

Innovation in Global Health

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The process of innovation seeks to convert ideas or inventions into new goods, services, methods or processes that have an added-value for people and that are replicable at an economical cost. Innovation has to be differentiated from improvement, though both terms are often used in parallel. Improvements aim at making small changes rapidly to an existing product, service or process whereas innovation imply taking massive leaps forward. If most innovations are improvements, improvements are not necessarily innovative.

Innovations can be divided into incremental innovations that are brought about by advances in science, technology or processes, mostly through on-the-job practice, and breakthrough innovations which are often disruptive and tend to emerge through research and development (R&D).¹

As first described by Gabriel Tarde's diffusion or "S" curve, innovations have a life cycle with a start-up phase, a maturity point and an eventual decline when new investments in the process, product or service yield no significant return.

Innovation in the field of Global Health

Innovating in the field of global health could be defined as reaching out to more people, through more qualitative, inclusive, effective and affordable health services brought by science, technology or social leapfrogging. Much remains to be done to actually fulfil this ambition. But bringing technological, social, governance tools or financial innovations to scale and able to interact with each other can certainly play a role in it.

In 2005, all WHO Member States committed to achieve Universal Health Coverage (UHC)², acknowledging that access to quality healthcare without financial risk for people who need health services was a key determinant of better health and well-being for all, and an essential component of human development. As part of this endeavour, investing in research was deemed essential to produce innovations that could translate into accessible and affordable health services with an added benefit.

Research in its technological, social, governance or financial dimensions, has thus been the main driving factor for innovation in the health sector since 2005. The inclusion of UHC as a target (3.8³) of SDG 3 in 2015 also fostered the potential to develop, pilot and scale up innovative health services, processes, products and tools, particularly in underserved regions and countries.

In its 13th general programme of work for the period 2019 - 2023⁴, WHO reiterated its ambition to achieve Universal Health Coverage for 1 more billion people, while also addressing health emergencies, and promoting healthier populations. As part of this programme, a new "innovation hub" has just been launched that will look at "ways of scaling and sustaining innovations towards accelerating progress."⁵

Against this backdrop, WHO and ten sister organisations⁶ also launched an initiative "Towards a Global Action Plan For Healthy Lives and Well-Being for All" in October 2018, by which the 11 signatories commit "to **Align** ... joined-up efforts with country priorities and needs, to **Accelerate** progress by leveraging new ways of working together and unlocking innovative approaches, and **Account** for ... contribution to progress in a more transparent and engaging way."⁷

Central to this “triple A approach”, innovation accelerators in finance, in programmatic priorities to put front-line primary health care as the first entry point to health systems, in community / civil-society engagement as well as in R&D or data collection and analysis, are a step in the right direction. But operationalizing good intentions will certainly require painstaking efforts.

Further innovations are needed to improve the effective delivery of quality, inclusive and affordable health-care services or essential medicines and vaccines, what could in turn stimulate economic growth, and eventually reduce the cost of health services and decrease mortality, in particular among people affected by chronic and infectious diseases.

To do so, innovations are necessary not only in the scientific and technological fields, but also in social sciences, governance or finance to bring to scale quality, accessible, inclusive and affordable health services and products, to increase citizen’s participation in their own health, to define new governance models or tools, to overcome siloed approaches to innovation and to increase the capacity and resilience of health systems to reach UHC.

This paper will look at the various innovations fields playing a role in global health and at their potential for increasing impact to reach UHC by 2030. It will also review how the Global Fund envisages innovation and will propose a series of key advocacy messages to promote possible development paths.

Research & Development for quality, accessible and affordable healthcare

Global strategies

The WHO strategy on research for health was approved at his 63rd World Health Assembly (WHA) in May 2010. It reflected the organisation’s global strategy and plan of action on public health, innovation and intellectual property, and included 5 interrelated goals: organization (strengthening the research culture in WHO), priorities (focusing research on priority needs), capacity (helping to strengthen national systems for research), standards (promoting good practice as to setting norms and standards) and translation (strengthening linkages between research, policy and practice).

Building on the strategy on research for health, WHO published a report on “research for Universal Health Coverage” in 2013, that highlighted the fundamental role of scientific research in improving human health and provided a number of concrete examples that demonstrated the value of R&D in terms of health outcomes⁹, and how innovations could save lives. Indeed, R&D is a critical element for improving the quality, accessibility and affordability of healthcare.

Five years down the road, the 71st WHA of 15 March 2018 unfortunately admitted that “although progress has been made in certain aspects of both innovation and access, many of the challenges that motivated the formulation of the global strategy and plan of action on public health, innovation and intellectual property remain, and new challenges have emerged,”⁹ including “a lack of new health products in areas of need and of sustainable financing, the unaffordability of many new medicines, a lack of essential health products and inappropriate use, ineffective delivery and supply chain infrastructure and the absence of a robust regulatory framework, and trained personnel, mainly but not exclusively in developing countries.”¹⁰ A fairly bleak picture, that called the WHA to provide further recommendations in terms of prioritizing research and development needs, promoting R&D, building and improving research capacity, promoting transfers of technology, managing intellectual property to contribute to innovation and public health, improving delivery and access, promoting sustainable financing mechanisms and establishing a monitoring and accountability mechanism.

As a matter of fact, making healthcare more qualitative, accessible and affordable through scientific research and development still requires major efforts. If new global health partnerships have emerged and contributed to changing the landscape of R&D, e.g. CEPI or the TB Alliance, incentivizing the development of new antibiotics or medicines for infectious diseases when markets are narrow or fragile has become necessary. Pharmaceutical companies alone will not invest USD 1 to 1.5 billion (the cost of bringing a drug from concept to market) in the absence of a mid to long-term market potential. This is the case of malaria drugs that are usually needed for a short period of time. And most patients in Sub-Saharan Africa simply cannot afford paying the price these medicines are sold on western markets. Right innovations for the markets that need it, at the right prices is the equation that needs to be solved.

Possible solutions such as Product Development Partnerships (PDPs) have emerged that enable the public, private, academic and philanthropic sectors to cooperate and aggregate funding for the development of health products, e.g. for Neglected Tropical Diseases (NTDs), while removing the risk for pharma companies to engage in the process.

R&D in the North, needs in the South

But developing new drugs, vaccines or health products is just not enough. R&D and innovations in the health sector are either disconnected from health systems in the developing countries that most need them, or cannot collaborate with health systems that are too weak to support innovation. Three specific barriers can hinder their early adoption and decrease expected impact: access to the market through early registration by national regulatory authorities, intellectual property rights, and raising awareness of the health workforce as to the availability of new products.

