

SDG INDUSTRY MATRIX

Healthcare & Life Sciences

New Sustainable Development Goals to make our world more:
Prosperous • Inclusive • Sustainable • Resilient

Produced jointly by:



United Nations
Global Compact

and





NEW GLOBAL GOALS FOR SUSTAINABLE DEVELOPMENT



In September 2015, 193 member States of the United Nations met in New York to adopt 17 new Sustainable Development Goals ('SDGs') to make our world more prosperous, inclusive, sustainable and resilient.



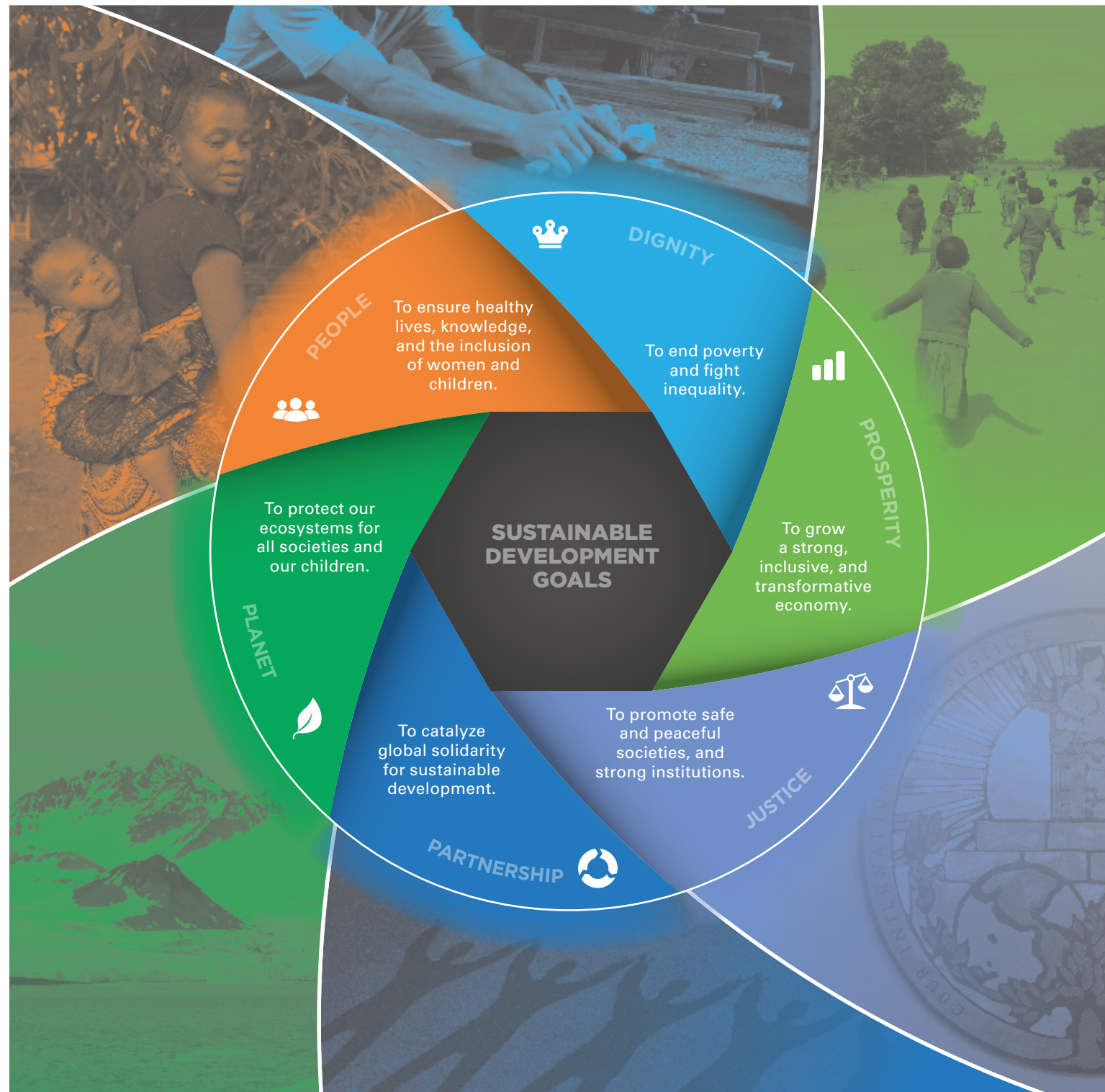
GLOBAL GOALS 2015 - 2030

The SDGs are an ambitious plan of action for people, planet and prosperity. They are universal, applying to all nations and people, seeking to tackle inequality and leave nobody behind. They are wide ranging including ending poverty and hunger, ensuring sustainable consumption and production, and promoting peaceful and inclusive societies.

The agreement on a new sustainable development agenda expresses a consensus by all governments that the SDGs can only be achieved with involvement of the private sector working alongside Governments, Parliaments, the UN system and other international institutions, local authorities, civil society, the scientific and academic community – and all people. Hence, Governments in the Post-2015 declaration **“...call on all businesses to apply their creativity and innovation to solving sustainable development challenges”**.

Each and every SDG provides an opportunity for business and two are worth highlighting as cross-cutting themes:

- SDG 12 focuses on production and consumption and includes a specific target on “adopting sustainable business practices and reporting”;
- SDG 17 includes two targets on multi-stakeholder partnerships to ensure this attracts sufficient focus.





SUSTAINABLE DEVELOPMENT GOALS



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SDG INDUSTRY MATRIX

A

PURPOSE

The SDG Industry Matrix aims to inspire and inform greater private sector action to drive inclusive, sustainable prosperity.

Recognising that the opportunities vary by industry, the Matrix provides industry specific ideas for action and industry specific practical examples for each relevant SDG. It profiles opportunities which companies expect to create value for shareholders as well as for society.

The SDG Industry Matrix has been jointly conceived and led by the United Nations Global Compact and KPMG International Cooperative ('KPMG') to convert the interest stimulated by the Sustainable Development Goals into strategic industry activities which grow in scale and impact. This could be through sparking new innovative approaches, prompting companies to replicate successful activities in new markets, catalysing new collaborations and increasing participation in existing collaborations.

B

OPPORTUNITY

Through the lens of "shared value" the private sector can identify opportunity in addressing social and environmental challenges.

In the context of the SDGs, "shared value" represents the coming together of market potential, societal demands and policy action to create a more sustainable and inclusive path to economic growth, prosperity, and well-being¹. The SDGs provide an opportunity for companies to create value for both their business and society through:

- Developing products, services, technologies and distribution channels to reach low-income consumers;
- Investing in supply chains which are ethical, inclusive, resource-efficient and resilient;

- Improving the skills, opportunities, well-being and hence productivity of employees, contractors and suppliers;
- Increasing investment in renewable energy and other infrastructure projects.

Several trends are making these opportunities more compelling:

- **Demographics:** The population in developing regions is projected to increase from 5.9 billion in 2013 to 8.2 billion in 2050 whilst the population of developed regions will remain around 1.3 billion people;
- **Income growth:** Between 2010 and 2020, the world's bottom 40% will nearly double their spending power from US\$3 trillion to US\$5.8 trillion;
- **Technology:** Rapid innovation is catalysing improved market analysis, knowledge sharing, product and service design, renewable energy sources, distribution models and operational efficiencies. Technology is also lowering market entry costs for non-traditional actors and start-ups with innovative 'disruptive' business models;
- **Collaborations:** Governments, businesses, international financial institutions, the United Nations, civil society and academia are developing new ways of working with each other in pursuit of compatible objectives.

1. 'Unlocking the Power of Partnership: A Framework for Effective Cross-Sector Collaboration', KPMG International

SDG INDUSTRY MATRIX (CONTINUED)

C

METHODOLOGY

The SDG Industry Matrix has been compiled through a participatory three step process:

1. KPMG and the United Nations Global Compact drew on their respective industry insights to populate a preliminary draft with examples and ideas for action;
2. The United Nations Global Compact circulated the draft to its network of private sector participants, business associations and UN agencies requesting them to submit further examples and ideas for action;
3. KPMG and the United Nations Global Compact co-convened a multi-stakeholder working roundtable (one per industry, each in a different continent) to agree the final SDG Industry Matrix content, including the most significant opportunities to profile in the 'Industry Focus Highlights' section.

Opportunities for Action which are applicable to all industries are in *italics*

D

SYNERGIES

The SDG Industry Matrix draws on the commitment that companies have already expressed to the UN Global Compact's ten principles.

The SDG Industry Matrix builds on the recognition that all companies, regardless of their size, sector or geographic footprint, have a responsibility to comply with all relevant legislation, uphold internationally recognized minimum standards and to respect universal human rights. The UN Global Compact website includes key tools and resources which can help companies meet their minimum responsibilities and guide them to take supportive actions beyond these minimum responsibilities to advance social and environmental goals.

The SDG Industry Matrix is also complemented by the SDG Compass (produced by the Global Reporting Initiative, the United Nations Global Compact and the World Business Council for Sustainable Development), which guides companies on defining strategic priorities, setting goals, assessing impacts and reporting.



HEALTHCARE AND LIFE SCIENCES INDUSTRY FOCUS HIGHLIGHTS

This page profiles some of the most significant opportunities, principles-based initiatives and collaborations for the Healthcare and Life Sciences industry. The supporting Matrix provides further examples and ideas (it is not intended to be an exhaustive list).

Opportunities for shared value

The biggest opportunities for the Healthcare and Life Sciences industry to create shared value – i.e. where we see the coming together of market potential, societal demands and policy action – are grouped around the following themes:

PREVENTIVE HEALTHCARE

Collaborate with Governments, the UN, civil society, health insurers, technology providers and other stakeholders to improve population health and well-being through increased preventive action:

- Improve communities' health and nutrition knowledge, attitudes and practices (including improved diets and regular exercise)
- Develop innovative micronutrient supplements and food fortification solutions to reduce vitamin and mineral deficiencies
- Promote breast-feeding of infants in line with WHO Guidelines
- Increase coverage of routine childhood immunisation programmes including completion of required doses and boosters
- Increase the proportion of people attending regular health checks
- Continue improving early diagnostic techniques
- Use technology and healthcare models which empower the patient to make good choices about their care
- Contribute to enhanced human and animal disease surveillance to rapidly contain epidemics
- Continue providing Governments with compelling evidence on the human and economic costs of smoking, excessive alcohol consumption, high sugar diets, lack of exercise and other lifestyle health risk factors, to inform public policies, regulation and taxation
- Develop improved solutions to protect animals from infectious disease

UNIVERSAL HEALTH COVERAGE

Collaborate with Governments and health insurers to achieve universal access to free or affordable healthcare including people on low incomes in low, middle and high income countries:

- Contribute to health systems strengthening (including ehealth) in low and middle income countries by sharing expertise and good practice
- Develop methods of reaching marginalised populations with healthcare including people in rural areas and fragile states, people with disabilities and the elderly
- Adopt low price, high volume pricing models to expand access to vaccines, diagnostic tests, pharmaceuticals, supplements and family planning in low and middle income countries
- Develop low-cost medical devices for low income countries which are easy to operate and maintain
- Develop affordable preventive, diagnostic and curative healthcare solutions for neglected tropical diseases and other health challenges in low and middle income countries
- Collaborate with health insurance companies to provide affordable healthcare to people on low incomes

Opportunities for shared value

(CONTINUED)

RESILIENT HEALTHCARE

Develop healthcare systems which are resilient to shocks and changes arising from climate change, environmental stress, population growth, fragility, antimicrobial resistance, and increasing morbidity from ageing populations and unhealthy lifestyles:

- Invest in healthcare solutions to mitigate the impacts of a changing climate which include: changing patterns of vector-borne, food-borne and water-borne diseases; increased air pollution; undernutrition; and heat-related mortality, exhaustion and stroke
- Help build resilient health systems able to anticipate, respond to, cope with, recover from and adapt to climate-related shocks and stresses including increased morbidity arising from natural disasters (heatwaves, floods, droughts and storms), conflict and forced migration
- In conjunction with Governments and the World Health Organization, integrate meteorological data and new technologies into disease surveillance and early warning systems
- Collaborate with Governments and other healthcare providers to develop a rigorous strategy to address growing anti-microbial resistance
- Share evidence with Governments on the health value of conserving biodiversity
- Invest in STEM education (Science, Technology, Engineering, Maths) and medical training to secure the requisite future talent pipeline
- Extend access to family planning, maternal and neonatal healthcare (which will in time reduce birth rates)

ENVIRONMENTALLY SUSTAINABLE HEALTHCARE

Invest in resource efficient buildings, production processes, logistics and services which reduce the environmental footprint of healthcare products and services:

- Invest in telehealth and telecare to reduce patient travel and improve quality of care
- Increase proportion of energy from renewable sources and increase energy efficiency in hospitals, healthcare centers, production plants and across the logistics value chain
- Replace cold chain hydrofluorocarbons (HFCs) and derivative chemical refrigerants with natural refrigerants
- Design medical devices with lower power consumption and improved end of product lifecycle recycling
- Develop and implement improved processes to reduce, reuse and recycle water, raw materials, non-renewable minerals, energy, other inputs, by-products, hazardous waste, non-hazardous waste and packaging
- Build environmentally sensitive hospitals, primary healthcare centres and production plants

Multi-stakeholder partnerships and collaborations will become increasingly important in realising these shared value opportunities. There is critical momentum of activity and the opportunity for shared value has never been greater.

