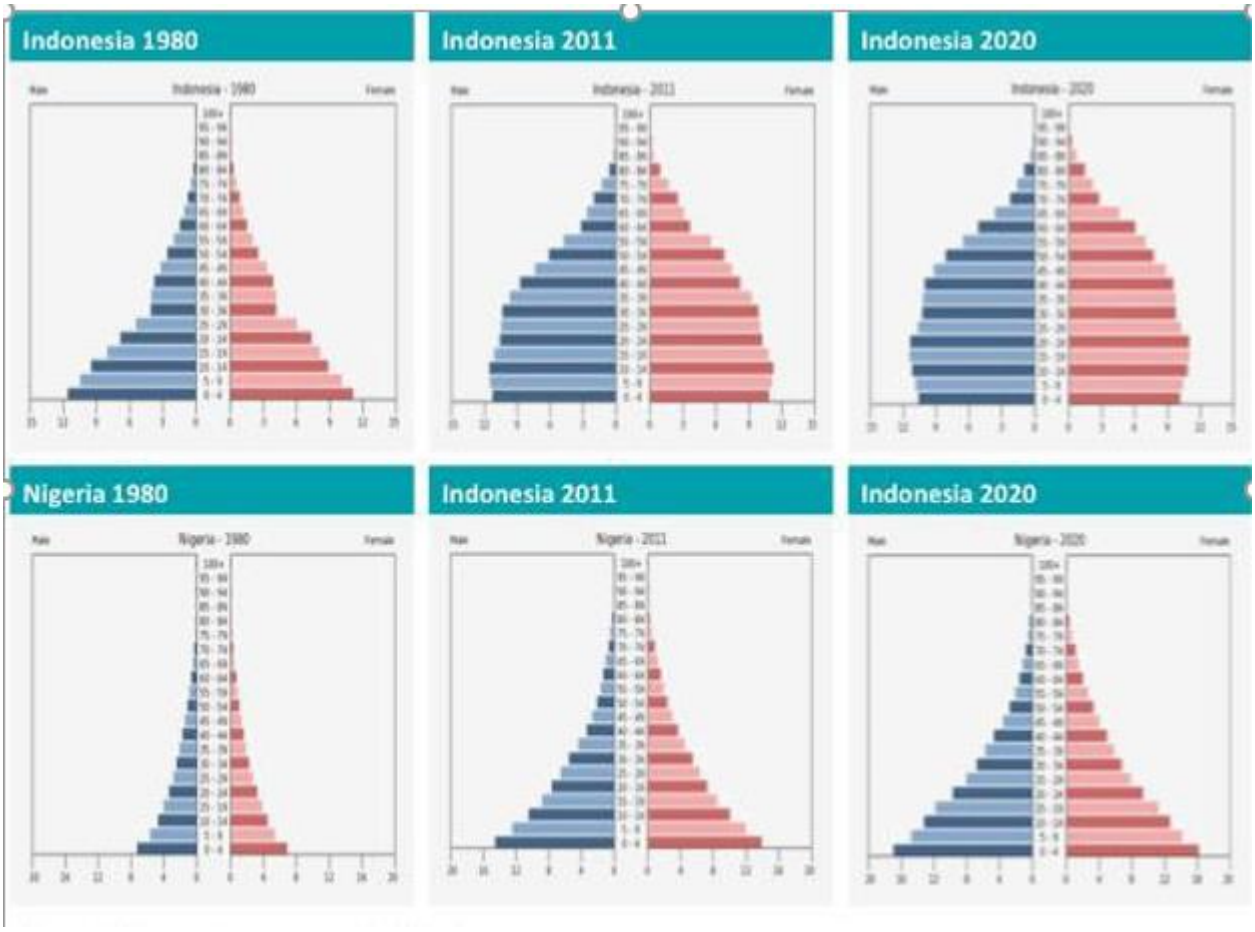


Figure 2: Population pyramids of Indonesia versus Nigeria (source – US Census Bureau; International database)

Therefore, health innovations and best practices from the group centered around improving infant and child mortality as well as family planning could help Nigeria, achieve the same demographic and economic trajectory as Indonesia.

A study by researchers from Harvard University estimated that one extra year of life expectancy raises a country's per capita Gross Domestic Product (GDP) by about 4 percent. These figures emphasize the point that healthcare is an economic investment. In addition, according to Beaglehole et al., for every dollar invested in Non-Communicable Diseases, one can expect three dollars in return. A report from the Lancet Commission on Investing in Health, co-authored by Larry Summers, reinforced this view; and found that 24 percent of growth in

[2] Purchasing power parity
[3] GNI per capita, PPP (current international $) | Data

developing countries between 2000 and 2011 was attributable to improved health. By that rate, every dollar invested in health over the next 20 years would return between $9 and $20 through economic growth.

Scope and high impact health interventions

The state of the health care system in most D-8 member countries is characterized by suboptimal health outcomes, poor quality of care and inadequate protection from financial risk as a result of the cost of care. As indicated in chart below, when compared to G8 countries like France, Japan and Canada, D-8 countries consistently under perform in precursor health service outputs and inputs; primarily driven by low coverage of basic primary healthcare services.