National regulatory frameworks are necessary prerequisites to access local markets. In November 2016, WHO estimated that “at least three out of ten National Regulatory Authorities (NRAs) (were) not fit for purpose”¹¹ as a consequence of limited resources, resulting in long approval timeframes for new medical products. However, WHO developed a collaborative registration process to which twenty-two NRAs in Africa were participating in 2016 and that had facilitated fast-track registration of hundred fifty-two essential medicines in seventy-eight days vs. several years previously.

Training and supervising health workers also drives how innovations reach users and are accepted by patients. Capacity-building increases knowledge and skills, but also helps reinforcing trust between practitioners and communities to accept innovative approaches, tools or products.

Disconnection between innovations and markets could be partially overcome by stimulating and incentivizing R&D in endemic countries, either through transfer of technologies or by facilitating partnerships with local innovators and manufacturers in low- and middle-income countries to design local, patient-centred solutions that are closer to markets, and to boost local production of medicines and medical technologies.

WHO recently published statistics on the gross domestic expenditure on R&D in the health and medical sciences (health GERD) for 68 countries.¹³ Though not fully significant given the limited number of countries and the varying years of reporting, data show that high income countries (HICs) dedicate 0.19% of GDP to health R&D, 6.3 times more than investments done by upper middle-income countries (UMICs) and by low & lower middle-income countries (LICs + LMICs). WHO also disclosed that there are over three times more researchers in HICs than in UMICs and 37 times more than in LICs.¹⁴ The health institution analyses that “Investments in health R&D are still insufficiently aligned with global public health demands and needs. As little as 1% of all funding for health R&D is allocated to diseases such as malaria and tuberculosis (diseases that are predominantly incident in developing countries), despite these diseases accounting for more than 12.5% of the global burden of disease.”¹⁵

Established in 2011, **WIPO Re:Search** is a public-private partnership administered by the World Intellectual Property Organization (WIPO) in collaboration with BIO Ventures for Global Health (BVGH). Members include pharmaceutical companies, academic institutions and product development partnerships. Its mission statement is “Improved global health through innovation that mobilizes intellectual property and the power of private and public sector collaborations.”¹²

Against the backdrop of increasing antimicrobial resistance and emerging infectious diseases, R&D needs in developing countries (and where market failures have been identified), risk being underfunded or simply neglected to the benefit of more lucrative innovations. In fact, investments in R&D have tended to stall since 2009 at around USD 3.2 billion / year,¹⁶ with investments for HIV / AIDS, malaria and tuberculosis accounting for 70% of investments on neglected diseases in 2016.

In this context, working on the enabling environment for investment and increased domestic revenue mobilisation for a more balanced R&D, as well as reaching the “capacity goal” of the WHO research strategy for health, whereby the organisation intends “to support the development of national health research systems,” remain of critical importance.

Unitaid is a unique initiative that “brings the power of new medical discoveries to the people who most need them,”¹⁷ by connecting researchers with developers and markets. Using the tools of innovative financing, in specific the solidarity levy on airline tickets implemented by France and a handful of countries, Unitaid seeks to increase access to health innovations to make them be used at scale, in order to accelerate progress towards elimination of HIV, TB, malaria or hepatitis C.

Digital health

Digitalisation of the health sector is still work in progress in developed economies. But in LMICs, building digital health infrastructure and investing in mobile network infrastructures could help leapfrogging technologies and advancing much faster towards UHC. Digital technologies offer the potential to optimise prevention, treatment approaches and diagnostic tools, thus improving patient care and potentially reducing its cost.

Computer scientists at Anglia Ruskin (UK) and Putra (Malaysia) universities have developed a mobile phone testing system that has a 98% accuracy in diagnosing tuberculosis, using a biosensor.¹⁸ The system enables doctors and health workers who have poor access to testing facilities in remote areas to detect TB-specific antibodies in a patient’s sputum. Via a smartphone’s camera, the app analyses the colour of the sample and delivers a diagnosis within seconds. If ever launched, the system would not replace a physician diagnosis but would greatly simplify an early detection of the disease and could contribute to reducing underdiagnosis.

Above example offers a good understanding of the various areas of digital health that, when combined, could provide a real added-value at a reasonable cost in under resourced settings. Big data,¹⁹ the Internet of medical things (IoMT),²⁰ m-health,²¹ telehealth,²² wireless health all have a huge potential for innovation that could unlock the digital health market and access to prevention and care in the coming years. The m-health App Economics Survey 2017²³ identified that there were 325,000 health apps available that year (78,000 more than in 2016), equating to around 3.7 billion downloads in 2017, a 16% increase from the year before. But if investors have injected USD 5.4 billion in digital health in 2016, the market is still not ripe, with 55% of all health apps downloaded less than 5,000 times, and only 2% counting 500,000 monthly active users.

With 83% of m-health practitioners coming from North America and Europe, NTDs and other infectious diseases’ endemic countries are clearly underrepresented in the sector, in spite of a huge potential due to inadequate health infrastructures and services that digital health could at least partially compensate for (as to prevention, diagnosis or monitoring for instance).

While recognising the need for ethical use of big data in digital health and for establishing and implementing health data governance, investing in digital health infrastructure and mobile connectivity is crucial to accelerate UHC and enhance access of hard-to-reach populations to healthcare. It would however require stronger participation and involvement of LMICs in shaping the R&D agenda to overcome the misalignment between research funding in high-income countries and needs/priorities in LMICs, as well as in identifying successes and best practices to address UHC challenges more efficiently, and increase learning. It would also imply building the capacity of people and institutions in LMICs to develop or absorb digital innovation and harness disruptive digital technologies to address development challenges and better manage risks.

Investing in innovation ecosystems in low-resource countries could provide a real opportunity to address UHC gaps and possibly allow LMICs to develop innovations that would find their usefulness in high-income countries too.