Multi-stakeholder partnerships and collaborations

The SDG Industry Matrix includes several examples of collaborations which advance sustainable development. Of these, some of the largest global collaborations for Healthcare and Life Sciences include the following (note this is far from being an exhaustive list):

GLOBAL FUND TO FIGHT AIDS, TUBERCULOSIS AND MALARIA

The Global Fund partnership mobilizes and invests nearly US\$4 billion a year to support programs run by local experts in countries and communities most in need. It recognizes that the only way to end AIDS, TB and malaria as epidemics is by working with Governments, civil society, communities affected by the diseases, technical partners, the private sector, faith-based organizations and other funders.

TB DRUG ACCELERATOR PARTNERSHIP

This partnership aims to accelerate the discovery and development of novel compounds against tuberculosis. The partnership was formed in 2012 by AbbVie, AstraZeneca, Bayer, Eli Lilly, Eisai, GlaxoSmithKline, MSD and Sanofi, four research institutions, and the Bill & Melinda Gates Foundation. The partners collaborate on early-stage research, sharing sections of their compound libraries and data, towards the long-term goal of creating a TB drug regime that cures patients in only one month, rather than the six months currently needed for treatment.

INTERNATIONAL FEDERATION OF PHARMACEUTICAL MANUFACTURERS & ASSOCIATIONS

IFPMA has formed partnerships across its members, Governments and non-government organizations in support of sustainable development. Its global health program focuses on access to healthcare, non-communicable diseases, HIV/AIDS, mental and neurological disorders, influenza, vaccines, counterfeit drugs, viral hepatitis and Ebola.

GLOBAL ALLIANCE FOR TUBERCULOSIS DRUG DEVELOPMENT

TB Alliance's goal is to reduce the global burden of TB through the development and availability of dramatically improved treatments. TB must be treated with multiple drugs. Achieving maximum impact on the epidemic requires a short, simple, and affordable regime comprised of all newly formulated drugs, circumventing the challenges posted by resistance to some of the antibiotics available today.

PARTNERSHIP FOR MATERNAL, NEW-BORN AND CHILD HEALTH

This Partnership joins the reproductive, maternal, new-born and child health communities into an alliance of more than 720 member organizations, across seven constituencies: academic, research and teaching institutions; donors and foundations; health-care professionals associations; multilateral organizations; non-governmental organizations; partner countries; and the private sector. It enables partners to share strategies, align objectives and resources, and agree on interventions to achieve more together than they would be able to individually.

ROLL BACK MALARIA PARTNERSHIP

The RBM Partnership is the global platform for coordinated action against malaria. It mobilizes for action and resources and forges consensus among partners. The Partnership is comprised of more than 500 partners, including malaria endemic countries, their bilateral and multilateral development partners, the private sector, non-governmental and community-based organizations, foundations, and research institutions.

GLOBAL ALLIANCE FOR VACCINES AND IMMUNIZATION

Created in 2000, GAVI is a global vaccine alliance bringing together public and private sectors with the shared goal of creating equal access to new and underused vaccines for children living in the world's poorest countries.

Multi-stakeholder partnerships and collaborations (CONTINUED)

GLOBAL HEALTH WORKFORCE ALLIANCE

This Alliance was created in 2006 as a common platform for action to address the lack of skilled health workers in lower income countries. The Alliance is a partnership of national Governments, civil society, international agencies, healthcare providers, finance institutions, researchers, educators and professional associations dedicated to identifying, implementing and advocating for solutions. Since its inception, the Alliance has acted as a global convener, mobilizing worldwide attention to the human resources for health crisis and generating political will and action for positive change.

BSR HEALTHCARE WORKING GROUP

Established in 1999, the BSR Healthcare Working Group serves as a forum for companies to discuss corporate social responsibility issues faced by the healthcare sector. They have launched the Guiding Principles on Access to Healthcare, an industry-wide framework for reducing the global burden of disease and improving global health outcomes, which have been signed by the CEOs of 13 major healthcare companies with global leadership in pharmaceuticals, vaccines, diagnostics, and other medical technology.

ALLIANCE FOR HEALTH POLICY AND SYSTEM RESEARCH

AHPSR is an international collaboration amongst research institutions, Governments and the private sector, hosted by the World Health Organization. Since its inception in 1999, the Alliance's goal has been to promote the generation and use of health policy and systems research as a means to improve the health systems of low- and middle-income countries.

UNITAID DRUG PURCHASE FACILITY

UNITAID is engaged in finding new ways to prevent, treat and diagnose HIV/AIDS, tuberculosis and malaria more quickly, more cheaply and more effectively. It takes game-changing ideas and turns them into practical solutions that can help accelerate the end of the three diseases. Established in 2006 by Brazil, Chile, France, Norway and the United Kingdom to provide an innovative approach to global health, UNITAID plays an important part in the global effort to defeat HIV/AIDS, tuberculosis and malaria, by facilitating and speeding up the availability of improved health tools, including medicines and diagnostics through working in partnership with private sector health providers and pharmaceutical companies.

THE WORLD HEALTH PROFESSIONS ALLIANCE

WHPA brings together the global organizations representing the world's dentists, nurses, pharmacists, physical therapists and physicians and speaks for more than 26 million health care professionals in more than 130 countries. WHPA works to improve global health and the quality of patient care and facilitates collaboration among the health professions and major stakeholders.

PEPFAR

The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) is the U.S. Government initiative to help save the lives of those suffering from HIV/AIDS around the world. This historic commitment is the largest by any nation to combat a single disease internationally, and PEPFAR investments also help alleviate suffering from other diseases across the global health spectrum. Within PEPFAR, partners from the private sector work together to promote new, sustainable models of delivering care and drugs to the most vulnerable suffering from HIV/AIDS.

GLOBAL HEALTH INNOVATIVE TECHNOLOGY FUND

The GHIT Fund is the world's first product development fund for global health R&D. It is built on the strength of contributions from partners in the public, private, and civil sectors. The GHIT Fund has been launched as a platform to empower a win-win-win relationship among these sectors, while harnessing them in a lasting way to address key global health challenges. They facilitate international partnerships that bring Japanese innovation, investment, and leadership to the global fight against infectious diseases and poverty in the developing world.

Multi-stakeholder partnerships and collaborations (CONTINUED)

GUIDING PRINCIPLES ON ACCESS TO HEALTHCARE

These industry-wide principles and approaches recognize the importance of access to healthcare in five core areas: collaboration, research and development, expanding availability of healthcare services, developing health systems resources and respecting human rights. The principles have been signed by the CEOs of major healthcare companies with global leadership in pharmaceuticals, vaccines, diagnostics, and other medical technology.

EVERY WOMAN, EVERY CHILD

Launched by UN Secretary-General Ban Ki-moon during the United Nations Millennium Development Goals Summit in September 2010, Every Woman Every Child aimed to save the lives of 16 million women and children by 2015. The UN Secretary-General is calling for new and refreshed commitments to the Every Woman Every Child 'Global Strategy for Women's, Children's and Adolescents' Health' to support the implementation of the SDGs. It is an unprecedented global effort that mobilizes and intensifies international and national action by Governments, multilaterals, the private sector and civil society to address the major health challenges facing women and children around the world.

BE HEALTHY, BE MOBILE INITIATIVE

The International Telecommunication Union (ITU) has signed a ground-breaking partnership agreement with international healthcare company Bupa, to collaborate on a global 'm-Health' initiative called 'Be Healthy, Be Mobile'. Bupa and ITU will join forces to provide multidisciplinary expertise, health information and mobile technology to fight chronic non-communicable diseases, including diabetes, cancer, cardiovascular and chronic respiratory diseases, in low- and middle-income countries. The program is led by ITU and the World Health Organization (WHO).

CITIES CHANGING DIABETES INITIATIVE

Cities Changing Diabetes is a public-private partnership that advocates for urgent action against urban diabetes on a global scale. The aim is to map its extent, share solutions and tackle the growing challenge of diabetes in the world's largest urban centers through partnering with businesses, city leaders and planners, healthcare professionals, academics, and community leaders to transform urban centers into healthier places to live, work and play – and bring down the risk of urban diabetes.

GLOBAL ALLIANCE FOR IMPROVED NUTRITION

GAIN is an international organization that was launched at the UN in 2002 to tackle the human suffering caused by malnutrition. The organization acts as a catalyst – building alliances between governments, business and civil society – to find and deliver solutions to the complex problem of malnutrition. The Alliance focuses its efforts on children, girls, and women because they understand that helping them have sustainable, nutritious diets is crucial to ending the cycle of malnutrition and poverty.

SCALING UP NUTRITION MOVEMENT

Founded on the principle that all people have a right to food and good nutrition, the SUN Movement unites governments, civil society, the UN, donors, businesses and researchers in a collective effort to improve nutrition. Within the Movement, national leaders are prioritizing efforts to address malnutrition. Countries are putting the right policies in place, collaborating with partners to implement programs with shared nutrition goals, and mobilizing resources to effectively scale up nutrition, with a core focus on empowering women.

SUN BUSINESS NETWORK

This network mobilizes and intensifies efforts from the business community in support of the SUN Movement. In 2015, the SBN supported 11 countries to build national business networks and as a result of growing its outreach, 29 additional countries requested further support in order to grow the role of business in scaling up nutrition. By 2015 the SUN Movement had expanded its Business Network to include 99 companies intensifying efforts to leverage their business to tackle malnutrition. Many companies also stepped up their commitment by signing the Zero Hunger Challenge led by UN FAO in 2014.



SDG INDUSTRY MATRIX FOR HEALTHCARE AND LIFE SCIENCES

The following pages outline opportunities – under each of the 17 SDGs – for companies to create value for their business whilst creating a more sustainable and inclusive path to economic growth, prosperity, and well-being. It also profiles practical company examples submitted through the consultation process.

SDG 1

End poverty in all its forms everywhere

OPPORTUNITIES FOR ACTION

- Adopt **tiered pricing** structures to sell products and services to low income and least developed countries at reduced prices.
- Develop **affordable preventive, diagnostic and curative healthcare** solutions for neglected tropical diseases and other health challenges in low and middle income countries.
- Collaborate with insurers, Governments and private healthcare providers to support the expansion of **health microinsurance** in low and middle income countries.
- Commission independent **assessments of the social, economic and environmental impacts** of the company's products and services (for example, using the **KPMG True Value methodology** which quantifies them in financial terms).
- Build the **resilience of suppliers, retailers and ministries of health** in low and middle income countries to reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.
- **Share expertise** on the causal and other correlated links between poverty, health seeking behavior, malnutrition, morbidity and mortality to inform public policies, strategies and investment.

LEADING BY EXAMPLE

- **GSK** has developed a tiered pricing model through which it sells products at prices that take into account economic factors in each country. The company asks countries to pay a fair price based on their wealth determined by Gross National Income per capita, thereby enabling broad access to GSK products globally. The company also caps prices of patented medicines and vaccines in Least Developed Countries at 25% of prices charged in developed countries.
- **Pfizer, Inc.** RxPathways® helps eligible patients in the U.S., Puerto Rico and U.S. Virgin Islands get access to Pfizer medicines by offering a range of support services including insurance counselling, co-pay help, and Pfizer medicines for free or at a discount. In 2015, in response to the ongoing challenges patients face in paying out-of-pocket costs for

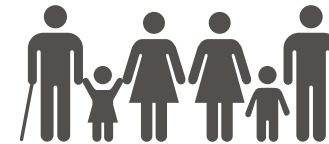
their prescription medicines, Pfizer doubled the income eligibility level. With this change, more than 40 brands are now offered for free through the program to eligible patients earning up to four times the Federal Poverty Level adjusted for family size. While patient assistance is not a permanent solution, the company hopes that this change will help bridge the gap for patients in need. Over the last 5 years, Pfizer RxPathways® has helped nearly 2.5 million patients to access more than 30 million Pfizer prescriptions. Pfizer's other signature initiatives to increase access to medicines include its International Trachoma Initiative and Diflucan Partnership Program (which provides treatment for AIDS related fungal infections in developing countries).



