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On December 3, 2013, *The Lancet* Commission on Investing in Health (CIH) published *Global Health 2035: a world converging within a generation*, a report outlining an investment framework designed to make substantial gains in health and human development over the next two decades, and to significantly reduce health disparities between the poorest and the wealthiest nations (1).

The first *Human Development Report* in 1990 laid out a vision of economic and social progress that was fundamentally about people enlarging their choices and capabilities (2). Not surprisingly, health featured prominently. Just three years later, the World Bank chose health as the focus of their flagship publication; in doing so, the 1993 *World Development Report* (WDR) elevated health to a key position on the development agenda (3). By empirically showing the connection between health and economic growth, the WDR 1993 was credited with making one of the earliest and most compelling cases for investing in health, particularly to decision-makers outside the health sector.

To mark the 20th anniversary of the WDR 1993, *The Lancet* CIH was charged with examining how the context for health investment has changed since 1993. The Commission included 25 economists and global health experts and was chaired by Professor Lawrence H. Summers from Harvard University (who was Chief Economist at the World Bank in 1993), and co-chaired by Professor Dean Jamison, from the University of Washington (former Economist at The World Bank and a lead author of the WDR 1993). The international, multi-disciplinary group of commissioners worked throughout 2013, convening in the United States, Rwanda, and Norway, engaging diverse stakeholders in the form of workshops, consultations and collaborative analyses and working papers.

Global Health 2035 proposed a roadmap for investments to address the most pressing global health challenges by: 1) achieving a grand convergence around infectious disease, child and maternal mortality; 2) reducing the global incidence of non-communicable diseases (NCDs) and injuries; and, 3) bringing about the progressive realization of universal health coverage through essential capacity-building. The concept of convergence reflects the idea that with scaled-up investments in health technologies and health systems, rates of infectious disease mortality, child and maternal mortality, and malnutrition in most low-income and middle-income countries could be reduced to those seen in today's best-performing middle-income countries by 2035. Afghanistan is no exception to this "once in a generation opportunity" (1).

The primary target audiences for the report are decision-makers responsible for allocating social investments and funding—ranging from ministers of finance at the national level to

development banks at the regional level, to international health agencies at the global level. However, it is imperative that the key messages of the report are understood by broader public health communities, whose members are uniquely positioned to interpret their local relevance and contextualize recommendations deemed to be applicable. Accordingly, it seemed fitting in the context of this second issue of the *Afghanistan Journal of Public Health* (AFJPH) to summarize *Global Health 2035*'s key messages, and in doing so, motivate and catalyze a discussion within the public health community about the implications for Afghanistan.

Afghanistan is often described as lagging in their annual progress on the Millennium Development Goals (MDGs) (4) and development more generally. Indeed, the facts do show that Afghanistan remains one of the world's least developed countries, ranking 175 out of 187 countries on the Human Development Index (5), that three quarters of the population are illiterate, and that more than a third live below the poverty line (6). However, there are also facts that reveal progress, and framing these in such a way as to spark forward momentum may be of particular importance in the context of the country's complex challenges. Early glimmers of success emerge from a reflection on the health snapshot of Afghanistan in 1990 and how the incremental changes over the last 20 years have shaped a different picture today.

While acknowledging the limitations of country-specific data, **Table 1** indicates substantial gains in population health, economic growth, and development progress (7-11). For example, average life expectancy has increased from 48.8 years in 1990 to 59.6 years in 2012. The magnitude of this life expectancy gain actually exceeds that of both India and Pakistan over the same time period; while Afghanistan experienced an average life expectancy gain of close to 11 years, the average gain in India and Pakistan was 7 and 6 years, respectively. Much of the gain in life expectancy is attributable to the reduction in under-five mortality and maternal mortality, which declined by roughly 40% and 60%, respectively, since 1990. Afghanistan has made impressive advances in areas of critical infrastructure, education and gender equality as well. Gross enrollment in primary school has more than tripled since 1990 from 30.6% to 97.4%, including an almost quadrupled rate for girls from 21.5% to 80.6%. Secondary school enrollment has also more than tripled from 16.2% to 51.8%. Additionally, 61% of the Afghan population now has access to improved water sources as opposed to 4.8% in 1991, and 54 out of every 100 people now subscribe to a mobile phone network—a service which was non-existent in 1990. Women now hold 28% of the seats in the Afghan parliament as opposed to just 4% twenty years ago.