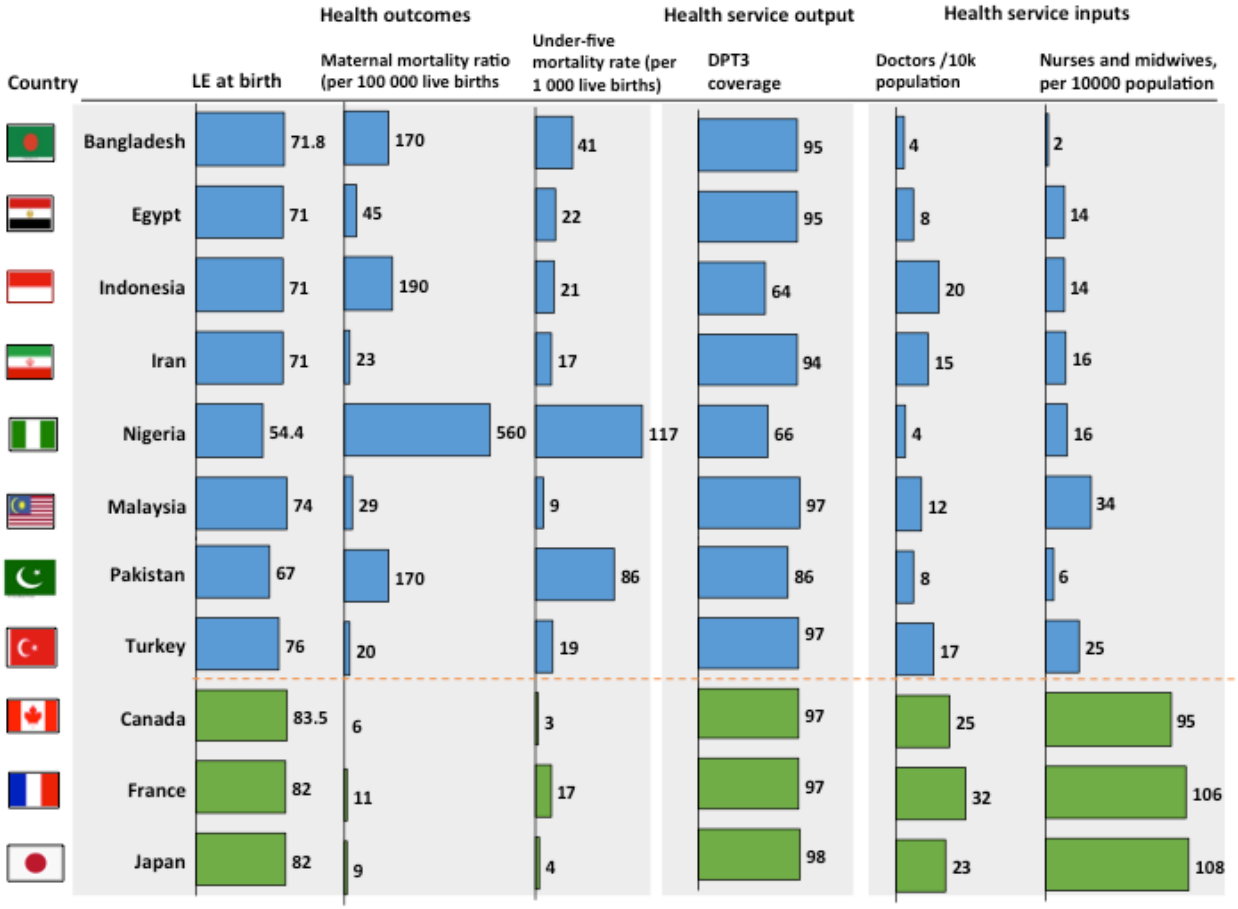


Figure 3: Culled from WHO Global Health Observatory data repository; WHO Global Health Workforce Statistics; World Bank Open Data/Databank; OECD

The D-8 health systems performance also mirrors its macro-economic and health financing dynamics (see chart below) – reiterating the inter sectoral linkages between health and economic development.

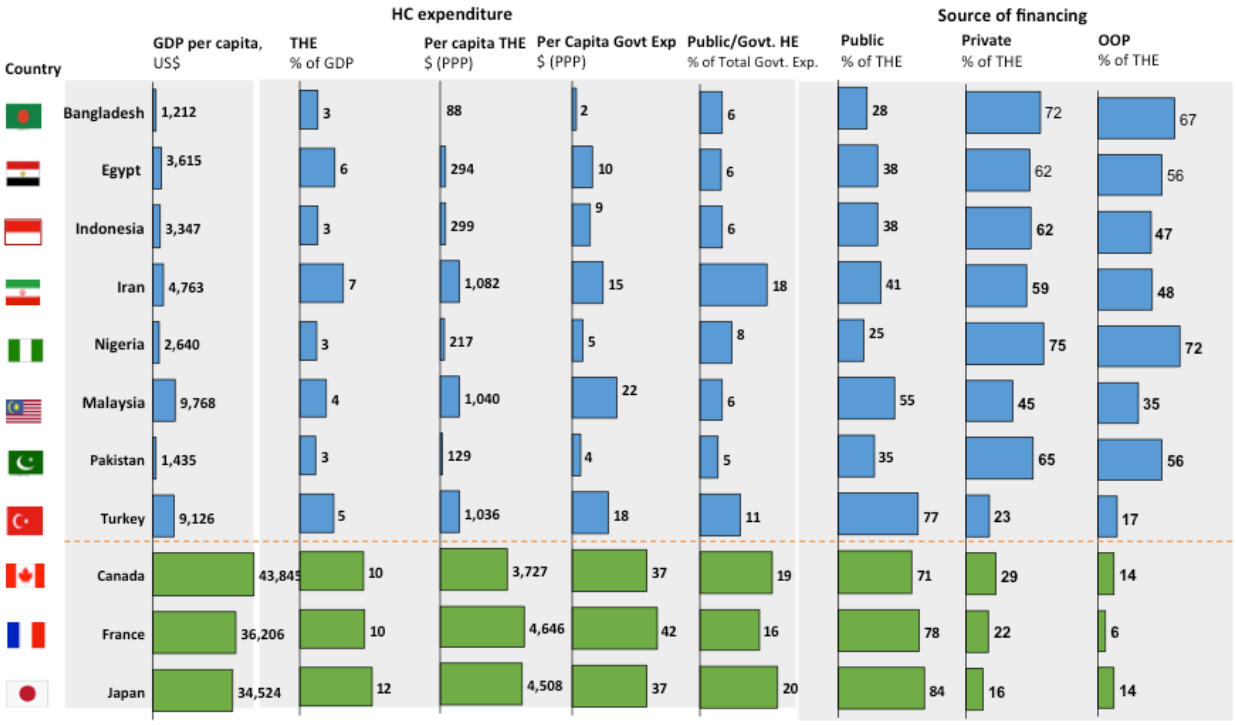


Figure 4: Culled from WHO Global Health Observatory data repository; WHO Global Health Workforce Statistics; World Bank Open Data/Databank; OECD

Though at various levels of effectiveness, the D-8 health systems all have mixed complex dynamic healthcare systems laden with both supply and demand side challenges.