1 NO POVERTY



Photo: Curt Carnemark/World Bank



1 NO POVERTY

- **Fresenius Medical Care** aims to develop innovative products that are not only of the highest quality, but are also affordable so that more caregivers and patients can benefit from them. Based on its experience in operating the company's own dialysis clinics, it does not consider these to be incompatible aims. Between 2013 and 2015, Fresenius has reorganized its research and development activities towards a more global approach which enables the company to respond even better to the demand for improved high-quality yet cost-efficient treatment methods. In doing so, the company continues to take regional market conditions into account by offering a differentiated product range in more than 120 countries. Its new R&D strategy is focused on improving the company's ability to deliver innovative competitive products on time and enhancing focus on developing countries.
- **Sanofi** and PlaNet Finance (a not-for-profit organization) have committed to the fight against poverty and to providing access to healthcare for disadvantaged populations, particularly in Madagascar and Benin, through the creation of supplemental healthcare coverage programs. In Madagascar, most of the Malagasy population works in the agricultural sector under difficult conditions. Their low incomes make it difficult to pay for healthcare. To promote access to quality healthcare for Malagasy entrepreneurs, the Sanofi supported ZINA project enabled a health micro-insurance platform to be established in six Madagascar regions. To date, ZINA has supported nearly 10,000 beneficiaries.



SDG 2

End hunger, achieve food security and improved nutrition and promote sustainable agriculture



2 ZERO HUNGER

OPPORTUNITIES FOR ACTION

- Increase sourcing of **plant, crop and animal inputs from low and middle income countries** for nutrition and medical products and support women and men farmers to increase productivity.
- Collaborate with agribusinesses to develop techniques which **preserve medicinal qualities and nutrients of plants and crops** throughout harvesting, processing, storage and freighting.
- Develop innovative **micronutrient supplements and food fortification** solutions to reduce vitamin and mineral deficiencies.
- Collaborate with Governments, civil society and the UN to **promote breast-feeding** of infants in line with WHO Guidelines.
- Collaborate with Governments, civil society and the UN to increase **access to therapeutic milk and therapeutic foods** to treat severe acute malnutrition.
- Support local production of peanut based therapeutic foods for people with severe acute malnutrition by developing **improved techniques of eliminating aflatoxins**, in collaboration with agribusinesses.
- Invest in **alternatives to antibiotic growth promoters** which are routinely used in animal feed in intensive farming to destroy or inhibit bacteria.
- Develop improved solutions to **protect animals from infectious disease**, reduce the environmental impact of livestock production, and enhance animal well-being.
- **Share data and expertise with policymakers** to inform public policies which reduce undernutrition, over-nutrition and micronutrient deficiencies.

LEADING BY EXAMPLE

- **Abbott's** new production facility in Jhagadia will source up to 80% of its ingredients locally in India in order to meet the growing demand for milk in India, whilst building the supply of high-quality milk

needed for Abbott's growing nutrition business. Working with local suppliers, Abbott is providing tools, training and modern milk cooling facilities to increase the production of high-quality milk, which



Photo: Edwin Huffman/World Bank



2 ZERO HUNGER

will in turn raise rural farmer incomes. Because women play a key role in dairy farming – yet often have little decision-making power – the company is also training women dairy farmers, improving their technical and business skills. Abbott is pursuing a similar strategy around the world as demand for dairy products and better nutrition rises with incomes and with growing urbanization.

- **Royal DSM's** NutriRice uses innovative hot extrusion technology with encapsulated micronutrients to preserve the nutrients typically lost during milling and food preparation. This is an important innovation given that rice is the staple food of more than half of the world's population, yet it contains few vitamins and minerals. NutriRice uses rice flour as a raw material and kernels are mixed with natural rice at a ratio of 0.5 - 2%. NutriRice kernels look, taste and behave exactly like normal rice. In a poor urban setting in Bangalore, India, DSM collaborated with the St. John's Research Institute to conduct a trial to study the effects of NutriRice on school children aged 6-12 years. After six months the children's B-vitamin status had improved significantly and there was an improvement in physical performance, particularly physical endurance, among the children who consumed NutriRice.

- **Eli Lilly's** animal health division, Elanco, is working to break the cycle of hunger in 100 communities around the world by 2017. By 2015 Elanco had already begun to "break the cycle" in more than 50 communities. Elanco has been developing the tools and technologies that protect animals from infectious disease, reduce the environmental impact of livestock production, enhance animal well-being, and eradicate food-borne illness. These, in turn, enable farmers and producers to provide greater amounts of food safely and sustainably.
- **Novo Nordisk AS's** main product offering is insulin for which glucose is a major input. Glucose relies heavily on agricultural land during the farming of corn, which has a significant water footprint. Using water data that measures the water footprint of crops by country, Novo Nordisk used an environmental profit and loss account to better understand how the sourcing location and regional water scarcity influenced risk in the production of glucose. This allowed the company to identify environmental hotspots in the supply chain, manage risks and identify potential cost savings, while reducing its impact on the environment.



SDG 3

Ensure healthy lives and promote well-being for all at all ages



3 GOOD HEALTH
AND WELL-BEING

OPPORTUNITIES FOR ACTION

- Collaborate with Governments, the UN, civil society and technology providers to improve communities' health, nutrition and family planning **knowledge, attitudes and practices** in order to reduce morbidity and malnutrition.
- Share expertise with Governments, particularly in low income countries, to help them strengthen **health systems** including innovative technology and other solutions to support universal access.
- Collaborate with Governments and other healthcare providers to develop a rigorous strategy and plan to address growing **anti-microbial resistance**.
- Collaborate across the healthcare industry and with research organizations, Governments and other stakeholders to develop innovative **low cost preventive and curative** treatments for communicable and non-communicable diseases, considering variants in low and middle income countries and including treatment for multi-drug resistant tuberculosis.
- Adopt **low price, high volume pricing models** to expand access to vaccines, diagnostic tests, pharmaceuticals, supplements and family planning in low and middle income countries.
- Invest in the development of **low-cost medical devices** for low income countries, which are easy to operate and maintain.
- Collaborate with Governments and other stakeholders to develop **epidemic and pandemic risk reduction**, preparedness and response plans.
- Improve **working conditions** for employees across the value chain (including providing support for breastfeeding mothers) and provide employees and their families with **healthcare** services and insurance.
- Improve safety and resilience of staff – and other people in the value chain where feasible – in locations with high disaster risk by developing robust **disaster risk mitigation** and preparedness plans (including emergency first aid and rescue skills) and providing them with physical and psychosocial support after disasters.



Photo: Alfredo Srur/World Bank

LEADING BY EXAMPLE

- **AstraZeneca** has developed an access to medicines program known as Healthy Heart Africa. The number of deaths attributable to cardiovascular disease in Africa grew more significantly than any other condition from 2000 to 2012, and it is currently the third-leading killer in the region, closely behind HIV/AIDS and respiratory infections. Yet it is estimated that in some African countries less than 10% of people with hypertension have access to effective treatment. AstraZeneca launched Healthy Heart Africa in Kenya in 2014 as a first step towards its goal of treating 10 million people with hypertension in Africa over 10 years. Working with local partners, AstraZeneca set about providing training and establishing healthcare centers for screening and treating patients. In 2016, the company will also establish new partnerships to continue to test approaches in Kenya and other countries in the region. There will also be an independent impact evaluation of the program to provide further insight about how Healthy Heart Africa can be expanded and scaled up to other countries.
- **GSK** is applying an open innovation model to target unmet medical needs and overcome significant scientific challenges ranging from Alzheimer's to antibiotics. The company's approach is based on three principles: 1. Access to the company's compounds and data; 2. Greater flexibility on intellectual property; and 3. Partnerships to share expertise, processes and infrastructure. GSK has screened its entire library of over two million compounds for signs of activity against malaria and tuberculosis, two of the world's deadliest infectious

diseases, and the wider scientific community in order to simulate research in these areas. External researchers working alongside GSK scientists at its Open Lab in Tres Cantos Spain have access to the company's compound library, facilities and financial support from the Tres Cantos Open Lab Foundation - an independent charity with £10 million in funding from GSK. Projects at the Open Lab focus on diseases of the developing world.

- In 2014, **GSK** announced a £25 million investment to establish the world's first Africa Non-Communicable Disease (NCD) Open Lab. To address the specific variations of NCDs in Africa, this innovative research network will see GSK scientists collaborate with researchers across Africa on high quality research from a hub at its research and development facility in Stevenage, UK. GSK, the Medical Research Councils of South Africa and the UK Government have together pledged £5 million to help South African researchers study NCDs as part of this Open Lab initiative. As part of the first call for proposals in 2014, GSK committed a further £4 million to support successful proposals for NCD research from Cameroon, Côte D'Ivoire, Ghana, Kenya, Malawi, Nigeria, The Gambia and Uganda.
- **ViiV Healthcare**, a specialist HIV company owned by GSK, Pfizer and Shionogi is contributing to the global effort to tackle HIV/AIDS. In 2014, the company was granted approval in the EU for its innovative antiretroviral treatment - an integrase inhibitor used in combination with other antiretroviral medicinal products for the treatment of adults and adolescents living with



3 GOOD HEALTH AND WELL-BEING



Photo: Eric Miller/World Bank

HIV and secured approval in the USA and Europe for a new single pill treatment. ViiV Healthcare applies a uniform approach to all its medicines with the goal of supporting people in 135 countries affected by HIV. Royalty-free voluntary licenses are offered in all low-income, least-developed and sub-Saharan African countries. In middle-income countries a flexible pricing policy is applied that factors in GDP and the impact of the epidemic on the country. Fourteen royalty-free license agreements with generic manufacturing companies enable international manufacturers to produce and market low-cost versions of all ViiV Healthcare's antiretrovirals to donor agency and public-sector programs.

- **The Innovative Pharmaceutical Industry Association South Africa (IPASA)** represents 25 leading pharmaceutical companies who are dedicated to exploring, developing and bringing innovative, quality medicines to the South African market. This work includes the development of innovative drugs and vaccines, support for programs of research and development for diseases prevailing in developing countries, and research into pediatric medicines.
- **Johnson & Johnson** launched Janssen Global Public Health (GPH) in early 2014 to unify the company's commitment to addressing some of the world's most critical health issues. For instance, Janssen is partnering with Stop TB Partnership's Global Drug Facility and the U.S. Agency for International Development to better facilitate access to its multi-drug resistant tuberculosis compound, SIRTURO® (bedaquiline), for patients in more than 130 low and middle income countries, and to collaborate for continued evaluation of multi-drug

resistant TB treatment regimens with SIRTURO®. In addition, Janssen GPH is collaborating with Harvard Medical School to support research, policy and advocacy to address pediatric and adult drug-resistant TB treatment. To help treat and prevent HIV in at-risk individuals, Janssen GPH expanded its collaboration with the International Partnership for Microbicides to include worldwide development and commercialization of dapivirine to prevent sexual transmission of HIV in women, strengthened country-level capacity, knowledge and action around the needs of HIV treatment-experienced children through the collaborative New Horizons Advancing Pediatric HIV Care initiative, and reduced the cost of its HIV medicine PREZISTA® (darunavir), including pediatric formulations, by almost 20% for sub-Saharan Africa and least-developed countries.

- **Karl Storz GmbH & Co. KG** VisitOR1® is a unique telepresence/ telesurgical robotic device which can be placed in any location within a clinical institution and provide immediate and direct interactions with experts across the globe. With the use of a VisitOR1®, remote locations can access expert advice whilst saving the resources of traveling long distances. Hospitals can benefit by fully utilizing experts throughout their network thus improving outcomes. The device is unique in that it only requires an internet connection to transmit live images from interventions at a moment's notice. With this new system Karl Storz sees great chances in the long run to decisively reduce travel of experts or patients to access experts' knowledge. Further, this device presents a great opportunity for trainee surgeons to be virtually accompanied and guided by experts in other locations.



3 GOOD HEALTH AND WELL-BEING

Antimicrobial resistance (AMR) threatens future growth and prosperity, as well as health. Without global action, the UK's Review on Antimicrobial Resistance, led by Lord Jim O'Neill, estimates that an additional 10 million people will die every year from drug-resistant infections and the global economy will experience a loss of USD100 trillion by 2050. The impact from rising drug resistance will be felt worldwide, hitting low-and middle-income countries hardest.