Social innovation in healthcare for inclusive and affordable services

Social innovation in health is defined as bringing creative, unconventional solutions to systemic health challenges and structural failures that neither the market nor the administrative sphere have managed to solve, through social engagement and collaboration with communities to develop more inclusive, effective and affordable services for all. It differs from traditional top-down processes implemented in the health sector by a more inclusive, person-centred approach where “people are competent interpreters of their own lives and competent solvers of their own problems.”²⁴ G. Mulgan, a pioneer of social innovation also defines it in a much simpler way: “new ideas that work.”²⁵

Social innovation is no doubt one of the most promising yet overlooked fields of action to accelerate progress towards UHC. Why is that? Social innovation is a bottom-up process that requires consideration to grassroots initiatives and attention to ideas developed by social innovators at community level. In other words, a whole system is needed to detect social innovative approaches, to understand why they work, to bring them to scale when they are effective to improve healthcare delivery, to disseminate experiences with health practitioners in similar contexts, to facilitate replicability and enhance sustainability. For global financing institutions with uneven access to their field operations, it is a significant challenge. As well as for policy-makers. As a matter of fact, out-of-the-box, creative ideas developed by grassroots communities do not always get the buy-in they deserve.

SIHI initiatives

Yet, social innovation has gained momentum in Europe²⁶ over the last years as much as in low- and middle-income countries, bringing concrete solutions to everyday problems. One of interesting initiatives is the Social Innovation in Health Initiative (SIHI), launched in 2014 by a network of academic institutions and the Special Programme for Research and Training in Tropical Diseases (TDR²⁷), hosted by WHO.

Through a series of collaborations, SIHI has developed a process to identify and learn from social innovations in health, and has studied a series of projects across the globe that have a potential to increase inclusiveness, equity of access to and affordability of healthcare in LMICs.²⁸ Hundred and fifty eligible projects were identified in 2015, out of which twenty-three innovations in fifteen countries were analysed.

In 2017-2018, seventy-nine additional projects were identified and are currently being reviewed. The SIHI process starts with crowdsourcing²⁹ community-based, citizen-led initiatives that are reviewed and selected based on seven general criteria (appropriateness of the solution to the need, degree of innovativeness, inclusiveness, affordability, effectiveness as well as scalability and sustainability) and four country-specific criteria, researched and analysed before their findings are disseminated and innovations promoted through online media, conferences or publications. Quite a number of projects have already shown positive results as well as a potential for replication:

The Living Good project in Uganda trains community health workers and provides them with an initial loan to purchase preventive and curative health products (such as antimalarials, treatments for diarrhoea) as well as household items that they sell to their community, delivering basic health care and earning a minimal income.³⁰ The project would have contributed to decrease child mortality by 27% between 2011 and 2013 in these communities. Through collaboration with NGOs in Myanmar or Zambia, Living Goods intended to reach 6.5 million people by the end of 2018.³¹

The Kheth'Impilo project trains high school graduates to become assistant pharmacists in four provinces of South Africa, where these professionals are missing. When fully trained, they work under the supervision of pharmacists and can order and deliver medicines to people on ART or in need of treatment for heart diseases, hypertension or else. From a few students in 2011, the project had trained more than 800 in 2016, filling a gap in the health delivery chain as well as providing a job to 400 of them. Results of a study revealed that this training model was cheaper than the other one (where nurses were trained to deliver medicines) and provided better health outcomes (reduction in expired medication, fewer stock-outs). Previously unemployed, these graduates now bring USD 4.4 million per year in salaries to their communities.

In 2017 social innovation hubs were created in the university of Malawi, the university of the Philippines as well as in Uganda, further highlighting the progressive institutional buy-in of the process and the need “to accelerate (the) capacity to innovate and (launch) new organisations and models that can better meet people’s needs for care, jobs and homes.”³²

Social innovation and the private sector

The first issue of social innovation for companies, lies in the adaptation of their offer to the entire public, targeting in particular poorly developed services, underserved populations, emerging needs, etc.

But the private sector also seeks innovative approaches as part of their corporate social responsibility (CSR), for their own employees or for communities that they serve. It can include direct funding or support to external social initiatives, promoting employees' engagement in volunteer activities, or improving employees access to healthcare in low-income settings.

In their review of health-related CSR in Africa³³, USAID reported that “within the context of globalization, companies increasingly see the need for a triple bottom line – not only emphasizing profit but also social and environmental benefits as part of their business model.” In the framework of their CSR, innovation is considered as a key business incentive, along cost-savings, long-term economic sustainability or customer and employee engagement, where “R&D efforts have generated new and more efficient solutions to social and environmental problems.”³⁴

Safaricom, Kenya's mobile phone operator created the Health Enablement and Learning Platform (HELP) in 2012, through its M-PESA Foundation, and in partnership with Kenya's Ministry of Health, AMREF and Accenture Development Partnerships. HELP is a community-based programme centred on ensuring the most vulnerable and marginalised people get access to health care services. HELP provides Community Health Volunteers (CHVs) with training material to educate people on health issues and encourage them to visit the clinics. As a mobile-based technology, it is designed to work with basic mobile phones.

The HELP programme has proved effective in areas where there is shortage of skilled health workers, lack of health facilities, high poverty level or where there are cultural barriers. Thanks to an investment worth EUR 1.2 million, phase 2 of the programme has started, where 3,000 CHVs will be recruited and trained.

Social innovation in health can contribute to advancing the Global Health agenda and help achieving some of the targets of SDG 3. Yet, few of the multilateral health institutions seem to pay attention to grassroots initiatives, or if they do, they do not see their potential for greater impact, and have not put in place the necessary policies and tools that would allow detecting and analysing their capacity for more qualitative, inclusive, effective and affordable health services and their possible replicability to accelerate impact of their actions. Investing in social innovation ecosystems in low-resource settings is as necessary as designing new approaches for innovative finance. If business as usual is not an option anymore to reach the targets of health-related SDGs by 2030, then social innovation in health should be considered as a critical determinant of policies for healthy lives and better health for all.

Social innovation in health is probably not the only key to achieving UHC, but it can certainly contribute to accelerating the path towards it along with R&D, innovative finance or innovative models or tools for a renewed governance.

In this respect, the joint initiative “Towards a Global Action Plan for Healthy Lives and Well-being for All”³⁵ will seek, among other priorities, to unlock innovative approaches and make progress towards achieving SDG 3 goals, through a series of “accelerators.”³⁶ Though the accelerating process as such is not mentioned, accelerator 2 (frontline health systems), 3 (expanding community and civil society engagement), 5 (R&D, innovation and access) and 7 (innovative programming in fragile and vulnerable states) could provide a solid foundation for piloting social innovations into the Global Action Plan. In particular, accelerator 5 encompasses social sciences research as a means to achieve health goals, while considering the identification of best practice and transition to scale as effective pathways to do so. Collaboration with social innovation networks and academic institutions involved in the sector should be envisaged as part of phase 2 and 3 of the “triple A approach.”