D-8 member countries have different health system archetypes with different epidemiological profiles and burden of diseases. Nevertheless, universal access to healthcare remains a priority for all countries. Following a rapid diagnostic, literature review and focused consultations, we present a health and social protection agenda focused on supporting D-8 member states to achieve their Universal Health Coverage, poverty and hunger mandates, through five strategic pillars that align with D-8 member countries economic cooperation priorities.

The five priority levers in this agenda are:

1. **Expanding access to basic primary care services:**
   This includes increasing the coverage rates of basis services such as immunization, nutrition, malaria, maternal and child health etc. implemented through strengthening primary health care systems and providing integrated care at the frontlines. This pillar focuses on investing in building resilient and sustainable health systems. The degree of resilience of health systems in member states determines their effectiveness in addressing changing health needs and mitigating health risks, epidemics and outbreaks. Therefore, strategic investments in critical components of health systems would safeguard growth, development and offer cost-savings by averting productivity losses

from illnesses and deaths. The D-8 could invest in strengthening the production, retention of and capacity of skilled health workforce, medical products (pharmaceutical manufacturing of micro and macro molecules) and technology, as well as in structural service delivery mechanisms for ensuring constant availability of health products, commodities and services.

2. **Improving health governance, quality of care and human resources for health:**
   To improve overall quality of care through improved clinical governance with focus on primary, secondary and tertiary hospitals. This pillar will develop quality metrics to compare facilities and enhance capacity of health sector managers with real-time data and informatics available in one place to help decision making, planning and organizing the health services.

   The shortage of health workers can impact on the ability of countries to effectively deliver essential health services. In 2006, WHO adopted a threshold of 2.28 doctors, nurses and midwives per 1000 population as a minimum threshold for health worker density to effectively deliver essential health services and consequently declared that if a country falls below that prescribed threshold, it would be referred as an "HRH crisis country". An even higher threshold of 5.94 threshold of health workers per 1000 is currently being suggested following a joint exercise between World Health Organization (WHO) and the United States Agency for International Development (USAID) which found that this was a more realistic Human Resources for Health (HRH) density needed to attain a reduction in the maternal mortality ratio to 50 per 100 000 live births by 2030. The D-8 health and social protection programme is envisaged to produce, mobilize, train and deploy team of doctors and community health workers amongst themselves to bridge the gap in human resource sufficiency.

3. **Unlocking the market potential of the health sector:**
   To unlock the market potential of the health sector within member countries, by creating an enabling environment for the private sector and strengthening the regulatory role of government. The pillar focuses on policy, regulation, and access to capital for the growth of the private sector across the entire value chain. This pillar will spur a paradigm shift in the health sector in D-8 member countries from being an economic dependent and drag, to being self-reliant in medical products, technologies and a net contributor to economic growth, trade and wealth creation. Successful models of mobilizing the private sector to advance health outcomes have been deployed in Nigeria through the Private Sector Health Alliance of Nigeria. There is an opportunity replicate elements of a private sector coalition in other D8 countries.

   Although all D8 countries can undertake health innovation engagements to varying

degrees, some member countries, however, are more scientifically advanced than others such as Turkey and are starting to reap benefits from decades of investments in innovative interventions in education, health research infrastructure, and manufacturing capacity. A number of priority health products and technology could be exchanged and transferred across member states to improve access to health care and bring about self-sufficiency and sustainability. One of such is deliberate collaboration to produce affordable vaccines and micro-molecules. In drug manufacturing, production of effective assortment of bulk and active pharmaceutical intermediates is a necessary stepping stone to affordable drugs and medicines generally.

4. **Enhancing prevention and control of Non-Communicable Diseases (NCDs):**
   To strengthen public health through emphasis on prevention including primary prevention (smoking cessation, diet, healthy lifestyles) and secondary prevention (screening and early diagnosis of diseases e.g. hypertension, diabetes and cancers) of Non- Communicable Diseases (NCDs). This pillar includes evidence-based advocacy to support the passage of Tobacco Bills and Mental Health bills.

5. **Providing social protection for the poor**:
   Poverty is inextricably linked to ill-health and eliminating poverty by 2030 will undoubtedly improve life expectancy as it is a major contributor to mortality and this accounts for its prominence as the number one goal of the Sustainable Development Goals (SDGs). The elimination of poverty and economic inequalities by 2030 as envisaged by world leaders is dependent on the empowerment of youth and women as the world population is dominated by youth and women, with ninety percent (90%) of these living in developing countries. If the labor market needs to add 600 million new jobs by 2026 as estimated and taking cognizance of demographic transitions; it is imperative that D-8 develop an initiative for the empowerment of youths and women through skill development, entrepreneurship and conditional cash transfer schemes to enable them actively participate in economic activities and guarantee social protection with a view to unstrapping the ties to poverty.

   In the same vein, Small Medium Enterprises (SMEs) are major drivers of economic development in any nation. In recent times, SMEs are beginning to gain relevance in policy development in developing countries because of the low impact of large-scale capital investment and high input dependent on economic growth. Benefits of SMEs on economic development is felt through greater utilization of local raw materials, employment generation, enhanced rural development, linkage with large scale investments as well as equitable distribution of economy including self-employment. It can also be argued that SMEs generates more employments than large scale investments due to its labor-intensive nature, SMEs can therefore, be regarded as a poverty alleviation that will support D-8 countries to make progress towards poverty

eradication.

Economic benefits for D-8 Health and Social Protection Agenda

Some economic research[4] has shown that there is a relationship between economic growth and an increase in life expectancy. Studies have shown that an increase in life expectancy by a year will result in a 4 percent increase in the GDP of a country. The objective of the SDGs is to reduce mortality rate by 40 percent, a paper which measured the relationship between mortality rate and life expectancy shows that a reduction in mortality rate by 6 percent will result in an increase in life expectancy by 7 months. Basing our calculation on these the attainment of the SDGs will lead to an accumulated savings of $2,704,100,000,000.00 for the 8 economies discussed.[5]

Furthermore, the D-8 health and social protection programme will enhance the group's decision making in global health at international level through membership of United Nations agencies, partnerships with multilateral and bilateral organizations such as BRICs, G-8 etc. Given all the above, it is important to note that there would be more focused attention from the leaders of the D-8 countries on health and social protection programs.