- **Eli Lilly** launched the Eli Lilly Multidrug Resistant - Tuberculosis (MDR-TB) Partnership in 2003 which has become a US\$170 million commitment from 2003-2016. Through the Partnership, Eli Lilly has worked with nearly 40 partners to elevate Tuberculosis on the global stage; increase awareness, prevention, diagnosis, and treatment outcomes; ensure access to quality assured medicines; and fund early drug discovery efforts. Phase I and II accomplishments include Eli Lilly transferring manufacturing technology to seven companies to increase availability of MDR-TB medicines and improve standards of care; launch of the Eli Lilly TB Drug Discovery Initiative; provision of US\$20 million in funding for TB drug discovery; strengthened capacity of more than 100,000 healthcare professionals to better recognize, diagnose, and treat MDR-TB, and to provide care and support to people with MDR-TB and their families; distribution of guidelines and toolkits to more than 45,000 hospitals and clinics; and education and establishment of partnerships with more than 350 journalists to increase and improve media coverage of TB and MDR-TB. During Phase III the Partnership is targeting four of the highest-burden MDR-TB countries: China, India, Russia and South Africa.
- **Eli Lilly** launched the Eli Lilly non-communicable diseases (NCD) Partnership in 2011 with a commitment of US\$ 30 million over five years. Through the partnership, Eli Lilly is collaborating with seven leading health organizations in Brazil, India, Mexico, and South Africa—four countries with high rates of diabetes, and NCDs in general. Together the partners are leveraging their collective expertise and capabilities to develop and evaluate approaches that strengthen the early detection and

timely treatment of diabetes—with the goal of sustainably improving patient and health systems outcomes while possibly lowering costs. The Partnership has no direct tie to Eli Lilly's diabetes products, although it aims to impact health system capacity and patient outcomes, which may impact demand for its products over time.

- **Novartis International AG** launched Novartis Access in 2015, a portfolio of 15 medicines to treat chronic diseases in low and lower middle income countries. The portfolio addresses cardiovascular diseases, diabetes, respiratory illnesses, and breast cancer and it will be offered to Governments, non-governmental organizations and other public-sector healthcare providers for US\$ 1 per treatment, per month. The Novartis Access portfolio includes patented and generic Novartis medicines. It is being launched first in Kenya, Ethiopia and Vietnam. Over the coming years, Novartis plans to roll out Novartis Access to 30 countries, depending on demand. The products included in the Novartis Access product portfolio have been selected primarily based on the World Health Organization's Essential Medicines List and are among the most commonly prescribed medicines in these countries. Novartis expects this new approach to eventually reach a scale where it will be profitable, making it sustainable over the long term and enabling continuous support in those regions.
- **Novo Nordisk AS's** Base of the Pyramid project is a public private partnership to facilitate access to diabetes care for the working poor in low and middle income countries, initiated in 2012. The project is for people who have difficulties accessing healthcare services but who have some disposable income, are accessible and could contribute to

financing their own treatment. The purpose is to create shared value by developing scalable, sustainable and profitable solutions that increase access to diabetes care while providing value to the business of Novo Nordisk. This 'bottom of the pyramid' project works to ensure increased awareness, early diagnosis, quality care by trained healthcare professionals, stable and affordable supply of insulin, and improved self-management through patient education.

- In 2013, the **Pfizer** Foundation established a Health Delivery and Social Innovation portfolio to help catalyze and scale potential high impact innovations that aim to improve health for underserved populations in low and middle income countries. Investments and grants are made with the goal of generating social impact and growing sustainable organizations that support health care delivery. An example of this is the StartHealth Program, an initiative by Unitus® Seed Fund, in partnership with Pfizer Inc. and the Pfizer Foundation, Narayana Health, Manipal hospitals and PATH, targeted towards identifying, mentoring and investing in early stage health care technology startups in India and Southeast Asia. The program



3 GOOD HEALTH AND WELL-BEING

identifies promising technologies and combines philanthropic grant funding, for-profit seed investing and technical assistance to accelerate the pace of development of health-tech startups and help improve health care systems for patients at the base of the pyramid.

- **Pfizer Inc.**'s Global Health Fellow program places Pfizer employees in individual, three- to six-month assignments with international development organizations to work together to bring about meaningful and systematic improvements in health service delivery. Fellows transfer their biopharmaceutical and business expertise in ways that promote access, quality and efficiency of health care. Fellows work hand-in-hand with community-based partners to help improve health care systems while gaining new perspectives on global health challenges and how the public and private sector can work together to address them. To date, 340,000 hours of skills-based volunteering service have been contributed, with a value of over US\$50 million. Assignments have included Pfizer Fellows working with the International AIDS Vaccine Institute and local research centers in South Africa, Kenya and Uganda to strengthen capacity to conduct and monitor AIDS vaccine trials to meet international standards and expand trial activities.
- **Sanofi** has developed an AllStar™ pen which it describes as 'a state of the art insulin pen for patients in emerging markets'. The pen demonstrates the company's focus on innovation in diabetes and its commitment to finding solutions that are adapted to local market needs. To improve access to affordable devices, in 2012 Sanofi India Limited launched the first re-usable insulin pen manufactured by a global company in India. Allstar™

manufacturing requires state of the art and well controlled processes that Sanofi transferred through a collaborative approach to two local manufacturers based in India. AllStar™ is indicated for patients already using products in Sanofi's insulin portfolio as well as those who are starting to take insulin for the first time. Since it was launched in India, AllStar™ has been marketed in several additional emerging countries including Bangladesh, South Africa, Malaysia, Thailand and Egypt.

- In 2015, **Sanofi** joined Be He@lthy Be Mobile, a ground-breaking initiative led by the International Telecommunication Union (ITU) in collaboration with the WHO, public private sector organizations, Governments, the United Nations, industry and academia, in the field of non-communicable diseases. Using mobile technology, the program helps improve the prevention, treatment and care of non-communicable diseases in more than eight priority countries globally. In diabetes, mobile solutions represent a unique opportunity to create a much-needed continuum of care, from prevention advice to diabetes support for different population segments. A project has already started in Senegal which includes targeted SMS messaging to the general population, people with diabetes and healthcare professionals.
- **Siemens Healthineers** designed, developed, manufactured and marketed a brand new CT scanner in China, which can be used in clinics and by health professionals who are not doctors. This was in recognition of the shortage of qualified doctors and hospitals in China. The scanner is smaller and more efficient than alternatives – it processes images more quickly and uses less energy – cutting the cost of treatment by 30% and

curbing radiation by up to 60%. This lower cost, lower energy CT scanner has been commercially successful in the United States and other major markets outside of China.

- **Unilever** has invested in innovative campaigns and partnerships to improve oral health, recognizing the opportunity to grow its business whilst having a positive impact on health. These include investments in Africa which increased revenue by over a quarter from 2014 to 2015 against a background of poor oral health caused by lack of fluoride toothpaste and scarce dental care, and with 95% of 11-14 year olds from low-income families suffering from untreated dental decay. The company's market-leading brand, Signal, drives communications to raise awareness and improve tooth brushing habits. Signal is also known as Pepsodent (Asia & Latin America), Mentadent (Italy), Zhong Hua (China), Aim (Greece), and P/S (Vietnam). The Signal brand aims to reach 50 million people by 2020, which was already exceeded by 2015, with 71 million people reached via innovative campaigns and partnerships.



3 GOOD HEALTH AND WELL-BEING

SDG 4

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



4 QUALITY EDUCATION

OPPORTUNITIES FOR ACTION

- Promote and invest in **STEM education** (i.e. Science, Technology, Engineering and Mathematics) and **medical training** to secure access to functioning health systems and employees with skillsets which meet future business needs in countries of operation (e.g. doctors, scientists, health technologists and data analysts).
- Educate communities on **healthy lifestyles**, in collaboration with Governments, civil society, the media, health insurers and other stakeholders.
- Educate the medical profession on **new technologies, new treatment methods and responsible prescription of medication**, importantly including antibiotics given the growing drug resistance.
- Invest in **e-health** solutions which enable medical professionals in countries with less developed health systems to remotely consult and learn from medical professionals in countries with more developed health systems.
- Collaborate with research institutions, ministries of health and other stakeholders to improve mutual understanding and capacity to prevent, diagnose and treat **neglected tropical diseases**.
- Provide **training to suppliers** to increase the productivity and sustainability of their operations, ensuring access to high quality, environmentally sensitive inputs.

LEADING BY EXAMPLE

- **Bristol-Myers Squibb** has established a Center of Excellence at the Liver Foundation in West Bengal (India) to build capacity among rural health care practitioners and provide primary and preventive care for liver and metabolic health. This responds to the challenge of rural health care providers having limited or virtually no formal medical training, yet

being responsible for 70% of outdoor health-related visits in rural India. The center will develop a hepatology curriculum and conduct research which will help the company better understand rural health care needs, as well as strengthening awareness of hepatitis and metabolic health among rural populations.



Photo: Eric Miller/World Bank



4 QUALITY EDUCATION

- **Fresenius Medical Care** organizes and supports scientific conferences with international nephrology experts as well as training programs for physicians and dialysis specialists worldwide, thus helping to ensure high quality dialysis. This is especially important in regions where modern health care standards are still being developed. One example is the partnership between Fresenius Medical Care's subsidiary, the Renal Research Institute, and the Sustainable Kidney Care Foundation. This partnership promotes projects, mainly in Africa, that give patients with acute kidney failure access to dialysis treatment, including in regions without an existing supply structure.
- **GSK** aims to establish up to 25 academic chairs and programs in Africa to promote the study of pharmaceutical science, healthcare policy and provision, to further increase the region's skills base. By 2020, the company hopes that this will enhance local research, manufacturing and healthcare capability, helping to secure future investment and build vibrant healthcare economies.
- **Karl-Storz GmbH & Co. KG**, a manufacturer of endoscopes and other medical instruments, partnered with the World Gastroenterology Organization (WGO) to develop three training centers in sub-Saharan Africa to improve standards in gastroenterology training and education. The company provided financial support, endoscopic equipment, and the expertise of its team to help establish the centers, driving significant progress in the field of gastroenterology in the region.
- **Merck KGaA's** "Swaasthya Yatra" (Journey to Health) initiative has helped train around 3,000 physicians and 750 pharmacists in the states of Uttar Pradesh, Madhya Pradesh, West Bengal, and Bihar in India. To provide this service, three specially equipped health vans drive along 50 routes every two months. These vehicles contain a video system, a flat-screen monitor, posters, informational material, and medicines. At locally held seminars, physicians and pharmacists are taught about new therapies and medicines, including those provided by the company. Videos teach basic information on subjects such as splinting broken bones and suturing wounds, as well as primary care in diabetes, high blood pressure, cough treatment, and malaria prevention.
- In 2014, **Mylan** signed a multi-year strategic alliance agreement with Walt Disney Parks and Resorts to help increase awareness and education around anaphylaxis, following an increase in life-threatening (severe) allergic reactions in recent years. The agreement includes updated maps in



Photo: Eric Miller/World Bank



4 QUALITY EDUCATION

Disney's domestic theme parks and on its cruise ships, as well as updated signage in the parks that highlight locations with the company's EpiPen® and EpiPen Jr® Auto-Injectors. Over time, the company plans to introduce a variety of supplemental educational resources. The company also created a Get Schooled in Anaphylaxis™ educational initiative in 2012 to help those in school settings know how to respond when anaphylaxis occurs. Additionally, more than 64,000 schools have participated in the EpiPen4Schools® program which provides free EpiPen® Auto-Injectors to U.S. schools.

- **Novartis International AG** created Arogya Parivar ("healthy family" in Hindi) in India where 830 million people live in rural areas and an estimated 65% of the total population does not have access to healthcare. Novartis recruits and trains local people in remote villages to become "health educators," who help inform communities about health, disease prevention and the benefits of seeking timely treatment. Local teams work with doctors to organize health camps in remote villages using mobile clinics that provide access to screening, diagnoses and therapies, including those provided by the company. From 2010 to 2013, outreach in rural areas across 10 Indian states has brought health education to more than 10 million people and direct health benefits to 760,000 patients through diagnosis and treatment. Arogya Parivar is

a leading example of shared value and has received several awards, including the GBCHealth Business Action on Health award in 2013. Given Arogya Parivar's success in India, Novartis has replicated the program in Vietnam, Kenya and Indonesia. The initiative has been adapted to local market conditions and disease prevalence in each country.