Table 1. Select indicators (7-11)

Indicator	1990	2000	2010-2012*
<i>Population demographics (7)</i>			
Total population	11,731,193	20,595,360	29,824,536
Population ages 0-14 (% of total)	48.7	49.5	47.4
Population ages 15-64 (% of total)	49.5	48.5	50.3
Populated ages 65 and above (% of total)	1.9	2.0	2.3
Urban population (% of total)	18.2	20.6	23.9
Female population (% of total)	48.7	49.1	49.3
<i>Economic development (7)</i>			
GNI per capita, PPP (current international \$)	-	700.0 (2002)	1,560.0
Net ODA received per capita (current US \$)	10.4	6.6	230.6
Net ODA received (% of GNI)	-	16.7 (2001)	37.2
<i>Life expectancy (8)</i>			
Life expectancy, total (at birth)	48.8	54.7	59.6
Male	48.2	53.7	58.6
Female	49.4	55.8	60.8
Life expectancy, total (at age 60)	74.1	74.9	75.7
Male	73.5	74.2	74.9
Female	74.7	75.7	76.5
<i>Infrastructure (7, 9-11)</i>			
Access to improved water source, total (% of population)	4.8 (1991)	22.1	60.6
Rural (% of rural population)	2.8	18.5	53.0
Urban (% of urban population)	14.0 (1991)	36.3	85.4
Access to improved sanitation facilities, total (% of population)	21 (1995)	23	28
Rural (% of rural population)	20 (1995)	21	23
Urban (% of urban population)	26 (1995)	32	46
Access to electricity (% of population)	-	-	30.0
Roads, paved (% of total roads)	-	-	29.3 (2006)
Internet users, per 100 people	-	-	5
Mobile cellular subscriptions, total	0	25,000 (2002)	18,000,000
Mobile cellular subscriptions, per 100 people	0	-	53.9
<i>Education (7)</i>			
Primary school enrollment (% gross)	30.6	21.3	97.4
Male (% gross)	39.0	41.8	113.4 [†]
Female (% gross)	21.5	0.0	80.6
Secondary school enrollment (% gross)	16.2 (1991)	12.8 (2001)	51.8
Male (% gross)	21.2 (1991)	25.0 (2001)	66.4
Female (% gross)	10.9 (1991)	0.0 (2001)	36.5
<i>Gender equality (7)</i>			
Women in parliament (% of total seats)	4	-	28
Women in wage employment in nonagricultural sector (% of nonagricultural wage employment)	-	19.2 (2002)	18 (2009)

*Data refer to the most recent year available

[†]Gross enrollment ratio (GER) can exceed 100% due to the inclusion of over-aged and under-aged students because of early or late entrants, and grade repetition.

Global Health 2035 serves as a reminder that Afghanistan needs to consolidate these gains by continuing to tackle high rates of preventable mortality due to communicable diseases and reproductive, maternal, neonatal and nutritional causes of premature death (see **Table 2**) (7, 9-10, 12-14). Together, these conditions of the “unfinished agenda” account for 62% of total deaths across all age groups (15). Lower respiratory infections, diarrheal diseases and preterm birth complications are the nation’s top three causes of premature mortality (16). Additionally, one-third of Afghanistan’s children are underweight and over 50% are stunted, indicating that the healthy cognitive development and

learning abilities of Afghanistan’s future generations are under threat. While the good news is that evidence-based interventions are already available to treat many of these conditions, their public health impact relies on effective implementation. For example, lowering maternal mortality to the rates achieved in the best performing middle-income countries will require a far stronger national health system (17). While this will take time, successful efforts are already being made through community-based interventions such as the distribution of misoprostol, an effective uterotonic used to prevent postpartum bleeding that does not require refrigeration and can be orally administered at

Table 2: Select maternal/child health, infectious disease and nutrition indicators (7, 9-10, 12-14)