The Global Fund and other multilateral health organisations are already investing in social innovation. But it seems that this investment is not yet valued as having enough potential to be consolidated and formalised as a specific approach or a policy in its own right, thus not yielding as many results as it should, if considered as a priority intervention to put people at the centre of their strategies.

Reverse & frugal innovation for cheaper, qualitative and accessible healthcare

Reverse innovation is defined as “the flow of ideas from emerging to more developed economies.”³⁷ The concept emerged some years ago when multinational western companies were trying to find innovative solutions to unmet needs, or to sell products designed for richer countries in a low-cost version to developing economies, with limited success. Reversing the innovation process, i.e. transferring innovations from emerging markets to high-income countries then appeared as an effective means to better adapt to local needs, promote creativity and decrease costs.

The health sector eventually considered “frugal innovation” positively and adopted a model for it in healthcare where 5 key factors were seen as drivers. Innovations have to be “better, relevant to the local context, simple, easily tested and visible to others”³⁸ to be adopted and spread. But why would these innovations work better than those developed in western economies? In their book “Reverse innovation, create far from home, win everywhere”³⁹ V. Govindarajan and C. Trimble detail the 5 gaps that, according to them, explain why opportunities for reverse innovation emerge, and how these gaps progressively close as innovations are adopted by high-income countries. As a matter of fact, in low-resource settings, innovators have to overcome multiple challenges to develop solutions adapted to their economy:

- **The performance gap:** “developing economies are most eager for breakthrough new technologies that deliver decent performance at an ultralow-cost.”⁴⁰ Starting with existing devices and technologies to achieve such model is almost impossible. New and cheaper approaches are needed, that can be more easily developed in LMICs.
- **The infrastructure gap:** while developed economies usually have good physical, social or economic infrastructures, those are still lacking in low-income countries. What hinders the development of the economy can however be a distinct advantage to leapfrog to new technologies (e.g. electric grids vs. solar panels, wind turbines or biogas, telephone landlines vs. mobile networks that have allowed the early development of mobile banking or digital health applications).

- **The sustainability gap:** leapfrogging to cutting-edge technologies also permits more environmentally-friendly investments through less resource-intensive and greener approaches.

- **The regulatory gap:** existing regulatory frameworks in high-income economies can hinder innovation as they do not evolve as fast as technologies do. Lighter regulations in LMICs can allow testing and implementing new technologies faster.

- **The preferences gap:** innovations must take local taste and preferences into account. Customers in HICs may adopt innovations when they meet local taste in developed economies (e.g. preference for natural/organic products vs. artificial ingredients).

Building on such disruptive approaches, that intends to deliver more value to more people at cheaper cost with fewer resources, the “Innovation Countdown 2030 Initiative”⁴¹ proposed 4 strategies to accelerate the impact of innovation in healthcare: tapping and supporting innovation wherever it occurs, assessing and advancing innovation that deliver the most for the money, developing new financial mechanisms for global health innovation and coordinating investment to ensure a strategic approach to health innovation.

While good examples of reverse innovations in the health sector exist⁴², where cost, quality of and access to healthcare have greatly benefited from resourceful and low-cost innovative ideas developed in LMICs, particularly for chronic diseases, there is still limited understanding of reverse and frugal innovation benefits and uptake by health professionals and global health organizations. If global health actors want to increase impact of their policies and reach SDG 3 by 2030, such model is certainly worth considering.

At the limited though noticeable exception of GAVI’s INFUSE platform⁴³, global health institutions have not really measured the value-added of reverse and frugal innovation, and are not considering it as a venue for higher-quality, cost-effective, impactful delivery of services and products.

Institutional and governance innovation for effective, qualitative and inclusive healthcare

Evolution or revolution?

Social innovation in health is probably not the only key to achieving UHC, but it can certainly contribute to accelerating the path towards it along with R&D, innovative finance or innovative models or tools for a renewed governance.

As recently outlined by R. Smith and K. Lee, “global health governance (needs) innovation, not renovation.”⁴⁴ Drafted in the aftermath of the Ebola, SARS, MERS or Zika outbreaks, the article builds on identified weaknesses in global health governance and on recent evolutions of the global health ecosystem to recommend harnessing “the power of networks, open systems and other innovations that enable new forms of collective action to achieve public goals”⁴⁵ while also suggesting that “WHO could potentially regain its leadership role by embracing innovations that share ideas, resources and authority more openly.”⁴⁶

There is indeed a sense that global health governance mechanisms have not evolved much over the last 15/20 years, whereas the number and diversity of global health actors has grown exponentially,⁴⁷ as well as global health crises, thus increasing the need for better, faster and more inclusive coordination and governance of the system.

If the inclusive governance model of the Global Fund was considered innovative when the organisation was created, particularly by including communities affected by HIV, TB and malaria, as well as developed and developing country NGOs in its Governing Board and by encouraging the creation of inclusive Country Coordinating Mechanisms in recipient countries, is it still fit for purpose in the wake of recent global health evolutions, as the Global Fund now spends over 25% of its resources on building Resilient and Sustainable Systems for Health (RSSH)? And what could innovative governance bring to the Global Fund and other health institutions to embrace challenges leading to the achievement of SDGs? Would it make a difference in the lives of their direct beneficiaries?

All institutions have developed and implemented basic accountability frameworks, that include varying governance models providing strategic guidance, ethical values and codes of conduct, complaint and response mechanisms, risk management, whistle-blowing policies and audit services. But what the SDG era calls for goes beyond standard governance machinery. It requires collective action and effective coordination among global actors that harness the power of networks, open innovation and digital tools to enhance impact.

The evolution of globally available new technologies and ways of working calls for a digitalisation of the system and wider consultations and exchange among actors as much as it requires renewed attention to governance.

The attempt of 11 global health actors “to enhance the way (they) work together”⁴⁸ under the “triple A approach” does take this challenge into account, at least partially. Not that it offers a new, collaborative governance model for the digital health era, but it intends to develop joint working methods to strengthen collective action, in the field of global health security for instance. That said, can it facilitate the evolution of social innovation networks, the collection and sharing of data, or the establishment of health data governance frameworks that are needed to overcome “fragmentation, duplication and inefficiency”⁴⁹? It largely depends on the willingness of these institutions to work together for the benefit of all.