- **Promega Corporation** embraces the perspective that shared knowledge across global networks ensures that the science community can fulfill its potential. To this end, the BioPharmaceutical Technology Center Institute (BTC Institute), Promega Corporation and other sponsors work together to coordinate the annual International Consciousness Forum. The event is geared towards the general public and focuses on sharing information from the worlds of natural and social sciences, as well as leading discussions on related social issues. The company contributes to science education for children of all ages and has also developed a Webinar Series, which provides noncommercial live webinars to scientists around the world free of charge. Scientific topics range from basic science concepts to highly technical research presentations. This communication channel allows unique interactions between young and senior scientists in the areas of genomics, proteomics, genetic identity and cellular analysis, and connects them to the company.
- **Sanofi Morocco** ("Sanofi-Aventis Maroc"), together with the Ministries of Health and Industry, designed an agreement that aims to share Sanofi's supply chain management expertise. Through this agreement Sanofi helps train technicians, engineers and staff working in the Ministry of Health in connection with careers in the pharmaceutical industry. Training includes good distribution practices, hygiene, safety and environment, and logistics and distribution. This seeks to address the needs identified in Morocco in terms of poor estimation of drug needs by public hospitals, absence of a hospital information system, unsuitable storage of local products, gaps in the inventory management and lack of means for the destruction of expired drugs. By the end of 2014, more than 700 people had been trained.

SDG 5

Achieve gender equality and empower all women and girls



5 GENDER
EQUALITY

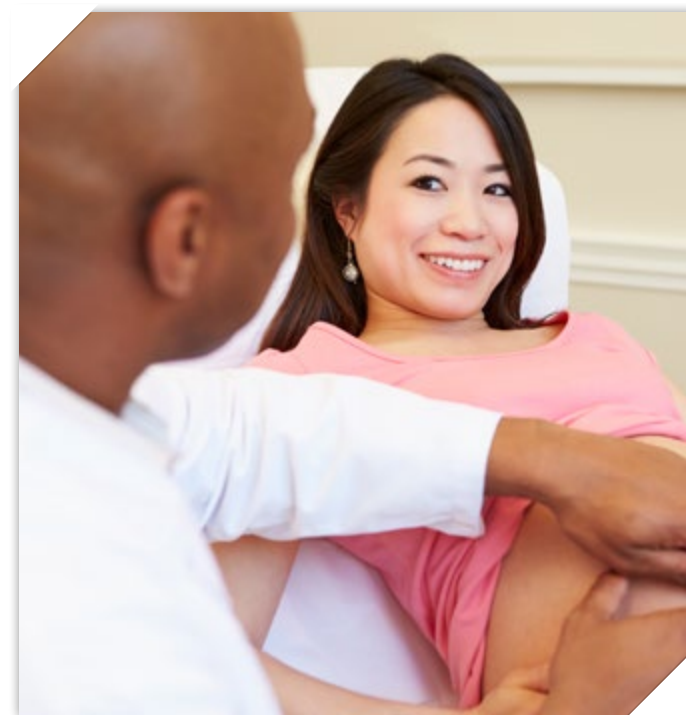
OPPORTUNITIES FOR ACTION

- Develop scalable approaches to improve **reproductive healthcare** in low and middle income countries by increasing access to information, contraception, pharmaceuticals, medical supplies and services.
- Support global **partnerships for maternal and newborn health**, such as the UN's Every Woman Every Child initiative, as well as partnerships with mobile phone companies which provide antenatal and postnatal information to pregnant women and new mothers.
- Collaborate with insurers to increase women's access to **health insurance**.
- Identify and include more **women-owned businesses** in the supply chain, and help to develop their capacity as needed.
- *Increase the share of **women on company boards** and in senior roles, and invest in policies and programs that support women in the workforce and encourage organizations in the value chain to do the same.*

LEADING BY EXAMPLE

- **Johnson and Johnson** is tracking health education programs in targeted communities around that world that focus on increasing individual and public understanding of basic health information. One example is mMitra, a mobile health partnership with the Mobile Alliance for Maternal Action, USAID, the UN Foundation, BabyCenter, Johnson & Johnson and ARMMAN, a Mumbai-based NGO. The program sends preventive care voice messages to pregnant women and new mothers twice a week. The messages go directly to their mobile phones

in their chosen language and preferred time slot corresponding to the stage of their pregnancy or the developmental stage of their child. The program plans to reach up to one million new and expectant mothers, promoting positive health behaviors in low-income urban communities across India. This program helps the company fulfil its Healthy Future 2015 enterprise goal, while building meaningful connections with new consumers.





5 GENDER EQUALITY

- **Merck & Co.** has committed US\$ 500 million over 10 years to an initiative called “Merck for Mothers” which focuses on improving the health and well-being of mothers during pregnancy and childbirth. It includes more than 50 projects in 30 countries around the world, with a particular focus in five countries: India, Senegal, Uganda, the United States and Zambia. Its goal is to test innovative models that expand women’s access to affordable, quality care with the potential to be scaled and sustained. For example, Merck for Mothers, Ferring Pharmaceuticals and the World Health Organization are partnering to further develop and provide access to a heat-stable formulation of carbetocin to prevent excessive bleeding in women after childbirth. Access to a heat-stable formulation where it is needed in low and lower middle income countries worldwide could enable health providers to save more women’s lives.
- **Merck & Co.** has been working with partners to increase access to its reproductive health products in areas of greatest need. In 2011, Merck & Co. and the Reproductive Health Supplies Coalition (RHSC) announced a partnership to enhance access and appropriate and effective use of IMPLANON (etonogestrel implant) for qualified buyers in developing countries. Under the initiative, Merck made IMPLANON available at Merck & Co.’s lowest access price to donor agencies and family planning

members of RHSC in sub-Saharan Africa, and in all other low income countries and lower middle income countries with maternal mortality ratios of less than 200. In 2013, Merck & Co., along with various partners announced a multi-year agreement to further decrease prices and expand contraceptive access and options for millions of women in the sixty-nine UN Family Planning 2020 focus countries.

- **Novo Nordisk AS’s** Changing Diabetes® in Pregnancy program was established in 2009 to advocate for gestational diabetes (GDM) screening and management as a key to improve maternal health and prevent type 2 diabetes, provide evidence on the cost-effectiveness of doing so, support pilot projects that show how it can be done. Focusing on Low- and Middle-Income Countries the program works with the diabetes and maternal health communities to raise awareness on GDM and improve access to diagnosis and care, including the company’s products. The program has supported the International Federation of Gynecology and Obstetrics (FIGO) to create a global framework for action to improve the diagnosis and care of women with GDM. It has also supported GDM screening and management projects in Colombia and Nicaragua, and recently initiated a new project to help define a model for the roll-out of the new national GDM guidelines in India.



Photo: Gennadiy Ratushenko/World Bank

SDG 6

Ensure availability and sustainable management of water and sanitation for all

OPPORTUNITIES FOR ACTION

- **Reduce water consumption** in hospitals and production facilities and treat, recycle and reuse wastewater.
- Support ministries of health, private healthcare providers and communities to safely manage **medical waste** to avoid contamination of water sources.
- Minimise and appropriately treat **effluent** from production facilities to avoid contamination of water sources.
- Inform **public policies** and investment in potable water, hygiene and sanitation as key health determinants.
- Engage in **collective action** approaches to water stewardship and disclosure, such as the CEO Water Mandate and the Water Action Hub, which are platforms to unite companies, Governments, NGOs, and other stakeholders on a range of critical water projects in specific river basins around the planet.
- Sign the **WASH pledge** of the World Business Council for Sustainable Development which calls on companies to **implement access to safe water, sanitation and hygiene at the workplace**.

LEADING BY EXAMPLE

- **Abbott** has achieved a 19% reduction in its water intake (adjusted for sales) against its commitment of a 30% reduction by 2020, compared to its 2010 level. It has used global water risk mapping tools from the World Resource Institute (WRI) and the WBCSD to help identify manufacturing plants in water stressed regions, and it is participating in the CDP Water Reporting Program to share critical data on its water performance while also gaining valuable insights into the water performance of other companies in the healthcare sector and beyond. Some of Abbott's nutrition sites achieving significant reductions in water use include: its Columbus, Ohio, plant reduced water usage by more than 46 million gallons (13% annually) through cooling tower water reclamation and reuse, among other projects; its China facility decreased water usage by 12% through projects such as recovering evaporator condensate which also saved fuel.
- **Eli Lilly** has introduced a number of initiatives to reduce water consumption. For example, in 2014 after performing a detailed environmental assessment, Eli Lilly launched a streamlined process for manufacturing the active pharmaceutical ingredient in its insulin product in Indianapolis which reduced purified water use



6 CLEAN WATER AND SANITATION



Photo: Eric Miller/World Bank

and process waste generation by 30% per unit of production, without increasing per unit solvent and urea waste volumes. In 2015, Eli Lilly implemented a similar conversion at its plant in Puerto Rico, further reducing Eli Lilly's global environmental footprint.

- **Teva Pharmaceutical Industries** has several initiatives to reduce water use (through optimizing processes and improving equipment) and reduce waste. For example, the company's Ulm-Weiler facility in Germany was using a highly complex waste-water treatment plant which was expensive and difficult to maintain. By identifying opportunities to optimize upstream sections of the plant, the company reduced chemicals and waste, reduced energy used by nearly 50% and created financial savings. In Israel, the company's Assia site is located in a desert and it relies heavily on water and electricity for cooling, ventilation, the operation of lab equipment and other necessary actions. By replacing three cooling towers with a closed loop cooling system, Teva reduced water consumption by 59% and electricity consumption by 31%.

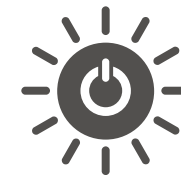


6 CLEAN WATER AND SANITATION



SDG 7

Ensure access to affordable, reliable, sustainable and modern energy for all



7 AFFORDABLE AND CLEAN ENERGY

OPPORTUNITIES FOR ACTION

- Improve reliable **access to energy** in all health facilities and medical storage facilities including those located in rural areas, fragile states and least developed countries.
- Increase **energy efficiency** in health facilities and production plants, for example modernizing combined heat and power systems in hospitals.
- Develop and use **health technology** which has low embedded energy and reduced energy consumption during operation.
- Increase the proportion of **energy consumed from renewable sources** through direct operations and encourage suppliers to do the same. For instance, join the **RE 100** pledge to move towards 100% renewable power.

LEADING BY EXAMPLE

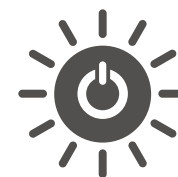
- **Actavis** has installed a solar thermal power system at its location in Zug, Switzerland, providing hot water requirements for canteen and sanitary services. This facility also operates an innovative heat recovery system which uses groundwater to cool buildings in the summer via air conditioning, and to heat them during colder months. Further, the Actavis manufacturing plant in Iceland is powered completely by renewable energy, and in 2011 Actavis installed a solar water heating system at its Malta facility to serve the supply packaging and analytical services laboratory.
- **Aspen** is a member of the Energy Efficiency Leadership Network (EELN). The EELN was formed

during 2011 by the National Business Initiative in partnership with Business Unity South Africa and the South African Department of Energy to drive the continuous improvement of energy efficiency in the South African business sector, leading to enhanced international competitiveness and greenhouse gas emission reduction. Aspen expects its participation to assist it in understanding national and industry climate change objectives, and in considering alignment of Aspen's environmental management policies, objectives and targets.

- **Fresenius** Group's Hospital Decision, HELIOS, has installed combined heat and power plants and gas turbines in 30 hospitals, doubling the Company's



Photo: Curt Carnemark/World Bank



7 AFFORDABLE AND CLEAN ENERGY

number of heat and power plants to combat the extensive water and energy use required by hospitals. HELIOS is successively switching the heating of its hospitals over to renewable energies, including wood pellets. This form of heating is CO₂-neutral and therefore more environmentally friendly than gas or oil heating. The steps taken have resulted in the company generating approximately 34,500 tonnes less carbon emissions in 2014, far surpassing its target of a 10,000 tonne reduction

- **Eli Lilly** uses renewable energy to diversify its energy sources and decrease greenhouse gas emissions. It uses direct generation as well as direct and indirect purchases of renewable energy from local utilities. At five facilities worldwide, Eli Lilly generates electric power using photovoltaic arrays. A 9.95-megawatt solar system, completed in 2014, adjacent to its subsidiary in New Jersey in the United States, covers more than 40 acres and is one of the biggest of its kind for an East Coast non-utility company. The system generated 13.2 million kWh of electrical energy in 2015 and provided 31% of the power needs of the overall site.
- **Merck KGaA**, a leading science and technology company in healthcare, life science and performance materials, helps its customers and end users save energy. For example, it has developed innovative liquid crystal technologies for displays which utilize 15% more light from the display's backlighting, thus reducing the device's energy consumption by up to

30%. In 2015 Merck acquired the start-up Olight Nanotech, headquartered in Jerusalem, which is developing a quantum material technology that will help further enhance the color spectrum and energy efficiency of displays.