D-8 Health and Social Protection Agenda – Principles and Functional Domains

Based on best practices, there are three identified factors critical for actualizing the D-8's health and social protection agenda: proper coordination and alignment of programs, reliable and available data flow, and effective delivery structure/team.

Coordination and alignment of programs	•Establish a coordinating mechanism with a governance structure •Involve public and private sector partners in the coalition •Focus alignment and coordination at the country level
Reliable and available data	•Current data systems sub-optimal, hence there is a need to strengthen information systems •Introduce and adapt tools for effective performance management
Delivery structure/team	•Delivery mindsets and capabilities currently lacking in the system •Establish a delivery unit to support and work with implementing agencies and partners •Delivery unit will have a dedicated lead and oversee several workstreams along various programmatic areas

Figure 5: Operational modality

[4] https://joshmitteldorf.scienceblog.com/2012/11/10/mortality-and-life-expectancy/

[5] See table 1, annex 5

In order to execute the D-8 health and social protection agenda, it is imperative to have a delivery unit which spurs coordination amongst all member States and stakeholders, ensures effective delivery of programs using reliable data for joint decision making. Hence, we propose a Health and Social Protection Team (HSPT) with a dedicated lead and governance structure.

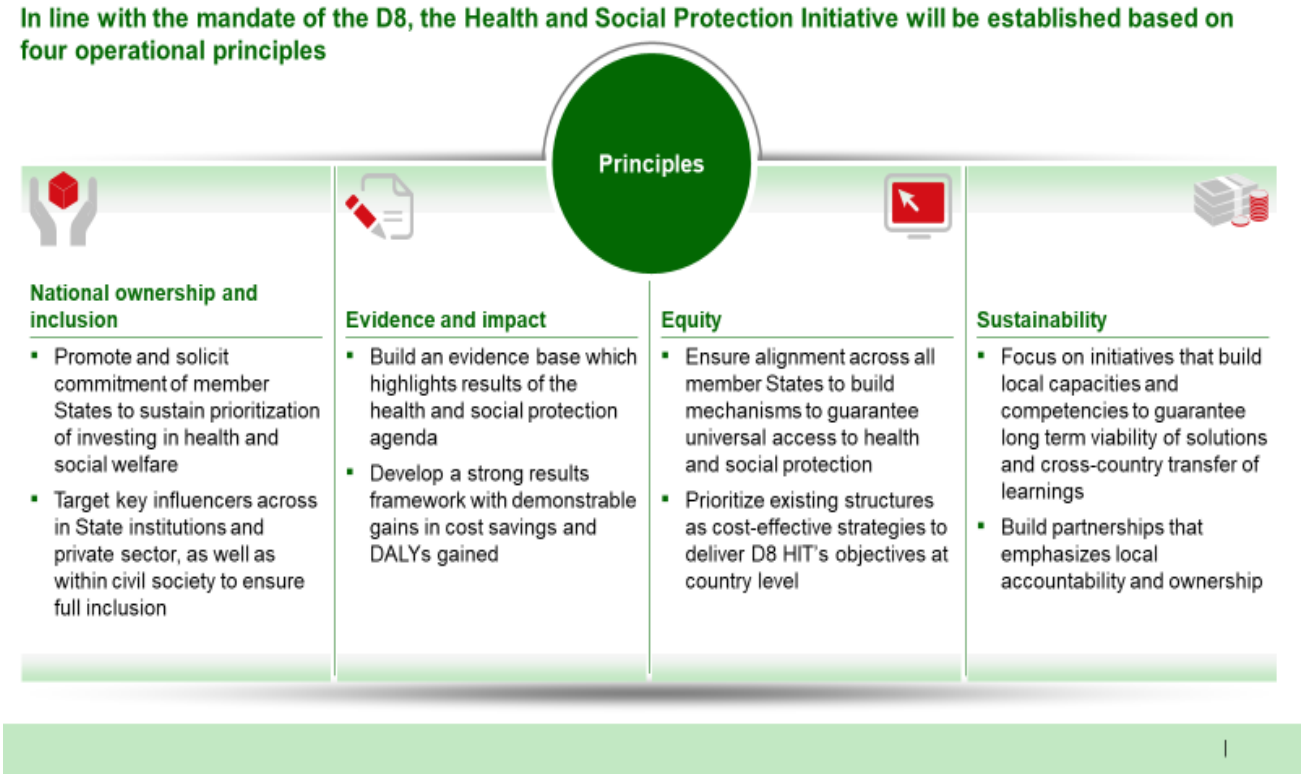


Figure 6: Operational principles

The Health and Social Protection Team (HSPT) shall be established based on the principles of joint ownership and inclusion; evidence and impact; equity and sustainability. In addition, the HIT shall provide oversight for the execution of prioritized programs across a number of areas: strategic advisory and technical guidance; innovation; monitoring & evaluation; advocacy and resource mobilization; and catalytic investments. The D8 will shall interact with a cross-section of partners at global, regional and country levels ranging from convening institutions such as SDG office in Nigeria to Ministries of Health and Social Safety Net in other D8 counties.

Following focused consultations with key thought leaders, the operational functions of the Health and Social Protection Team (HSPT) have been articulated within 4 divisions: programs; advocacy, partnerships and resource mobilization; finance and risk management; and admin, operations and HR.

I. Programs: At the core of the health and social protection agenda, is the effective management of prioritized programs targeted at saving and empowering lives. As a

result, there shall be 2 main high-impact sub-divisions, each focused on objectives of health or social protection. The program management team will deliver sound strategic advisory and offer technical guidance to member States and external partners; develop effective performance management guidelines and mechanisms; and execute priority programs using innovative approaches. In addition, to achieve aligned operational impact, the D-8 HIT shall consist of program-specific task forces/committees led by experts chosen on merit by the Special Adviser to Secretary General, following recommendations of member States. They shall be responsible for managing work streams across the five pillars and program-specific areas, and they will be coordinated by representatives from member States. Such other program-specific task forces/committees may address several themes like:

- Universal Health Coverage (UHC);
- Non-communicable diseases (NCDs);
- Maternal and child health (MCH);
- Communicable diseases – HIV; tuberculosis; malaria; dengue fever, Yellow fever etc.;
- Global health security;
- Human resource for health capacity building (team doctors, community health workers etc.);
- Women and youth empowerment;
- Small and medium enterprises;
- Pharmaceutical products and innovations.