“Data is the new oil”⁵⁰

The collection of, access to and control of personal health data providing evidence-based solutions will certainly constitute a major source of development of national and global smart health systems in the future, able to monitor the evolution of diseases and propose preventive or curative solutions in a much faster and adapted way. Yet, digitalisation of healthcare requires establishing and operating national health data governance frameworks, as recommended by the OECD⁵¹. To date, only half of 36 OECD member states have actually put national policies in place to manage and control the use of health data⁵². And it will probably take ages before LMICs do the same, leaving personal health data for use to private companies in the meantime, without putting in place specific regulation and control as to their ethical management. Indeed, if put in the wrong hands, sensitive health data “can be used to harm patients through a loss of their privacy.”⁵³

Discrimination is also a risk, if health data are misused by healthcare providers or employers. Furthermore, protecting data from cyber-attacks is vital to preserve public trust. But in countries that are still struggling to provide basic public services, the challenge to build such physical and technological infrastructure, as well as to raise awareness, develop local skills and educate people will probably not be an utmost priority. Support from HICs will be required in this field.

Innovative finance for effectiveness and impact

The concept of “innovative developmental financing approaches” was first introduced at the “Monterrey International Conference on Financing for Development” in 2002 and in the ensuing Monterrey Consensus⁵⁴ as an attempt to bridge the financing gap to reach the Millennium Development Goals by 2015. The World Bank defines innovative finance as “any financing approach that helps to generate additional development funds by tapping new funding sources (...) or by engaging new partners (such as emerging donors and actors in the private sector); to enhance the efficiency of financial flows, by reducing delivery time and/or costs, especially for emergency needs and in crisis situations; to make financial flows more results-oriented, by explicitly linking funding flows to measurable performance on the ground.”⁵⁵ Over the years, innovative finance has become a branding for a range of financial instruments.

But is there still something really innovative in innovative financing? As a matter of fact, innovative finance is not to be mixed with financial innovation.

Innovative finance tools rely on a partnership between the public and private sectors as well as with the civil society. They rest on the principles of additionality (they are not meant to replace Official Development Assistance - ODA), complementarity (raising new funds for organizations and the developing countries that need it) and sustainability (with the objective to finance long-term programmes and approaches). Increasing the effectiveness of interventions and achieving higher impact for the targeted populations are two major elements of such funding mechanisms.

Innovative finance aims at complementing traditional development funding flows through the mobilization of additional resources.

Among innovative finance mechanisms, the World Bank typifies 3 clusters of tools: instruments aiming at generating additional funds (from emerging donors, from socially responsible investments, solidarity taxes, etc.), instruments aiming at making funds more efficient (local currency bonds, frontloading of development aid, partial risk guarantees, etc.) and instruments that link funds to results (results-based financing, advance market commitments, etc.).⁵⁶

The latter 2 sets of tools enter in the category of “blended finance” that OECD defines as “the strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries.”⁵⁷ Acknowledging the “need to move from ‘billions to trillions’ to meet the volume of resources needed, well beyond the USD 146.6 billion provided as ODA in 2017,”⁵⁸ the OECD affirms that “blended finance attracts commercial capital towards projects that benefit society while providing financial return to investors.”

In its survey on private sector mobilisation for the period 2012 to 2015,⁵⁹ the organisation reports that over USD 81 billion of private investment were mobilised by official development finance interventions for developing countries during the four years, 44.2% being in the form of guarantees (USD 35.89 billion), 19% as loans and approximately the same amount in credit lines (USD 15.75 et 15.20 billion respectively). Middle-income countries were the recipients of over 76% of the funds, mainly in Africa (close to 30%) and Asia (26.2%). However the health sector mobilised not more than 2.5% of the total.⁶⁰

Development Initiative suggests that “investments in blended finance and public-private partnerships, while on an upward trend, remain short of what is needed. Private finance mobilised via blending – which is used as a proxy for blended finance investments as no data exists on how much money is invested by donors – has doubled from USD 13 billion in 2012 to USD 26 billion in 2015 (latest year for which country-level data is available). But volumes remain far from meeting need.”⁶¹

There is currently no real means to measure with accuracy amounts invested as blended finance in the development of low and middle-income countries, but they clearly fall short of actual needs to fill part of the financing gap. And the health sector is not among the most dynamic in attracting innovative financing.

Innovative finance & Global Health

Since the Global Fund and other global health institutions have been created, their operations have mostly relied on public funding and philanthropy. The private sector has shown limited, though growing interest in investing in global health, either through donations or direct capital investment in health infrastructure or services.⁶²

Funding required to achieve the health targets of SDG 3 by 2030 is unsustainable for governments and philanthropies alone, despite continued interest of the former and growing investment of the latter in the health sector.⁶³ The annual investment need to achieve all 17 SDGs by 2030 is estimated at USD 5 to 7 trillion / year, of which "USD 3.3 trillion to 4.5 trillion per year, mainly for basic infrastructure (roads, rail and ports; power stations; water and sanitation), food security (agriculture and rural development), climate change mitigation and adaptation, health, and education."⁶⁴ The actual investment gap in developing countries, at current investment levels in all SDG-related fields, reaches USD 2.5 trillion / year.

Regarding global health per se, making progress towards reaching all targets of SDG 3 would require USD 274 billion spending per year whereas reaching those targets would imply injecting USD 371 billion annually in health systems of low and middle-income countries.⁶⁵ Taking into account the sole WHO estimate of the financing gap to achieve the health SDG targets (USD 54 billion / year), new sources of financing still have to emerge and participate to achieving the universal ambition agreed upon by the international community, or SDGs risk being unattained. Hence the need to mobilise innovative financing mechanisms to bridge part of the gap.

However, at the current pace and in absence of further commitments, improved coordination and investment in the least developed countries as a matter of priority, neither ODA, nor philanthropic money and innovative / blended finance, though pulled together, could expect bridging the financial gap to achieve the SDG 3 targets.

Indeed, two features emerge when analysing blended finance investments:

1. They tend to focus on middle-income countries (vs. least-developed nations) where the political scene is more stable, the legal environment better defined and markets riper;⁶⁶

2. They target the infrastructure, businesses and the industrial sectors, that offer better economic opportunities and return on investment, rather than those associated to human capital development (health, social protection or education).⁶⁷

In that sense, blended finance offers no innovation. On the contrary. It would seem to be yet another instrument that threatens widening the gap between the poorer and the rest of the world. In such context, ODA and philanthropic money, that tend to dedicate a greater share of their investments to social services will have to remain essential actors in the global health landscape to ensure that no one is left behind in the ambition to reach UHC by 2030. And the Global Fund to fight AIDS, tuberculosis and malaria will have to demonstrate that its innovative finance approach helps reaching those most in need in the least developed places of the world.