- **Mylan** uses natural gas, biofuel briquettes and other alternative fuels in many of its manufacturing facilities. Whenever possible, it sends waste from laboratories and manufacturing activities to waste-to-energy facilities or cement kilns that convert it into energy or steam used for heating. Some of Mylan's sites in India purchase electricity from third-party suppliers that utilize renewable energy, such as solar and wind power. In addition, one of the company's API plants generates steam from a mixture of coal and rice husks, producing up to 60% of its electricity. Mylan reports that four of its API manufacturing sites were the first in India to have met an internationally recognized benchmark, ISO 50001, for superior performance in managing energy responsibly and its other sites are introducing similar systems so that they too may receive this certification.



SDG 8

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all



8 DECENT WORK AND ECONOMIC GROWTH

OPPORTUNITIES FOR ACTION

- Promote **skills training, virtual learning platforms**, secondments and partnerships between hospital groups and other healthcare providers to increase capacity and innovation in developing markets.
- Increase **local sourcing and manufacturing** of vaccines, pharmaceuticals, diagnostic tests, medical supplies and medical devices in low and middle income countries.
- **Integrate small-scale producers** into value chains and provide them with support such as training, connections to supplier networks for lower cost joint procurement, and access to finance.
- Provide targeted **internships** for young people from disadvantaged backgrounds in order to promote social mobility whilst also enhancing company performance through increased workforce diversity.
- Create opportunities for lower paid workers to develop their **skills** and gain access to improved professional opportunities, both within and outside of the healthcare and life sciences industry.

LEADING BY EXAMPLE

- **GSK** promotes local manufacturing in developing countries, using joint ventures and technology transfer arrangements which build the capabilities of developing countries to research and manufacture vaccines and medicines, while increasing the company's access to these markets. For example, in Brazil GSK partners with FioCruz, a leading public health research institution, to manufacture vaccines that address the country's public health priorities and develop a vaccine for dengue fever. In India,

GSK has entered a joint venture with Biological E, an Indian Biotechnology company, which is developing a six-in-one combination vaccine containing the Inactivated Poliovirus Vaccine. In Africa, GSK is investing £100 million to expand its existing facilities in Kenya and Nigeria and to build new factories in other locations to ensure the sustainable production of medicines in Africa for African people.





8 DECENT WORK AND ECONOMIC GROWTH

- **Takeda Pharmaceutical Company Ltd's** Sustainable Procurement Program develops economic opportunities for the communities in which the company and its employees live and work by purchasing goods and services from economically and socially diverse businesses, particularly small businesses and businesses owned by women, minorities, and others. As well as purchasing from these businesses, Takeda mentors small and diverse businesses and participates in trade shows and outreach events to identify small and diverse prospective suppliers. In 2014, Takeda spent approximately US\$169 million with small U.S. businesses including those owned by women, minorities and others. Supplier diversity provides overall value by giving Takeda access to new and innovative products and services while optimizing price, quality, and availability, and is in keeping with its overall corporate commitment to responsibility and sustainability.



Photo: Anvar Ilyasov/World Bank

SDG 9

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE

OPPORTUNITIES FOR ACTION

- Collaborate with Governments and other companies to unlock complementary **investments in infrastructure** around health and production facilities, including transportation, power and communications.
- Build environmentally sensitive and **resilient hospitals**, primary healthcare centres and production plants and share expertise to inform leading practice construction guidelines.

LEADING BY EXAMPLE

- **AstraZeneca** is constructing a new purpose-built facility on the Cambridge Biomedical Campus which is home to its UK-based global research and development centre and corporate headquarters, including 2,000 employees. The company is working closely with construction partners to achieve 'excellent' ratings for sustainability performance under the Building Research Establishment Environmental Assessment Methodology. The steps AstraZeneca is taking include: using optimal heat differentials in cooling technology to minimize energy consumption; optimizing the use of natural light in place of artificial light; installing a combined heat and power station to meet energy needs on site; and installing rainwater recovery systems throughout the site.
- **Bristol-Myers Squibb's** engineering group has embraced the green building standards under the Leadership in Energy and Environmental Design (LEED) Green Building Rating System for construction of its new biopharmaceutical manufacturing facility in Devens, Massachusetts. Leveraging that experience, green building concepts are now incorporated into the company's engineering design guidelines, and LEED criteria are considered and implemented, where appropriate, in all projects.
- The **South African Medical Device Industry Association (SAMEDI)** represents around 160 manufacturers and suppliers of medical devices used in the diagnosis, prevention, treatment and amelioration of disease and disability. In 2014, the Medical Device Manufacturers'



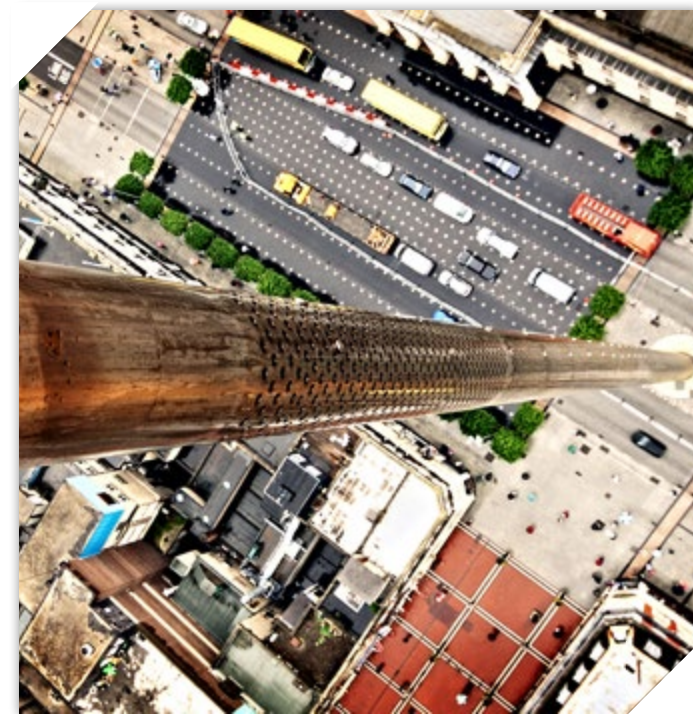
Photo: Jim Pickerell/World Bank



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Association (MDMSA) joined SAMED as an affiliate association. The MDMSA supports local manufacturers by creating and facilitating opportunities for locally produced medical devices in the South African market, helping to create a viable local South African medical device industry. SAMED and MDMSA keep an up to date list of local manufacturers and local capabilities to support their active engagement with Government departments to create awareness of the South African medical device manufacturing industry.

- **Siemens AG**, a leading medical device and industrial conglomerate, aims to be the world's first major industrial company to achieve a net-zero carbon footprint by 2030. The company plans to cut its carbon dioxide (CO₂) emissions – which are currently about 2.2 million metric tons a year – in half by as early as 2020. To achieve these goals, the company will invest EUR100 million over the next three years to reduce the energy footprint of its production facilities and buildings.



SDG 10

Reduce inequality within and among countries



10 REDUCED INEQUALITIES

OPPORTUNITIES FOR ACTION

- Collaborate with ministries of health, private healthcare providers and insurers to improve sharing of (anonymized) healthcare data and advance **e-health** solutions to accelerate universal access to quality healthcare.
- Enable pharmaceutical companies in low and medium income countries to produce **generic drugs**, by permitting exemptions to patents in these countries.
- *Create opportunities for lower paid workers to develop their **skills** and gain access to improved employment opportunities, both within and outside of the sector.*
- *Pay staff a **living wage** and encourage other companies within the value chain to also pay living wages.*
- *Adopt **equal opportunity** policies prohibiting discrimination in all forms and encourage others in the value chain to do the same.*

LEADING BY EXAMPLE

- **Abbott** believes that diversity in its suppliers is essential to its ability to compete, so it collaborates with diverse groups that reflect the community it serves. The company finds that diversity brings new perspectives to the table as it works to develop collaborative, innovative solutions. Abbott's supplier diversity policy ensures equitable opportunities are afforded to businesses that are either small or are majority owned and operated by a woman, a member of an ethnic minority, a veteran or a person

with a disability. In 2015, this spend was US\$950 million, representing 8% of total spend in Abbott's global supply chain. This included a 4% annual increase in spending with small businesses and a 5% increase in spending with small women-owned businesses. One example of success in 2015 was Abbott's expansion of its partnership with Marathon Medical, a veteran owned business, through an agreement to supply the U.S. Indian Health Service with US\$30 million of supplies.





10 REDUCED INEQUALITIES

During 2015, Abbott increased its engagement with advocacy organizations, including joining the board of the United States National Minority Supplier Development Council.

- **Aspen's** South African sites, centered in Port Elizabeth, represent 64% of the Aspen Group's tablet manufacturing capacity. Aspen's ongoing investment in its world-class manufacturing hub in South Africa has contributed positively to the region by increasing employment opportunities and has contributed to the development of its employees. In addition to this, it has and will continue to pursue its strategic objective of creating business opportunities for downstream Broad Based Black Economic Empowerment entrepreneurs. Over the last nine years, the Group has invested more than ZAR 6.5 billion (US\$ 415 million) to expand, upgrade and refurbish its manufacturing facilities, largely related to facility investment projects at the South African sites.

- **Merck & Co.** understands that by consistently harnessing the knowledge and insights of a diverse workforce - one with unique backgrounds and affiliations - the company is able to deliver more innovative solutions and create products to meet a more diverse set of patients around the world. A clear expectation is set for all leaders within the company to achieve global diversity and inclusion goals. The company's CEO chairs the executive diversity governance structure which includes nine Employee Business Resource Groups supporting women, African ancestry/black, Hispanic/Latino, Asian/Pacific Islander, Native American/Native Indigenous, interfaith, lesbian gay bisexual and transgender, differently abled, and veteran employees. The company has also established a Global Diversity & Inclusion Center of Excellence which oversees its integrated efforts to include diversity and drive inclusion in all business practices.



SDG 11

Make cities and human settlements inclusive, safe, resilient and sustainable



11 SUSTAINABLE CITIES
AND COMMUNITIES

OPPORTUNITIES FOR ACTION

- Participate in public-private partnerships to **strengthen healthcare infrastructure** and linkages between urban, peri-urban and rural areas.

LEADING BY EXAMPLE

- In 2015, **Merck KGaA** joined a German-Chinese research project known as Semizentral. The term “Semizentral” stands for an interurban, semi-centralized approach to supplying and treating water, wastewater and organic waste, while recovering water, energy and nutrients. This public-private partnership is led by the Technische Universität (TU) Darmstadt, which is partnering with Tongji University in Shanghai and the Qingdao Technological University. The first resource recovery center (RRC) pilot plant is now operating in Qingdao, a metropolis in eastern China. This facility treats wastewater from homes, which can then be used as service water, mainly for toilet flushing. This approach significantly lowers the freshwater consumption of an entire city district of roughly 12,000 inhabitants. An integrated bio-gas plant utilizes sewage sludge and bio-waste to generate all the energy needed by the RRC. Merck's Life Science business sector is contributing its

knowledge in the area of water analysis, and has provided test kits and measuring instruments, teaching university staff how to use these tools. The RRC represents a technological milestone in the development of efficient, modular water infrastructure. In May 2015, Semizentral won a GreenTec Award, Europe's biggest environmental and business prize, in the urbanization category. On top of that, in November 2015 the project placed in the top three in the research category of the 2015 German Sustainability Award.

- **Mylan's** leaders decided voluntarily to forge ahead and reduce Volatile Organic Compound (VOC) emissions coming from the company's Morgantown, West Virginia, plant while U.S. Environmental Protection Agency officials debated in 2010 whether to impose more stringent air-quality standards. Mylan installed regenerative thermal oxidizer technology that year which between 2011 and 2014 eliminated more than 1,000,000 pounds of solvent



emissions from the atmosphere. As a result, families and communities in and around the area are breathing easier. The county's 8-hour ozone level average from 2011-2013 was 12% lower than its 2005-2007 average.