II. Advocacy, partnerships and resource mobilization: Partnerships represent a key strategy for advancing the health and social protection agenda. By strengthening collaborative mechanisms and building synergies, the HIT will advance the D-8's core objectives. The HIT will advocate for consistent support for the health and social protection agenda amongst member States and other partners, help align interests and deliver collective results. In addition, the HIT will engage a wide range of State and non-State actors in mobilizing critical investments using a clear results framework, as well as routine and reliable accountability measures;

III. Finance and Risk Management: There are risks – political, financial, fiduciary, execution and administrative - often related to the execution of programs and projects. The HIT will adopt strong risk management protocols to ensure mobilized investments are appropriately allocated and utilized, in line with the D8's principles and global best practices and donor financial management systems. In addition, the HIT will ensure sound accountability platforms to continuously engage all partner before, during and after replenishment cycles, to ensure funding sustainability and program continuity with appropriate transition mechanisms.

IV. Operations: The operations department will provide support services to the team including logistics, administrative, procurement, HR and communication services; in line with best practices and guidelines. HIT will also prioritize the dissemination of results based on accurate data and shall strategically communicate to all internal and external stakeholders. This reflects and reinforces the underlying principle of partnerships, synergy building and joint responsibility to achieving results.

Governance parameter and Structure of D-8 Health and Social Protection Secretariat

The figure below highlights how the proposed health and social protection programme will fit in the D-8 organizational structure – coordinated and managed at the secretariat level by the Secretary General.

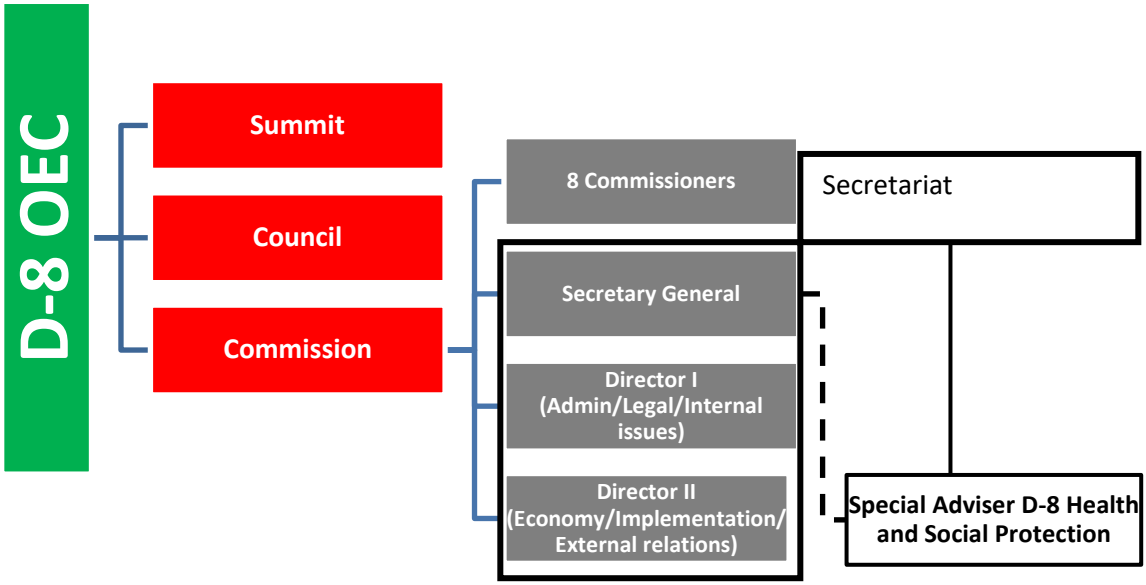


Figure 7: Governance arrangement

Structure of D-8 Health and Social Protection Secretariat

The Special Adviser shall be an appointee of the Secretary General and shall be responsible for the set-up of the health and social protection programme. D-8 HSPT will mobilize her own resources including obtaining seed grants to implement the health and social protection agenda. On the advice and guidance of the Secretary General, the day-to-day management affairs will be the sole responsibility of the Special Adviser. Any member country willing to provide accommodation and security for staff could be approached to host the secretariat for the duration of the support. Already, the Government of Nigeria has accepted, in principle, the offer to host the health secretariat as support to the D-8 Secretary General's office.