The Global Fund and innovative finance

The Global Fund rationale to resort to innovative finance stems from the fact that the landscape of development finance has changed drastically since the beginning of the 21st century: new instruments have emerged, and amounts at play have increased substantially.⁶⁸ ODA has played a critical role to stimulate development since the 1960's, and will continue to be an important source of equitable development for many LICs, but its share in financing development has progressively decreased in favour of new sources of funding, either domestic and international private resources, or domestic public funding.

The Global Fund thus envisages innovative finance as a means to mobilise additional funding in favour of the fight against the three diseases and to support innovation at country level, but also has a way to enhance effectiveness and increase the impact and sustainability of its interventions.

Innovative Finance is not entirely new to the Global Fund, who is already using some tools to increase resources (e.g. through Debt2Health or Product(REDD)) or to enhance the effectiveness of its grants (e.g. linking part of funding to achieving specific targets in Rwanda, co-investment with the Asian or Islamic Development Banks, etc.).

However, the ambition to put impact at the core of this new approach is welcome. In other words, it is not only about raising additional funds, but about assessing and prioritising specific innovative finance mechanisms along Global Fund principles, processes and risk appetite to enhance impact.

In a presentation to the Governing Board in May 2018⁶⁹, the Global Fund provided an example of how innovative finance could help eliminate malaria in low-burden countries by defining key requirements for success and suggesting tools adapted to meet those.⁷⁰ The possible use of frontload or results-based financing to fast-track the elimination of the epidemics would certainly be innovative if it proves effective.

Based on the various roles (direct or indirect) the Global Fund could play in the development and implementation of innovative finance tools in favour of the fight against the three diseases, as well as on its mandate and legal status, the organisation will prioritise those deemed the most appropriate to reach its objectives and that are aligned with country demand. In its indirect role to provide leadership, support and incentives to catalyse the use of innovative finance tools by other stakeholders, the Global Fund foresees the use of blended finance (thematic bonds or guarantees), impact investment (concessionary return, pooled investment funds) or additional solidarity contributions.⁷¹ In a direct role as investor, it could also prioritise blended finance (e.g. buy downs), debt swaps, income or results-based financing (impact bonds, cash on delivery, etc.).⁷²

The Global Fund could favour blended finance and results or outcome-based financing as the two main innovative finance mechanisms, depending on the purpose it will pursue (enabling innovation, encouraging partnerships, or fostering coordination to mobilize new resources).

Appropriateness of innovative finance tools for optimum additionality should be considered in parallel with other elements, among which national contexts, objectives defined by national strategies, risks identified, etc. And it will require significant upscaling in terms of data collection and analysis to measure progress towards pre-defined results or outcomes. It will also imply close involvement of the Global Fund to overcome two of weaknesses of blended finance tools, i.e. a tendency to focus on MICs as opposed to LICs and risk adversity of innovative finance stakeholders vis-à-vis human capital development.

Conclusion

Health institutions tend to focus their innovation efforts on R&D, finance and procurement, with limited consideration for frugal or social innovation. However, both fields could contribute to increasing access to services, to more inclusiveness, affordability and sustainability, because impact also depends on their capacity to reach the most vulnerable and key populations in hard-to-reach areas.

While social innovation is already embedded in Global Fund interventions through catalytic funding / HR focus, etc. it is not yet considered as sufficiently powerful to make it an approach or a policy in its own right, though it has demonstrated its capacity to increase impact of interventions in the fight against HIV / AIDS, TB and malaria. Giving it due consideration through a policy focus could provide an opportunity to increase impact across countries.

Frugal innovation, including in digital health, could also help bridging the divide between HICs and the least developed countries if properly incentivized, tested, and brought to scale. Health institutions, donor governments and philanthropes have the capacity, and responsibility to do so.

Digitalisation and collaborative action will be key features of the health sector in the coming years. Both will require new methods of governance, that are more protective and more inclusive. If well designed and put in place in due course at the right level, digital tools could be used more efficiently to increase access of representative communities to governing bodies of health institutions. Populations would also benefit from the advanced use of protected data for faster, evidence-based, inclusive and person-centred healthcare, and communities would be in a better position to participate to decision-making as regards their own health.

As to innovative finance applied to global health, the potential to increase funding while enhancing impact of operations should be core elements of such approach. Yet, the possibility to lose the focus on least developed countries / hard-to-reach areas and most vulnerable populations exist, particularly when it comes to blended finance. Improving the measurement of results through better data collection, analysis and use, is also a requirement to mobilise results or outcome-based financing.

The Global Fund has a specific role to play in terms of using innovation in its policies and practice. Innovation should not only be considered through the lens of more technology, or new financing instruments, but also by bringing communities and practitioners in recipient countries to take their part in innovation processes. It is a tough challenge for the Global Fund, whose modus operandi does not always facilitate interactions with field operators on a direct basis. But it is the price to pay to increase quality, impact, inclusiveness and sustainability of its operations. And to become a true institution of the 21st century.

Advocacy messages to the Global Fund

In the future, efficient innovations to combat the three pandemics will probably need to combine scientific research, a social approach and new logistics, economic or financial instruments to bring innovations that work to scale, and make them accessible and affordable to the patients. Rebalancing innovation from supply-driven approaches by donors to demand-driven initiatives by countries and markets is a necessary move that should guide the Global Fund in its ambition to keep innovating to the benefit of all.

On R&D, new technologies and reverse innovation:

The Global Fund should consider participating to closing the gap between mainstream innovation frameworks and markets, through direct dialogue with recipient governments and civil societies. The disconnect, R&D being mostly implemented in developed countries whereas markets are predominantly in LICs and LMICs, could be partially overcome through:

- Incentivizing R&D in endemic countries and considering frugal innovation as a potential source of innovation at minimal cost ;
- Providing more training opportunities to the health workforce in recipient countries to have innovations accepted faster and more easily, and to develop patient-centred solutions;

- Promoting digital health as a means to leapfrog the technological gap and have innovations tested and implemented faster;

On social innovation: as it did by taking a pragmatic and programmatic approach to reducing human rights-related barriers to health services, the Global Fund should consider the potential for inclusive, affordable and replicable health services that social innovations carry, to accelerate impact of its interventions on the ground.

Social innovation should be discussed with governments, to ensure that domestic investments in health also target social initiatives that address critical gaps in health services delivery.