- In 2014, **Novo Nordisk AS** launched Cities Changing Diabetes – a cross-disciplinary and cross-sector partnership program to identify and address the root causes of the rise of type 2 diabetes in urban areas, and to facilitate implementation of integrated and sustainable solutions in response to the local diabetes challenge. Today, 65% of 415 million people with diabetes live in cities, amounting to nearly 270 million people. By 2040, this is projected to rise to 74%. Based on these facts Novo Nordisk believes that cities are important focal points for developing solutions to tackling diabetes.



11 SUSTAINABLE CITIES AND COMMUNITIES



SDG 12

Ensure sustainable consumption and production patterns



12 RESPONSIBLE CONSUMPTION AND PRODUCTION

OPPORTUNITIES FOR ACTION

- Collaborate with other stakeholders to promote healthy lifestyles and improve **preventive healthcare**, thereby reducing the resource burden of curative healthcare.
- Increase access to **maternal, child and family health services** in low and middle income countries, which over time will reduce birth rates.
- Invest in **telehealth and telecare** to reduce patient travel and improve quality of care, thereby concurrently improving sustainability.
- Collaborate across the value chain to reduce emissions generated by **transportation** of pharmaceutical and medical supplies to healthcare facilities, for example switching to vehicles powered by renewable energy, moving from air to sea freight, and increasing efficiency of logistics processes.
- Phase out hydrofluorocarbons (HFCs) and derivative chemical refrigerants from cold chains, replacing them with **natural refrigerants**.
- Apply the concept of a circular economy by designing medical devices with **end of product lifecycle reuse** and recycling in mind, and which consume reduced power in use.
- Develop and implement improved processes to **reduce, reuse and recycle** water, raw materials, non-renewable minerals, energy, other inputs, by-products, hazardous waste, non-hazardous waste and packaging.
- Factor an **internal carbon price** into capital project decisions.

LEADING BY EXAMPLE

- **AstraZeneca's** Sweden operations completed an ambitious Air2Sea project in 2015 that established sea freight distribution networks to 13 countries. Switching to the transport of goods by sea achieves

a massive 97% CO₂ saving compared with air transport. The project, which accounted for 80% of local exports, supported the company's overall goods transport emissions reduction of 7% in 2015



(-17% from its 2010 baseline). It also delivered wider business benefits including improved product security, improved temperature regulation, and cost savings of around US\$ 9 million.

- **AstraZeneca's** Avlon site in the UK is the manufacturing home of the active pharmaceutical ingredients for two of its key medicines. In 2012, AstraZeneca embarked on a £4.7 million investment in a major new facility for the recovery of solvents used in the production process of one of these active pharmaceutical ingredients. Solvents are otherwise a significant hazardous waste stream of the manufacturing process. In 2015 the recovery unit processed 480,000 liters of solvent waste thereby avoiding 85% of previous virgin solvent use, reducing production costs by 4.5%, and generating savings of over £ 0.4 million (US\$ 0.6 million). This contributed to a 3.4% reduction in the company's total hazardous waste generation. The project also significantly reduced road haulage for the transport of virgin and waste solvents, and generated a significant reduction in carbon dioxide emissions. Savings are projected to increase to £ 0.7 million (US\$ 1.1 million) in 2016, with payback of the original capital investment expected after seven years.
- **Bristol-Myers Squibb** deployed a cross-functional team to reduce the size of package inserts for Abilify (aripiprazole), an antipsychotic medicine. The redesigned insert uses 25% less paper and requires 25% fewer insert trays, 15% less corrugated material and 40% fewer finished goods pallets. This has resulted in savings of 70 tons of paper, 1.5 million gallons of water and US\$ 1.8 million. As the team looked at the project more closely, they realized they could achieve even greater savings by making changes throughout the finished goods production cycle, from sourcing to distribution. They further reduced costs by printing the insert locally in Humacao, Puerto Rico, where Abilify is manufactured (instead of in the United States) and by changing from air freight to sea freight of the finished product to the United States. In all, the project achieved annualized savings of US\$ 2.7 million and reduced carbon emissions by 1,180 tons.
- **Fresenius Medical Care** aims to further reduce the impact of dialysis treatment on the environment whilst saving on resources and ensuring cost efficiency. The company does this by using ecologically sustainable dialysis products and constructing environmentally sensitive dialysis centers. A central element for managing the efficient use of resources in its dialysis clinics is its clinic software e-con5, a comprehensive environmental management system which has been established in dialysis clinics in Europe and Latin America. It enables the company to gather and compare environmental performance data and quickly implement potential improvements. This system has systematically reduced water and energy consumption as well as the amount of blood-contaminated waste in dialysis centers.
- **GSK** works closely with suppliers to investigate ways to reduce their collective environmental impact (around 40% of GSK's carbon footprint comes from its supply chain). In 2014, GSK collected carbon, water and waste data from over 200 of its largest materials suppliers, covering over



12 RESPONSIBLE CONSUMPTION AND PRODUCTION

£1 billion of its spending on raw materials used in manufacturing and research and development. More than 500 suppliers have now been asked to share practical ideas about improving energy efficiency and reducing other environmental impacts. This is done through the GSK Supplier Exchange – a private online forum where suppliers can collaborate with each other and GSK to share practical ideas about improving resource usage, saving water and increasing energy efficiency.

- **Sterilmed**, a Johnson & Johnson member company, provides a service to reprocess Single Use Devices that have previously been used on a patient and are typically disposed of as medical waste. Sterilmed is an FDA-registered medical device manager, providing an affordable solution for hospitals faced with the challenge of reducing costs without compromising patient care. The company helps customers significantly reduce their environmental footprint by eliminating medical waste that would otherwise end up in landfills or incinerators. Reprocessing helps divert millions of pounds of medical waste from landfills and incinerators each year.

- **Johnson and Johnson's** Earthwards® approach focuses on improving the social and environmental impacts of products by targeting improvements in seven key areas including materials, packaging, energy, waste, water, social and innovation. Earthwards® uses life-cycle thinking to identify and implement significant sustainability improvements to the company's products. In product development, Johnson & Johnson seek opportunities for green chemistry, removal of materials of concern and more sustainable packaging solutions. At the end of product life, the company works to encourage recycling and reprocessing of used equipment. Products receive Earthwards® recognition when they achieve at least three significant improvements across seven impact areas, and at least one improvement is made to a medium or high life-cycle assessment impact area or hot spot. One example of a product receiving an Earthward® recognition was Band-Aid® Brand Bandages, which reduced materials used by 29%, reduced packaging by 58%, increased shipping efficiency by 60% and reduced waste by 59%.
- **Sanofi** achieved a 15.8% reduction between 2010 and 2015 in combined scope 1 and scope 2 CO2 emissions from its industrial and research and development sites, towards its target of a 20% reduction by 2020. To achieve this, Sanofi has developed strategic partnerships with energy sector leaders, implemented renewable energy projects at its sites in India, and continued its vehicle policy which includes increasing eco-driving sessions. Further, Sanofi achieved a 24% decrease in CO2 emissions from the transport of medicines

between 2010 to 2015 by using maritime transport; in 2015 86% of Sanofi's international shipments of medicines were transported by sea, compared to an average of 28% for other health companies.

- **Takeda Pharmaceutical Company Ltd** undertook environmental impact assessments of its operations in Japan and overseas by applying LIME (Life-cycle Impact assessment Method based on Endpoint modelling). This methodology was developed as a national project in Japan for making a quantitative overall assessment of various environmental impacts including CO2, waste and chemical substances. Based on the results of these assessments, the company is addressing key environmental issues, using the expertise it has acquired in Japan to reduce its environmental impact globally. Takeda has defined an internal "environmental efficiency index," equal to net sales divided by the total environmental impact cost as measured by the LIME assessment. Takeda will use the index to help assess the relationship between Takeda's business activities and the environment.



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Photo: Anvar Ilyasov/World Bank

SDG 13

Take urgent action to combat climate change and its impacts



13 CLIMATE ACTION

OPPORTUNITIES FOR ACTION

- Invest in preventative and curative healthcare research, product and service design that responds to the **health impacts of a changing climate** which include: changing patterns of vector-borne, food-borne and water-borne diseases; increased air pollution; undernutrition; and heat-related mortality, exhaustion and stroke, particularly for vulnerable groups.
- Collaborate with Governments to help design and build resilient health systems able to anticipate, respond to, cope with, recover from and adapt to **climate-related shocks and stresses**. These include not only the health impacts above but also increased morbidity and mortality arising from natural disasters (heatwaves, floods, droughts and storms), conflict and forced migration.
- In conjunction with Governments and the World Health Organization, integrate meteorological data and new technologies into **disease surveillance** and early warning systems.
- Design and implement natural **disaster risk mitigation**, preparedness, response and recovery plans at manufacturing, healthcare and storage facilities in high-risk locations.
- Set **science based carbon emission targets** in line with the sectoral decarbonisation pathway and encourage suppliers and distributors to do the same.
- *Set an internal price on carbon in line with a 2-degree Celsius pathway in order to redirect investments towards a low carbon future.*
- *Take steps to **measure, reduce and report climate exposure** and progress on actions to confront climate change on an annual basis, continuing to increase the level of transparency and consistency of reporting across the healthcare and life sciences industry.*
- *Support high level partnerships and industry associations **advocating** for responsible public policies on climate.*



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13 CLIMATE ACTION

LEADING BY EXAMPLE

- **Abbott** has created an Executive Crisis Management Team (ECMT) to ensure Abbott's continued ability to fulfill vital healthcare needs in communities around the globe, and to support its stakeholders and mitigate risks to its supply chain. This is in response to the increased frequency and severity of natural disasters which increase demand for critical food and medicines, while also complicating the delivery of these life-saving products. The ECMT is tasked with: managing the safety and security of Abbott employees, managing the risks to business continuity, and being prepared to serve others during catastrophic events. ECMT is comprised of two senior leadership teams with cross-divisional, multifunctional representation. Having two teams ensures full-shift coverage of a crisis with around the clock management, when necessary. Abbott also has a network of trained Crisis Action Teams which include 32 country-specific Crisis Action Teams that manage events locally and support the ECMT as necessary.
- **Fresenius Medical Care** provides funds, dialysis machines and medical supplies for institutions that need specific aid quickly in crisis situations such as natural disasters resulting from climate change. For example, in North America the Fresenius Medical Care Incident Command Center coordinates emergency task forces in critical situations such as during hurricanes, storm surges or in the tornado season, in collaboration with the Kidney Community Emergency Response Coalition. After the devastating earthquake in Nepal in 2015, the company provided dialysis machines, water treatment systems, and disposable accessories, enabling dialysis patients to receive their vital treatment even though many medical facilities and items of equipment were badly damaged by the earthquake.



SDG 14

Conserve and sustainably use the oceans, seas and marine resources for sustainable development



14 LIFE
BELOW WATER

OPPORTUNITIES FOR ACTION

- Understand and quantify the **healthcare value of marine resources** (including fish, aquatic plants and other marine life) for healthcare supplements and pharmaceuticals, in order to inform public policies and conservation activities.
- Analyze the **pollutant risks** which ingredients, pharmaceuticals and waste products pose to the marine environment (including trace amounts of pharmaceuticals in waterways) and take appropriate preventive and mitigating action.
- Support programs that collect unused and **expired medicines** from patients and inform them on safe disposal, including the importance of not flushing unused medicines down toilets.
- Ensure supplier and distributor companies shipping goods by sea adhere to **environmental standards for marine shipping**.

LEADING BY EXAMPLE

- **AstraZeneca** is continually looking for ways to better understand, avoid and manage risks associated with the presence of trace amounts of pharmaceuticals in waterways. At the start of 2015, the company initiated a €10 million (US\$ 11.3 million) partnership with the European Commission under the Innovative Medicines Initiative. This project – called Intelligent Assessment of Pharmaceuticals in the Environment – aims to develop screening tools for identifying the environmental risks both earlier on in drug development and for older medicines.
- **Johnson & Johnson** has developed a Global Aquatic Ingredient Assessment™ (GAIA) protocol to better understand how its products interact with water environments. GAIA analyzes the impact an ingredient might have on an aquatic environment and the fish and plant life that live there. Ingredients are evaluated against the GAIA criteria and given a score. By calculating how much of an ingredient is used in a product and the score of that ingredient, a product can be given its own score. For products with lower scores, the company works to improve the formulation to reduce any potential impact on aquatic life.