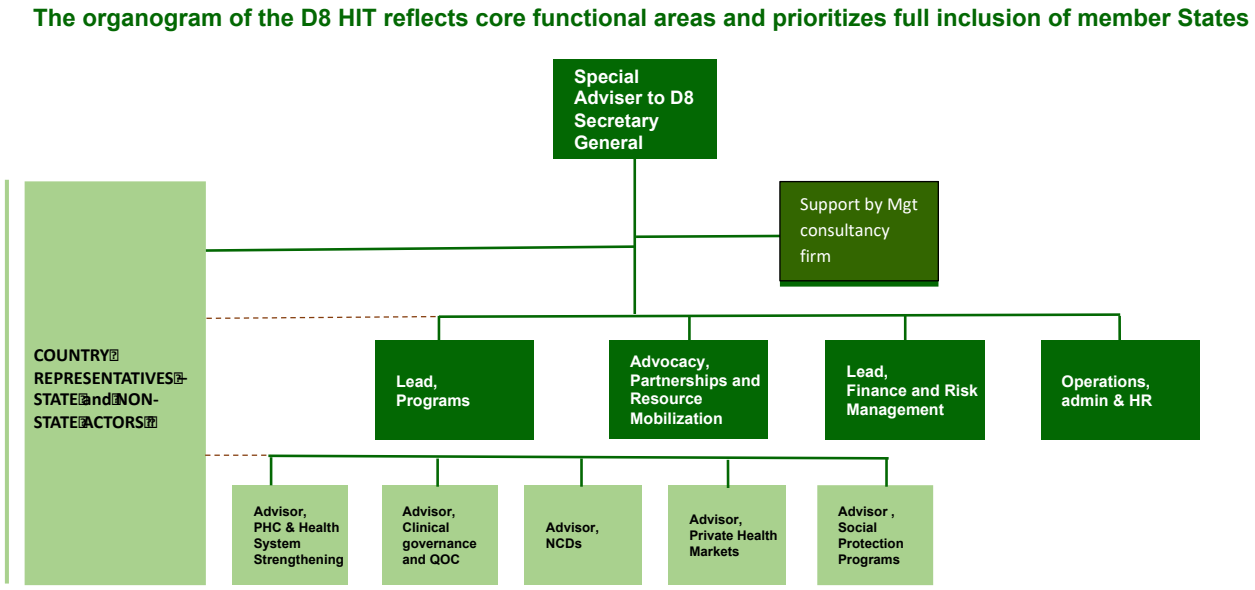


Figure 8: Organogram of HIT

Funding

D-8 HIT will draw finance from several sources from partners that have aligned objectives, values and mandates with the D-8 charter or principles. A seed grant for take-off of project is envisaged through a memorandum of understanding between the D8 Secretary General and identified development partners. Other multilateral, bilateral and private donors would equally be approached to explore partnership opportunities in establishing the secretariat and developing its programs/interventions. Towards this end, the host government will provide office accommodation and security for personnel of the D-8 HIT.

Operational scope and terms of reference for the D-8 HIT

In operationalizing the health and social protection agenda, the D-8 HIT will work closely with country health leaders to align objectives and shape the policy environment towards realizing the noble objectives of the D-8 health and social protection agenda. The modus operand will include consultations, workshops, conferences and alignment of voice at international health fora and side-meetings.

Towards this end, the following terms of reference are proposed:

1. Launch and take-off of the D-8 Health and Social Protection Secretariat
2. Develop a road map for the actualization of the D-8 health and social protection agenda that will usher a new era of huge economic benefits for members, consistent with the overall vision of the D-8

3. Mobilize resources for the prosecution of the D-8 health and social protection agenda under the guidance of the secretary general

Specific deliverables within the first 2 years of set up will include

1. Securing office accommodation, recruitment of essential personnel and obtaining seed grant for take-off
2. Develop a plan for internalization of a health and social protection agenda at the council and summit levels by facilitating consultation forum for the Ministers of Health at major events
3. Develop a strategic plan to accelerate the health SDGs for the member countries
4. Elaborate a biennial operational plans for the purposes of mobilizing resources within and outside group in line with D-8 milestones that would have been declared at the D-8 health summits.
5. Develop annual progress reports for the Secretary General, Commissioners and Donors.

Next steps

- Share the D-8 Health and Social Protection Programme document with potential partner for comment and partnership
- Launch and take-off of the D-8 Health and Social Protection Secretariat
- Initiate the development of a 4-year Strategic Health Development plan for D-8 (2018 – 2022) and Public Private Partnerships, in alignment with expectation of the original Charter of the D-8 and the ninth D-8 summit.
- Development of relevant instruments and MOUs with appropriate organizations for partnership on Health and SDGs including high-level advocacy visits, meeting and dialogue by the Secretary General for enhanced visibility, impact and actualization of the D-8 Health Vision.

Figure 9 – Cross-section of potential partners

Appendix

1. D-8 and G8 - Health system performance in D-8 countries

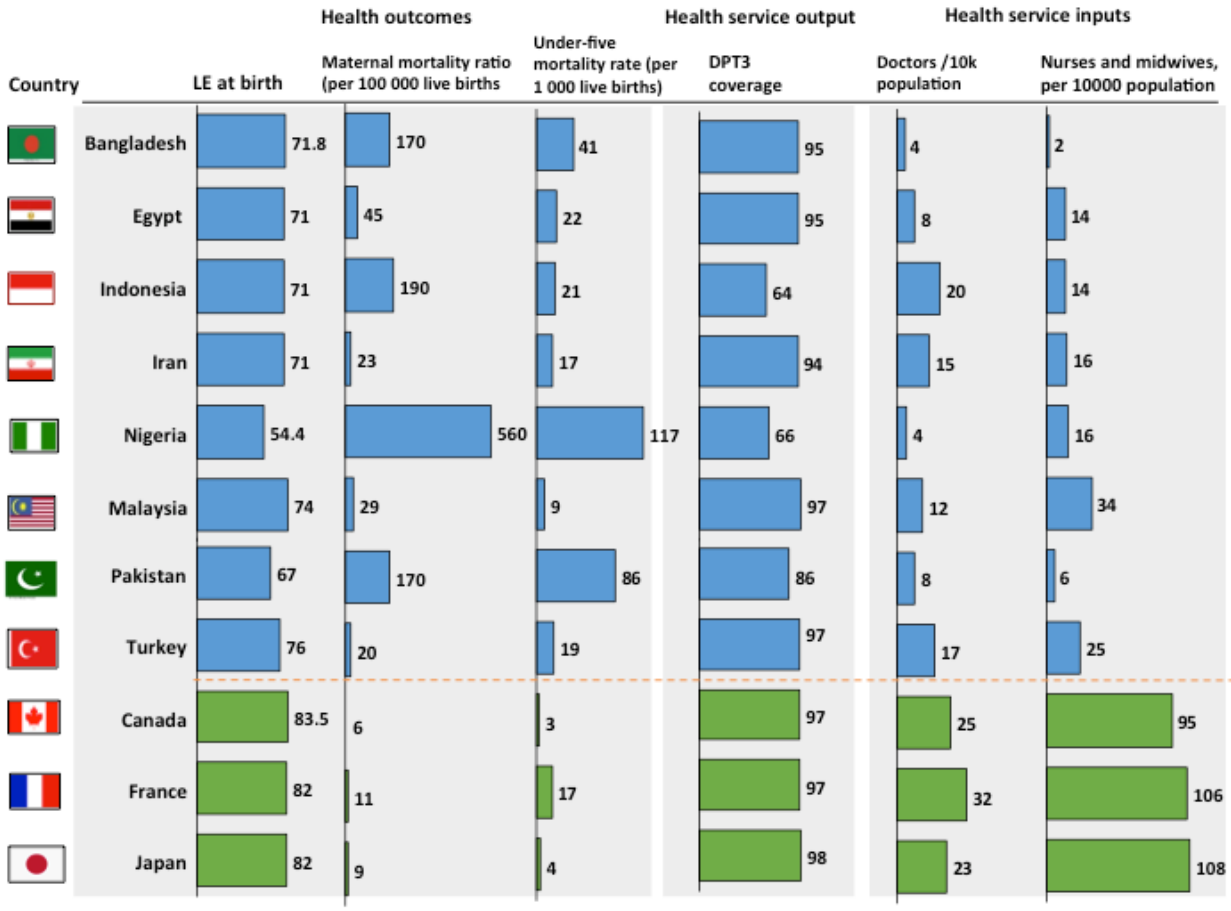
The mean Life Expectancy (LE) at birth for D-8 countries is 69.5 years, with most of the countries in the bloc having LE above 70 years; however, there are few outliers, notably Nigeria.