Indicator	1990	2000	2010-2012*
<i>Maternal mortality (7)</i>			
Maternal mortality ratio (estimate per 100,000 live births)	1300 [†]	1000	460
Lifetime risk of maternal death (%)	10.9	8.3	3.1
Lifetime risk of maternal death (ratio)	1:9	1:12	1:32
Total fertility rate (births per woman)	7.69	7.70	5.40
<i>Child mortality (9-10)</i>			
Infant mortality rate (under age 1, per 1,000 live births)	120-129	93.5	73
Under-five mortality rate (rate per 1,000 live births)	176-192	134	99
<i>Infectious disease burden (7, 10, 12-13)</i>			
Prevalence of tuberculosis (per 100,000)	327 [112-655]	449 [210-775]	351 [169-597]
Tuberculosis death rate, midpoint (per year per 100,000)	33.0	53.0	39.0
Cumulative probability of malaria death, all ages (per 1000 population)	21.4	17.2	5.1
Cumulative probability of malaria death, children under age 5 (per 1000 population)	15.7	9.2	1.9
Prevalence of HIV, total (% of population aged 15-49)	0.1	0.1	0.1
<i>Nutrition (9)</i>			
Underweight, moderate and severe (% children ages 0-59 months)	-	-	33
Underweight, severe (% children ages 0-59 months)	-	-	12
Stunting, moderate and severe (% children ages 0-59 months)	-	-	59
Wasting, moderate and severe (% children ages 0-59 months)	-	-	9
Overweight, moderate and severe (% children ages 0-59 months)	-	-	5
<i>Prevalence of anemia (14)</i>			
Pregnant women (% of pregnant women)	-	-	61
Non-pregnant women (% of non-pregnant women)	-	-	25
Preschool-age children (% of preschool-age children)	-	-	38

*Data refer to the most recent year available

[†]Researchers have calculated this estimate using multiple methods, resulting in variable estimates. See paper entitled, "National and sub-national analysis of the health benefits and cost-effectiveness of strategies to reduce maternal mortality in Afghanistan" by Carvalho et al., 2012.

household births (18). Effective interventions to reduce infant and child mortality, such as exclusive breastfeeding during the first six months of life (19, 20) and core micronutrient supplementation (21) are already far more available with the increased coverage of the Basic Package of Health Services (BPHS). However, continuing to improve access to, and quality of, community health services and clinical care, including diagnosis and treatment for febrile illness and diarrhea (22), will be necessary to successfully

address what is now more than half of the nation's causes of preventable mortality.

On the one hand, stakeholders should feel empowered to make substantial progress on the "unfinished agenda" given the impressive gains that have already been made since 1990. For example, the probability of a child dying from malaria has dropped from 15.7 to 1.9 per 1,000 and treatment success for tuberculosis has risen from 45% to 91% (see **Table 3**) (7, 9, 14).

Table 3: Health system intervention/response indicators (7, 9, 14)

Indicator	1990	2000	2010-2012*
Contraceptive prevalence (% women aged 15-49) (7)	-	4.9	21.2
Pregnant women receiving prenatal care (%) (7)	36.9 (2000)	36.9	47.9
Births attended by skilled birth staff (% of total) (7)	12.4 (2000)	12.4	38.6
Immunization, DPT (% children aged 12-23 months) (7)	25.0	24.0	71.0
Immunization, measles (% children aged 12-23 months) (7)	20.0	27.0	68.0
Tuberculosis case detection rate (% of registered cases) (7)	20.0	18.0	52.0
Tuberculosis treatment success rate (% of registered cases) (7)	45.0 (1997)	85.0	91.0
Use of insecticide-treated bed nets (% of under-5 population) (7)	-	-	-
Vitamin A supplementation coverage rate (% children ages 6-59 months) (7)	78.0	84.0 (2001)	100.0
Iodized salt consumption (% of households) (14)	2.0 (2000)	2.0	28.0 (2004)
Diarrhea treatment with oral rehydration salts (ORS) (% of children under age 5 who received ORS within two weeks of the onset of illness) (9)	-	-	53.0

*Data refer to the most recent year available

On the other hand, there will need to be careful attention paid to those areas of the “unfinished agenda” in fragile jeopardy, such as polio eradication. While there has been significant progress in polio eradication thanks to the laudable efforts of a committed civil society and public health sector, polio eradication has never been more vulnerable due to the effects of residual hubs of conflict, chronic insecurity and cross-border risks. While not a specific emphasis of the CIH, an important ingredient to completing the “unfinished agenda” in countries like Afghanistan is comprehensive ‘health diplomacy’ ranging from negotiations with deeply divided factions within the country to cross-border cooperation with neighbors, such as Pakistan. This is an example where key messages of the CIH will require contextualization by the Afghan public health community.