Photo: Arne Hoel/World Bank



14 LIFE BELOW WATER

- **Eli Lilly** introduced a new water quality goal to reduce absolute phosphorus emissions in wastewater discharge by 15% by 2020, compared to 2014. This addresses an issue that is increasingly important to communities, regulators and investors. The company believes that significant source reduction will require phasing out and replacing cleaning agents with non-phosphorus based alternatives. Technical teams at Eli Lilly are evaluating existing cleaning processes and will apply learnings to key sites worldwide.
- **Sanofi** supports take-back programs that collect unused and expired medicines from patients and inform consumers about their safe disposal. This initiative aims to protect local ecosystems, as many consumers incorrectly flush unused medicines down the toilet, resulting in contamination of water resources. Sanofi has supported such programs in 15 countries, including Brazil, Colombia, Mexico, Philippines, Saudi Arabia and Venezuela. In Colombia, the Punto Azul (Blue Point) program has set up collection points for unused medicines across 23 Colombian states, representing 48% of the country's population. This program, which is funded by manufacturers and importers of medicines, was created by the National Association of Colombian Enterprises (ANDI) in 2010.



SDG 15

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



15 LIFE
ON LAND

OPPORTUNITIES FOR ACTION

- Understand and quantify the **healthcare value of plants, biodiversity and ecosystem services** in order to inform public policies and conservation activities.
- Research and develop cultivated **plant alternatives** to ingredients currently sourced from wild plants, in order to improve reliability of supply and preserve biodiversity of natural habitats.
- Evaluate **sourcing and packaging** practices and determine ways to mitigate ecosystem degradation and biodiversity loss.

LEADING BY EXAMPLE

- **Abbott's** nutrition plant in Jhagadia, India, reuses water from the plant to nourish a forest of eucalyptus and casuarina trees planted on-site. Studies show these efforts are improving the groundwater table and soil fertility.
- **Novartis International AG** has established its own carbon-sink forestry projects in Argentina, Mali, China and Colombia, rather than purchasing emission credits. Whilst supporting its ambitious emission reduction target, these projects deliver additional environmental and social benefits to local communities. In Argentina, the project focuses on growing a forest of more than 3 million trees to

offset carbon and create sustainable wood products. In Mali, the rural energy project has established a Jatropha plantation, the seeds of which can be used for bio-fuel for energy in rural areas and produce a natural fertilizer. In China, the reforestation project will protect the local land from soil erosion, landslides and flooding, and provide labor and income to local communities. In Colombia, the company planted 356 hectares of local tree species in a rapidly developing area.

- **Takeda Pharmaceutical Company Ltd** uses biological resources as ingredients for herbal and traditional medicines and it indirectly utilizes



Photo: Jim Pickerell/World Bank

these resources in its research and development activities. Most of these ingredients are from cultivated plants but some are sourced from wild plants. Takeda is currently studying the feasibility of switching to cultivated plants in order to ensure stable procurement and help conserve biodiversity of natural habitats. For example, since 1996 Takeda has been conducting research into in-house cultivation of medicinal licorice, succeeding in developing and registering an easy grow variety

called Miyako No. 1 which is currently being trialled for mass production. Further, for over 80 years the Takeda Garden for Medicinal Plant Conservation (in Kyoto) has collected, grown and used herbal and other plants with medicinal value from around the world. The Garden currently grows about 2,800 species of plant, of which 2,214 have medicinal value and 127 are endangered plant species which the Garden is preserving (with the goal of increasing the number for preservation to 150).

SDG 16

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels



16 PEACE, JUSTICE
AND STRONG
INSTITUTIONS

OPPORTUNITIES FOR ACTION

- Identify and assess risks of **conflict minerals** in medical device supply chains by identifying suppliers of 3TG metals (Tin, Tantalum, Tungsten and Gold), designing a process of necessary due diligence for those suppliers, and exploring alternatives to 3TG metals.
- Collaborate with Governments, donors, NGOs and other companies to provide free or low cost physical and mental **healthcare services in fragile states** and for victims of human rights abuses (including former slaves and child soldiers).
- Adopt and apply robust **bioethical principles** and support countries with less developed health systems to understand and apply international best practice on bioethics.
- Design and implement a robust **anti-bribery and corruption** compliance program including Government and private sector healthcare related procurement and supply.
- Collaborate with other healthcare providers and health insurers to combat **fraudulent healthcare insurance claims**.
- *Demonstrate ethical leadership by publishing a **statement on human rights** consistent with the UN Guiding Principles on Business and Human Rights, sign up to the ten principles of the UN Global Compact including human rights, and (if applicable) adopt the UNGC 'Food and Agricultural Business Principles'.*
- *Apply the UNGC 'A Guide to Traceability: A Practical Approach to Advance Sustainability in Global Supply Chains' as a basis for improving **traceability** of products, parts and materials in the supply chain to ensure reliability of sustainability claims covering human rights, labor, anti-corruption and the environment.*



Photo: Curt Carnemark/World Bank

LEADING BY EXAMPLE

- **The Board of Healthcare Funders of Southern Africa** (BHF) is a representative body to the healthcare funding industry whose members include medical schemes, administrator organizations and managed care organizations in South Africa, Lesotho, Zimbabwe, Namibia, Botswana, Mozambique and Swaziland. BHF has created a Healthcare Forensic Management Unit (HFMU) to combat healthcare provider fraud. Along with waste and abuse, healthcare provider fraud has a dramatic impact on the already constrained resources of the medical schemes industry, thereby being detrimental to the funding industry's ability to ensure the best possible patient care. It is estimated that at least 7% of medical aid claims are fraudulent and the figure might be as high as 15%. HFMU has drawn up an industry standard and guideline to streamline co-operation and collaboration.
- **Eli Lilly's** Bioethics Program is an independent organizational unit reporting to the chief medical officer. Amongst other activities, Eli Lilly instituted a Bioethics Framework for Human Biomedical Research in 2010 to fill the void that existed because most bioethics guidance focused on the responsibilities of clinical investigators and ethics review boards rather than industry sponsors. The Eli Lilly Bioethics Framework consists of four basic principles (respect for persons, beneficence, non-maleficence and justice) and 13 essential elements for conducting ethical human biomedical research. In 2015 Eli Lilly published papers explaining how it developed and implemented the framework in the

hope it will stimulate discussion that benefits the multiple parties involved in pharmaceutical human biomedical research. Eli Lilly has also developed a number of position statements related to bioethics issues such as stem cell research, pediatric medicine, and multinational clinical trials.

- **Merck** has joined forces with the Asia Pacific Economic Cooperation (APEC) to drive public policy change which economically empowers women and improves their health. Merck together with Governments in the Philippines, Mexico and the United States, representatives from the public and private sectors, as well as non-governmental organizations, worked together to develop a policy toolkit aimed at better supporting women in the following five areas: workplace health and safety; health access and awareness; work-life balance; sexual and reproductive health; and gender-based violence. The toolkit was launched in the Philippines in September 2015, and the first set of projects has since been initiated. In October 2015 the toolkit was presented in Mexico City to a conference of female legislators representing 160 countries. Furthermore, the 21 APEC member states have set the goal of incorporating toolkit components into their legislation by the end of 2019.
- When **Mylan's** business went global in 2007 it learnt that many manufacturers outside of the United States which were supplying to the United States market, were seldom or never inspected by the U.S. Food and Drug Administration. Mylan



16

PEACE, JUSTICE AND STRONG INSTITUTIONS



Photo: Julio Etchart/World Bank



16 PEACE, JUSTICE AND STRONG INSTITUTIONS

played a crucial role in shaping landmark U.S. legislation called the Food and Drug Administration Safety and Innovation Act. The law expanded the FDA's authority and strengthened its ability to safeguard and advance public health. Mylan believes that drug quality around the world is being enhanced by its persistent and creative approach to finding a legislative solution to restore a level playing field in the U.S. and increase FDA inspection rates around the world.

- **The South African Medical Device Industry Association (SAMEDI)** established a Government Supply Process Committee which has worked steadily towards partnering with Government in order to overcome shortcomings in the supply chain management (tender) systems, outstanding payments and also the reporting of contraventions for alleged corruption in Government supply chain processes and legislation. SAMEDI members supported the transition of tender processes from the National Treasury to the National Department of Health, and the nationalization of infrastructure standards for medical devices.

- **Pharmaceutical Company Ltd** has launched a three year program in Kenya in partnership with the global not for profit organization, Plan International, to promote digital birth registration through trainings for community health workers and staff in health clinics, the wider community and local Government officers. The program targets digital birth registration of 25,000 children in 2 counties of Kwale district in Kenya, with the goal of vaccinating 100% of children under 23 months in the targeted areas. The program aligns to and supports the Government's 'Kenya civil registration department strategic framework 2013-2017' supported by the Ministry of Health and Education.



SDG 17

Strengthen the means of implementation and revitalize the global partnership for sustainable development



17 PARTNERSHIPS
FOR THE GOALS

OPPORTUNITIES FOR ACTION

- Strengthen the link between corporate and societal value creation and align the organization's value creation strategy to the Sustainable Development Goals.
- Adopt good practice principles and guidelines which better align business practices with sustainable development.
- Engage in multi-stakeholder initiatives advancing sustainable development.
- Establish a robust impact measurement framework for corporate, multi-stakeholder partnership and industry level contributions to sustainable development including regular monitoring and transparent evaluation and reporting.
- Collaborate with other healthcare and life sciences companies and stakeholders to provide industry perspectives to Governments, policymakers, legislators and regulators on the sustainable development impact of legislative, regulatory and tax frameworks including recommendations for improvement.

LEADING BY EXAMPLE

- **Kitasato Daiichi Sankyo Vaccine Co., Ltd.** (KDSV) provided technical cooperation for strengthening the capacity for measles (MR) vaccine production to POLYVAC (the Center for Research and Production of Vaccines and Biologicals in Vietnam) from March 2006 to March 2010 as part of international cooperation between the Japanese and Vietnamese Governments. Following this, KDSV has been providing technical cooperation utilizing

the production technology for the MR vaccine under a five year contract which started in 2013. KDSV will contribute to the establishment of MR vaccine production in Vietnam and support a decrease in the infection rate of measles and rubella.

- In 2015, **Johnson & Johnson** announced an extended agreement with the Yale Open Data Access Project to provide access to its portfolio



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17 PARTNERSHIPS FOR THE GOALS

of medical devices products, setting new industry standards by being the first company to do so. Johnson & Johnson is committed to enhanced transparency and increased engagement with stakeholders.

- **Mylan's** role in stemming the tide of HIV/AIDS goes beyond supplying high quality, affordable anti-retrovirals. The company also works closely with AIDS organizations to shape market policy and with local Governments to determine how to swiftly implement HIV treatment guidelines. Mylan reports that it is the only generic pharmaceutical company working with the Global Fund to Fight AIDS, Tuberculosis and Malaria on policy matters. As the 2015/17 alternate board member of its Private Sector Delegation, Mylan is advising the Global Fund on how to make sure the impact of its investments is sustainable. In addition, the company's global scope combined with its deep knowledge of local markets enables it to provide its international AIDS partners with valuable feedback on how their global goals can work in individual countries. Mylan partners with a wide variety of organizations including the Clinton Health Access Initiative; UNITAID; UNICEF; the Bill &

Melinda Gates Foundation; Global Fund to Fight Aids, Tuberculosis and Malaria; the World Health Organization; and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR).

- In January 2012 **Sanofi** entered into a data sharing collaboration with the Worldwide Antimalarial Resistance Network (WWARN), to aid in its attempt to detect and fight resistance to current anti-malarial drugs around the world. Through this agreement, Sanofi will provide data to WWARN's central database of information relating to anti-malarial drug resistance, for medication developed by Sanofi and the Drugs for Neglected Diseases initiative (DNDi). Although mortality rates due to malaria have fallen by more than 25% since 2000, these gains are now threatened by an emerging resistance to the globally-recommended artemisinin-combination therapies in Southeast Asia. It is therefore crucial that all stakeholders join forces to monitor and fight the spread of these resistances to life-saving drugs, and invest in the search for new medicines. In 2013 Sanofi signed a similar partnership with ACT Consortium in order to share safety data on this anti-malarial medicine with academic researchers.

- The **Global Health Innovative Technology Fund** (GHIT Fund) is a pioneering non-profit public private partnership established by the Government of Japan, a consortium of six Japanese pharmaceutical companies including Takeda, the Daiichi Sankyo Group and the Bill & Melinda Gates Foundation, aimed at promoting the discovery and development of new drugs to fight communicable diseases in developing countries. Takeda is involved in various GHIT Fund initiatives including agreements with Medicines for Malaria Venture to develop two anti-malarial compounds (DSM265 and formulate ELQ300), and an agreement with the Drugs for Neglected Diseases initiative to develop an innovative drug for the treatment of visceral leishmaniasis.

KEY CONTRIBUTORS

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