A closer look at the data reveals the functionality of the respective health systems have some direct effect on LE (and perhaps quality of life) in these countries; however, the degree of proportionality varies from country to country, and alludes to other probable factors (confounders) which may contribute to LE and quality of life (social determinants of health).

The best performing health systems based on reference data were for Malaysia and Turkey; and are consistent with better service delivery outcomes and commensurate investments in key service inputs (health workforce as an example).

The least performing country was Nigeria, with significantly higher maternal and under-five mortality which clearly account for the considerably lower LE. Furthermore, service delivery inputs (health workforce) and corresponding health service outputs were lower. For other countries in the middle of the spectrum (based on reference data), there is a mix of experiences. Whilst Egypt, Indonesia and Iran have similar health workforce patterns, Indonesia lags in health service outputs and outcomes. This may point to a lower system efficiency in Indonesia, but also a larger demand (population). Hence, despite similar patterns (quantities) of health service inputs, health workforce availability and distribution in Indonesia is probably less equitable.

Lastly, Bangladesh seems to be optimizing available resources, albeit comparably small. With a population of about 160 million people, health service outcomes could have been potentially worse, if compared with those for Nigeria with a population of over 180 million people with higher numbers of health workforce (per 10,000 population).

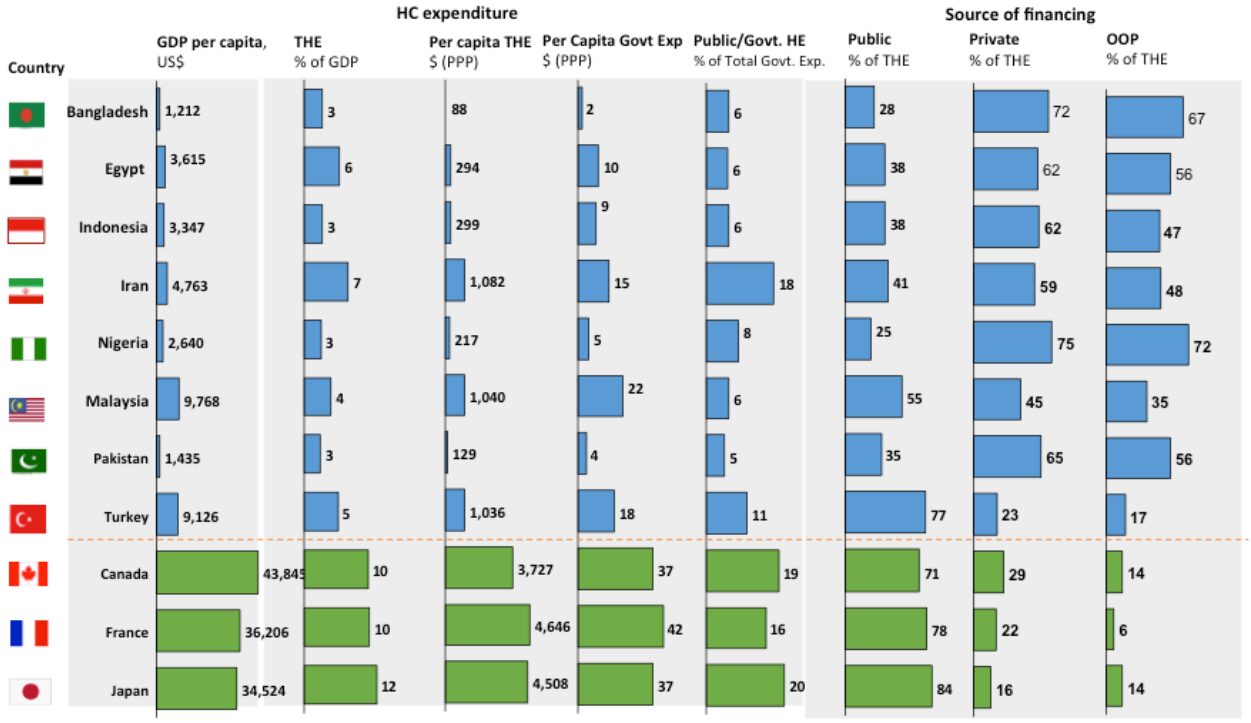


A data-driven comparison of the two blocs is intended to consolidate our justification for prioritizing investments in health systems in the D-8 bloc, by highlighting the relativity of economic buoyancy and better health outcomes, as a result of superior investments in core components of health systems, amongst the G8 countries.

From the figure above, representative G8 countries have higher LE and significantly better health outcomes, as illustrated by negligible maternal under-5 mortalities. As expected, these countries considerably have larger health service inputs. It is important to note the relative uniformity of health system performance amongst representative G8 countries, thus reflecting the solidarity in the G8 on investing in health.

2. D-8 and G8 - bloc comparison (macroeconomic and health financing dynamics)

Financial spending on health amongst D-8 member countries ranged from 3-7% of the respective GDPs. More importantly, D-8 governments spend on health as a proportion of Total Government Expenditure (TGE) were less than 10% in most cases, except for Turkey and Iran with 11% and 18% respectively. Both African countries represented in the bloc still had public HE (as a % of TGE) less than 15%, despite the Abuja Declaration on Health made in 2001.



Interestingly, the 3 best performing health systems (based on reference data) had the largest government spend on health (as a % of TGE) – Turkey (US$ 1003 per capita), Iran (US$ 857 per capita) and Malaysia (US$ 586 per capita). Coincidentally, these countries had the least proportions of private expenditure on health (and OOP). Conversely, Nigeria had the least public investment on health, and the highest out-of-pocket payments on health.