A second set of challenges concerns curbing the escalating incidence of NCDs and injuries, including the pressing burden of mental health conditions [see **Box (16)**], morbidities related to tobacco use, and road traffic accidents (23). Programs aimed at the prevention and treatment of NCDs, injuries and mental health disorders will require system-wide support to be sustainably managed over the longer term.

The burden of mental health disorders in Afghanistan, which has doubled since 1990, deserves special mention. Based on the most recent data, two of the top 5 causes of years lived with disability (YLDs) in Afghanistan are attributable to mental health, with the single leading cause being major depressive disorder (16). Undoubtedly, the constellation of long-term conflict, insecurity, poverty, and social exclusion coupled with a complex mosaic of

Box: Examples of changes in disease burden in Afghanistan, 1990-2010 (16)

Dramatic gains in child mortality reduction

Between 1990 and 2010, age-specific mortality decreased across all age groups. The greatest decline was observed in children, particularly among females aged 1-4, an age group that experienced a 62% reduction in the all-cause mortality rate.

Emerging double burden of disease

Persistent communicable diseases remained the leading causes of premature mortality despite considerable reductions in their total proportion of Afghanistan’s years of life lost (YLL)*, and non-communicable diseases and risk factors, as well as injuries, are steadily rising.

Lower respiratory infections and diarrheal diseases remain prevalent

Lower respiratory infections and diarrheal diseases remain the two leading causes of years of life lost (YLLs), despite declining by 10% and 18%, respectively. YLL due to preterm birth complications have more than doubled since 1990, becoming the third-highest cause of premature mortality.

Dramatic decrease in tetanus and malaria since 1990

Although the third leading cause of YLL in 1990, malaria dropped to 28th place in 2010. Tetanus also fell out of the top ten causes (from 12th to 4th) and in fact had the largest reduction in total YLL (37%) of any cause.

Non-communicable diseases rising steadily

Contributions from non-communicable diseases such as ischemic heart disease and stroke also rose from the eighth and ninth leading causes of premature mortality to the fourth and fifth, respectively. Two of the top 5 causes of years lived with disability (YLDs) in Afghanistan are mental health disorders, specifically major depressive disorder and anxiety disorders.

Risk factors include both persistent and emerging problems

The three leading risk factors contributing to the disease burden are indoor air pollution from solid fuels, childhood malnutrition, and dietary risks. However, emerging risks for non-communicable disease, such as high blood pressure, smoking, high blood glucose, and physical inactivity, are now included in the top ten.

Intentional injuries show greatest increase between 1990 and 2010

Injuries from war and political violence saw the largest increase in total YLL, growing by 473% since 1990, and rising from the 32nd to the 14th leading cause of premature mortality. YLL due to interpersonal violence more than doubled.

Unintentional injuries are escalating, in particular, road injuries

YLL due to road injuries more than doubled since 1990. Road injuries are now included in the top 10 causes of premature mortality, ranking as the 8th leading cause of premature mortality.

* The World Health Organization (2006) defines the years of life lost (YLL) indicator as follows: “YLL take into account the age at which deaths occur by giving greater weight to deaths at younger age and lower weight to deaths at older age.” Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity.

sociocultural factors, have played an important role. While the Ministry of Public Health (MoPH) has directed attention to the need for national policy reform, community-based prevention and treatment, and greater capacity in terms of mental health services and providers, much still needs to be done.