The new initiative “Towards a Global Action Plan for Healthy Lives and Well-being for All” provides an interesting framework for the development of social innovations. It should become the basis for:

1. A structured policy approach for social innovation in the Global Fund;
2. An inclusive cooperation between health institutions, donor governments, philanthropes and academics, as well as recipient countries to foster social innovation, analyse its impact and accelerate replicability when it proves effective.

On innovative finance: the Global Fund should pay attention to keeping the focus of blended finance tools onto those countries where additionality would be best and impact greater, irrespective of the classification of countries in terms of income, or of their political status and legislative framework.

While enhancing impact is defined as a fundamental element of its innovative finance approach in the making, putting people (and patients among them) at the centre of its interventions, and reaching out to the most vulnerable among them, should remain the cornerstone of Global Fund interventions.



Friends of
the Global Fund
Europe

The association Friends of the Global Fund Europe is an advocacy organization that works to sensitize the public interested in issues raised by the epidemics of HIV / AIDS, tuberculosis and malaria and in global health, in particular decision-makers, parliamentarians, organizations of the civil society and personalities of the academic and research spheres, and to contribute to the mobilization of the resources needed to fight these diseases, for the benefit of the Global Fund.

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Annexes

Annex 1 – Accelerators “Towards a Global Action Plan for Healthy Lives and Well-being for All”

1. Sustainable financing
2. Frontline health systems
3. Community and civil society engagement
4. Determinants of health
5. R&D, innovation and access
6. Data and digital health
7. Innovative programming in fragile and vulnerable states and for disease outbreak responses.

Criteria for accelerators to be considered as such

- » **Contribution to speeding up progress:** Potential to increase the pace in reaching the health-related SDGs
- » **Collective and cross-cutting:** Requires cross-agency engagement, while playing an enabling function across several health priorities
- » **Catalytic:** Catalytic and disruptive to the status quo
- » **Country impact:** Relevant to countries and lead to measurable people-centred impact

(Source: Towards a Global Plan for Healthy Lives and Well-being for All: Uniting To Accelerate Progress Towards The Health-Related SDGs - WHO/DCO/2018.3)

Annex 2 – Three examples and four steps of reverse innovation in healthcare

Example and WHO health system area	Step 1. Problem Identification	Step 2. LIC innovation and spread			Step 3. Cross-over	Step 4. HIC innovation and spread
		Innovation	Description	LIC spread		
1) Medical products, vaccines, and technologies	Need for low-cost, rugged, portable health diagnostics for use in resource-limited areas by non-specialist personnel	General Electric's MACi EKG machine [9], developed in partnership with Indian leaders at GE for rural health clinics in India	Price point = \$550 USD, >10 times less than standard EKG machines. Additional features: lightweight, durable, minimalist easy-to-use interface.	Viewed as a commercial success by GE leadership (No publically-available data on number of units sold)	Success in India prompted GE to develop MAC 600 and MAC 800, adaptations of the simple EKG machine for value-oriented US consumers	The slightly more sophisticated version was sold to primary care clinics around the US (no publically-available data on number of units sold)
2) Health information	Need for gathering and sharing real-time information to map the impact and response to natural and man-made disasters	Ushahidi [10], developed in the aftermath of the 2008 Kenyan presidential election as a way to map eyewitness reports of violence	Uses crowdsourcing to gather critical and timely information from smartphones and map them in a central database	>50 projects in LIC countries ranging from mapping Zimbabweans' opinions on door-to-door HIV testing to finding victims of Haiti's 2010 earthquake	Recognition that crowdsourcing approach could be readily applied in HICs	US and Europe examples include: used in New Orleans to report health hazards and chemical spillages during hurricanes; used to promote situational awareness during the 2012 London Olympics
3) Service delivery	Need to provide close-to-client services and address underlying social determinants of health in resource-limited areas	Partners In Health (PIH) [11] community health worker (CHW) and wraparound service delivery model, first applied to HIV patients in rural Haiti	CHWs visit patients at home, help overcome barriers to care, and provide psychosocial support. Food, transport, and housing support directly address root causes of disease.	Used by PIH in range of LICs and adopted by many others. Likely has passed tipping point, i.e., 2012 multinational campaign to train and recruit one million CHWs in Africa [12].	Adapted to poor urban US populations by innovative PIH team, as the Prevention and Access to Care and Treatment (PACT) program [13].	Among HIV-positive patients in Boston, PACT reduced inpatient hospital stays by 35% and decreased hospital costs by nearly 50% [13]. PACT's success influenced similar models by other US innovators, including Iora Health [14] and Transitions Clinic [15].

(Source: J. W. De Passe and Patrick T Lee - Globalization and health 30.08.2013 – A model for reverse innovation in healthcare)

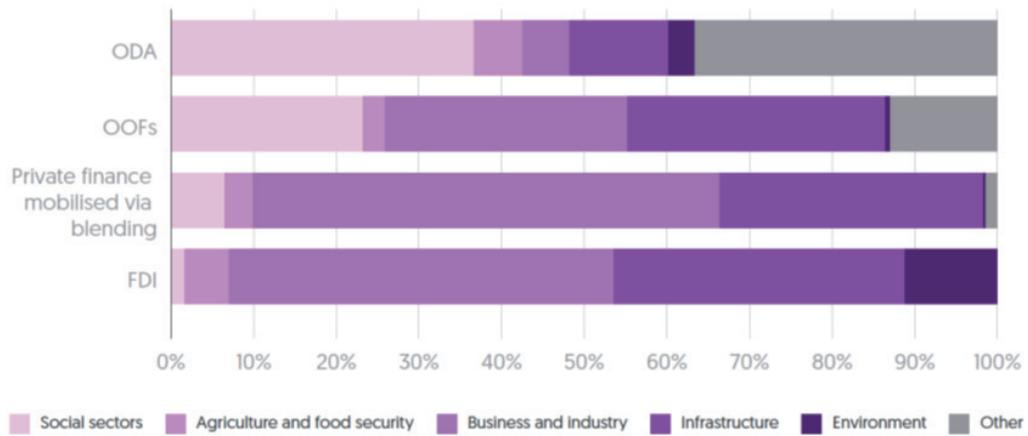
Annex 3 – Flow of investment per type and per country

Countries being left behind are among the smallest recipients of OOFs, FDI, private finance mobilised via blending and remittances



Source: Development Initiatives based on OECD DAC, UN Conference on Trade and Development and World Bank data.
 Notes: CAR: Central African Republic. Countries are established as among the 30 smallest recipients of each flow using US\$ per capita figures. Countries receiving zero for a flow are indicated as such from the source, this includes negative values set to zero for FDI.