In the G8 bloc, total health expenditures (as a proportion of GDP) were at 10% or higher. With relatively higher GDPs (than D-8 countries), THE (as a % of GDP) are still higher than for counterparts in the D-8. Though, a simple explanation may be that there's a strong purchasing power amongst G8 countries, another narrative may be a sustained prioritization of investing in health, despite excellent health outcomes. Hence, the relativity of THE and GDP (measure of wealth) seems more important than absolute figures for THE, underpinning the awareness of the interconnectedness of economic

growth and health. Furthermore, public HE (as a % of TGE) were relatively larger for featured G8 countries, being all higher than 15% (the Abuja Declaration on Health had a similar benchmark). Consequently, private health expenditure on health (and OOP) were lower for G8 countries, compared to D-8 counterparts.

It, therefore, seems that optimal risk protection (from catastrophic health expenditure) and allocative efficiency are core strategies employed by G8 countries in ensuring investments in respective health systems are maximized, and undue economic losses due to costs of illnesses are averted. Hence, whilst D-8 countries should invest more in health, particular emphasis need be made on strengthening efficient financing mechanisms which offer risk protection for their people, in an equitable manner.

3. Vicious cycle of poverty, hunger and disease

Poverty is defined as living below $1.9 per day. It is associated with inability to consume the right quality and quantity of calories for health and sustenance. The health consequences are very severe in addition to the suffrage from loss of dignity and self-esteem. The poor die young and suffer more from disability. They are exposed to greater risks from unhealthy conditions at home and at work. Malnutrition and the legacy of past illnesses makes them more susceptible to fall ill and slower to recover. Their diseases are largely infectious diseases, maternal and perinatal conditions and nutritional deficiencies. Paradoxically, they also suffer more from the lifestyle health problems of the affluent – cancer, coronary heart disease etc.

According to the current SDG report of 2018, there are still some 783 million people (11% of the world population) living in extreme poverty. Unfortunately, based on 2016 estimates, only 45 per cent of the world's population were effectively covered by at least one social protection cash benefit. Thus with free market economy and raging trade wars, the gap between the rich and the poor is widening. Though improved health is necessary, it is not sufficient to correct nor prevent the inequities in the health status of the poor. Special intervention to lift them out of poverty and social security is required.

4. Potential health innovations for self-reliance and sustainability

There are a number of areas on the priority list of the D-8 Health and Social Protection Programme that could advance member nations to improve access to healthcare and bring about self-sufficiency and sustainability, many of these options are innovative and forward thinking in the Information, Communication and technology (ICT) context:

- Prevention of fake drugs, supported by a pan D-8 regulation
- Printed prosthetics and distributed field operations in collaboration with Non-Governmental Organizations (NGOs) working in the field of medicine

- Printed medical devices such as on-demand birthing kits, umbilical clamps to simple things like oxygen splitters for oxygen tanks
- Remote monitoring of patients to address poor patient-doctor rations also to mitigate need to travel long distances to gain access to treatment, wireless solution enabling the efficient monitoring of cardiovascular diseases (CVDs) from a long distance through Bluetooth and a mobile network
- Harnessing solar power to for better hearing
- Distribution for biodegradable sanitary pads to empower women
- Innovative health diagnostic tests for Ebola, viral hemorrhagic fevers such as yellow fever and dengue fever, etc similar to a pregnancy test
- Water purification through self-sustainable processor that turns solid waste and sewer sludge into drinking water
- Power fluctuation bulbs to help treat babies with Jaundice effectively

There are much gains to be made in the realization of vaccinations and target delivery through lean supply chain logistics operations. The partnership will instigate relevant analysis to scope need and delivery.

5. D-8 Mortality, Life Expectancy and Gross domestic product

We have observed that there is a relationship between life expectancy and gross domestic product. Every additional year of life expectancy gained, is equivalent to 4% increase in the GDP. It has been shown also that $1 investment in health yields $9-20 in return. If the SDGs are accelerated and we attain them by 2027 instead, it means that D-8 countries would have reduced their all-cause mortality by 40% (SDG target). Therefore, if we know by what factor, a reduction in all-cause mortality will increase the life expectancy, we can postulate as to the contribution to GDP that will result. Using the example observed in USA, using the social and administrative data from the USA, a 6% drop in mortality results in 7 months gain in life expectancy[6]. Based on these parameters, we infer the contributions to the GDP, health investment will make to the economies of the D-8 countries by 2027 as in the table below.

[6] https://joshmitteldorf.scienceblog.com/2012/11/10/mortality-and-life-expectancy/

Table 1: Economic benefits

Countries	**2018 population**	**2018 mortality rates per 1000**	**2018 Live expectancy (LE) estimates**	**2018 GDP**	**2027 projected populations**	**LE by 2027 based on attaining UHC**	**Projected GDP by 2027**	**Contribution to the GDP in $**
Bangladesh	189,607,156.72	34.2	72	$285.817 billion	215742462	75.5	1,324,000,000,000.00	185,360,000,000.00
Egypt	90,067,636.07	4.78	74.42	$237.073 billion	98954319	77.92	2,049,000,000,000.00	286,860,000,000.00
Indonesia	259,563,257.79	22.2	69.07	$1.01554 trillion	279776417	72.57	5,424,000,000,000.00	759,360,000,000.00
Iran	90,410,362.15	35.81	72.53	$ 460 billion	101842097	76.03	2,354,000,000,000.00	329,560,000,000.00
Malaysia	29,428,134.77	18.81	75.2	$314,500 billion	32451131	78.7	1,506,000,000,000.00	210,840,000,000.00
Nigeria	178,911,267.85	71.2	54.5	$413.7 billion	213939590	58	1,794,000,000,000.00	251,160,000,000.00
Pakistan	217,344,083.33	78.8	68.39	$304.95 billion	261581637	71.89	1,868,000,000,000.00	261,520,000,000.00
Turkey	82,808,268.89	17.6	75.43	$849.48 billion	89369530	78.93	2,996,000,000,000.00	419,440,000,000.00
								2,704,100,000,000.00