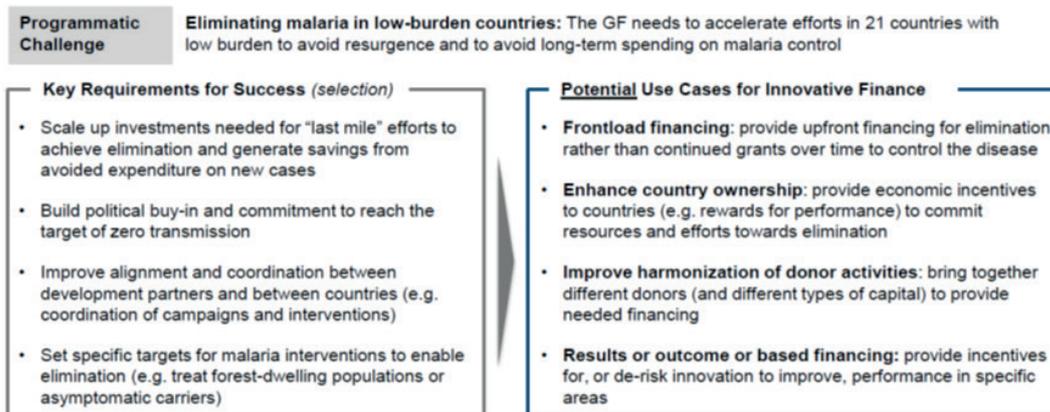
Annex 4 – Share of investment per source of funding and per sector



Source: Development Initiatives based on OECD and FDI Markets from Financial Times Ltd.

Notes: Data for ODA, other official flows (OOFs) and FDI is for 2016; data for private finance mobilised is for 2012–2015. FDI data is based on announcements of planned investments, not actual recorded flows.

Annex 5 – Global Fund - Programmatic challenge analysis & potential use cases for innovative finance



Sources: Global Fund, “Catalytic Investments for the 2017-2019 Allocation Period,” 2016; Dalberg analysis

10

Enhance efficiency and effectiveness	Address market failures	
	Improve incentives / accountability for results	Improve accountability of recipients and implementers to donors and investors
	Address market and information asymmetries	Reduce asymmetries of information that discourage funding or investment
	Improve working arrangements with implementing partners	
	Manage implementation risk	Protect funders or payers from the risk of failure related to implementation
	Reduce transaction costs	Reduce design and/or implementation costs of mobilization and disbursement
	Frontload financing for recipients	Mobilize financial resources needed upfront rather than over time
	Incentivize private sector delivery	Encourage private sector delivery of underdeveloped or under-marketed goods and services
	Improve quality of aid	
	Enhance sustainability of programming	Improve continuity of programming and sustainability of funding in health programs
Enhance country ownership	Increase political commitment by domestic governments to GF-supported priorities	
Improve harmonization with other donor activities and funding	Improve coordination between funders when mobilizing resources for health interventions	
Improve incentives for behavioural changes	Improve incentives for beneficiaries to adopt desired behaviours (or change behaviours)	
Mobilize additional funding	Mobilize philanthropy	
	Raise grassroots funds	Mobilize funds from individuals to fund health priorities
	Incentivize philanthropic funding and investment	Incentivize funding / investment from foundations and private charities
	Incentivize private sector funding	Incentivize donations from private companies
	Increase private sector investment	
	Leverage private sector investment	Incentivize commercial investment in health priorities
	Blend private sector funding and investment	Attract different types of investors and donors to fund health programs
	Increase public sector investment	
	Incentivize deployment of fiscal revenues by local governments	Incentivize public investment in health priorities from existing fiscal revenues
	Expand fiscal mobilization by local governments for health	Increase fiscal revenues mobilized locally to fund health programs

(Source: Global Fund – Presentation to the 39th Board Meeting in Skopje, RN Macedonia, May 2018)

Annex 6 – Definitions of innovative finance tools and outcomes per type of stakeholder

Securities and Derivatives	Bonds and Notes	Debt financing raised in capital markets to fund development interventions like microfinance or climate change interventions
	Guarantees	Financial commitment to provide payment in case of financial loss, including insurance products, that act as a risk-mitigation incentive to attract other funders
	Loans	Loans made with concessionary repayment terms to borrowers for implementing specific development interventions like green credit lines
	Microfinance Investment Funds	Investment funds that finance microcredit lenders in developing countries who provide low-income and marginalized borrowers with access to finance
	Other Investment Funds	Investment vehicles that are structured and funded to target a specific development challenge, often blending investors with different risk/return profiles
	Other Derivative Products	Financial instrument that derives its value from performance of another asset like securities tied to residential mortgages or weather events
Results-, output-, and performance based mechanisms	Advanced market commitments	Commitment of funds to guarantee price/market for products once developed
	Awards and Prizes	Financial reward for development solutions in a competitive selection process
	Development Impact Bonds	Investors fund development intervention upfront, government/donors repay them with interest based on results achieved
	Performance-based contracts	Grant contracts structured to disburse based on meeting specific performance targets
	Debt-swaps and buy-downs	Developing country debt repayment obligations are transferred or reduced based on meeting development goals
Voluntary contributions	Carbon Auctions (voluntary market)	Voluntary participation in legally binding exchanges for trading carbon credits and reducing emissions
	Donations as part of consumer purchases	A percentage of each purchase of a consumer product goes to fund a designated development challenge
Compulsory charges	Taxes	Specific tax imposed by government to raise funding for a specific development challenge

	Customers/ Beneficiaries	Private Companies	Financial Intermediaries	National Governments	International Donors
Proven Models	Bonds				
	Guarantees				
	Microfinance				
Opportunities to Achieve Scale	Performance-Based Contracts				
	Taxes and Levies				
Experiments and New Ideas	Advance Market Commitments				
	Development Impact Bonds				
	Impact Investing Funds				

Access to Goods
 Access to Services
 Access to Capital
 Access to Markets
 Public Goods
 Value for Money

(Source: Innovative Financing for Development: scalable business models that produce economic, social and environmental outcomes - Innovative Financing Initiative - 09.2014)

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66 Please refer to annex 3

67 Please refer to annex 4

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69 Update on Innovative Financing for Board information – GF/B39/25 – 39th Board Meeting, Skopje, 09-10 May 2018

70 Please refer to annex 5

71 For definitions of the various innovative finance tools, please refer to annex 6

72 Update on Innovative Financing for Board information – GF/B39/25 – 39th Board Meeting, Skopje, 09-10 May 2018