Tobacco use is far and beyond the biggest risk factor for NCDs (see **Table 4**) (24). Popular forms of tobacco consumption in Afghanistan (cigarette smoking and dipping tobacco) have both been causally linked to the onset of throat and lung cancers (25). Recent studies of smoking prevalence found that over one-third of men over the age of 15 in Kabul smoke cigarettes on a regular basis and 90% of youth have tried a cigarette by age 13 (26-27). *Global Health 2035*'s analyses of various policy tools to improve health concluded that tobacco taxation is “*the single most important intervention*” to curb the incidence of NCDs (1). Forecasting by the MoPH and Deloitte Consulting shows that a gradual increase of excise tax on tobacco imports (from 40% to 80%, over a five-year period) would increase the MoPH revenue by 8 to 10% *per year* while also decreasing smoking prevalence (28). The introduction of an excise tobacco tax in Afghanistan presents an advantageous opportunity to not only offset individual smoking patterns, particularly among the lowest income quartile of the population, but it would also generate significant revenues for the government—an important consideration for any nation-state aiming to reduce its dependency on international aid. Recent efforts made in Afghanistan concerning the public health risk of tobacco range from civil society education to implementing instruments of policy. In conjunction with the global messages of the international public health community, including the findings of *Global Health 2035*, there is an admirable platform from which to launch the scaled-up efforts needed to reduce the health consequences of tobacco use.

Road injuries are the most common cause of injury-related mortality in the country and the eighth leading cause of premature mortality overall (16). Evidence has shown that this burden could be reduced through the introduction of national laws on drinking and driving, mandatory motorcycle helmet use, seat-belt use and child restraints, and prohibiting use of mobile phones while driving (29). While the creation and enforcement of legal regulations has

decreased mortality from road injuries in other countries, local stakeholders should contemplate how to best implement effective provisions within Afghanistan's unique context.

Reflecting on Afghanistan's progress in tandem with the goals of *Global Health 2035* highlights the necessity for strong national leadership and international support for essential capacity-building within the health and non-health sectors (30-31). The Commission pointed out that the international community has a critical role to play in generating global public goods (e.g., R&D for new tools and knowledge) and collaborating on country assistance for health (e.g., via technical cooperation with nation-states). Both of these contributions could greatly advance the development agenda for Afghanistan but will require sustained, predictable donor commitments in the medium- to long-term (1, 30).

Providing much-needed technical expertise and resources to scale-up the MoPH's BPHS (2002), Essential Package of Hospital Services (EPHS) (2005), and National Strategy for Improving Quality in Health Care (2011) could further expand the scope, and in particular the quality of, health care services in Afghanistan (31-33). Partnerships in this area have certainly contributed to progress: 85% of Afghans had access to BPHS in 2008 compared to 9% in 2003, and the EPHS coverage has expanded from 0 to 21 of 34 provincial hospitals since 2005 (31).

However, there is a critical need for deliberation and dialogue about how best to provide country assistance. Despite the enormous amount of international assistance provided to Afghanistan in the last decade, there is general agreement that there have been both positive and negative consequences. For example, while international assistance has bolstered key services and infrastructure, it has also contributed to fragmentation, program redundancy, weak central governance, and corruption. Given that most aid has been directly delivered by donors outside the government budget, there has been sub-optimal investment in public sector capacity-building in areas such as priority-setting and financing, operational management of public services, and the training and retention of civil workers.

In planning for the coming decade, the lessons of the past need to be taken into account, both by the international community and by the country. Technical guidance and financial assistance

Table 4: Adult non-communicable disease risk factors (24)

Indicator	2008-2009*
Raised blood glucose, ages 25 and above (% of population)	
Male	8.9
Female	9.5
High blood pressure, ages 25 and above (% of population)	
Male	27.2
Female	27.9
Obesity, ages 20 and above (% of population)	
Male	1.5
Female	3.3
Tobacco use, ages 15 and above (regional average)	
Male	33.0
Female	4.0

*Data refer to the most recent year available

could be directed towards health research capacity and education and training programs to address the country's critical shortage of health workers, specifically female providers. How to most effectively integrate Afghanistan's highly fragmented network of health care providers into a more functional and responsive system, will be best determined through carefully structured partnerships that empower and enable Afghan policy makers and public health leaders. Ultimately, Afghanistan will need to decide for itself how to construct their national health system, design and finance the core packages of services, effectively meet community needs, ensure coverage for the most vulnerable, and navigate the right balance of engagement from the public and private sectors.

While *The Lancet* CIH acknowledged that tackling the social determinants of health was integral to improving health, its report focused on interventions that would be largely (although not exclusively, as shown by the example of tobacco legislation) implemented by the health sector. In the context of Afghanistan, there is a crucial need to strengthen governance and advance development through policies and programs that cross all sectors. As such, the discourse in the Afghan community will undoubtedly consider the importance of continued investments in security, sanitation, electricity, education, transportation, gender, food and water systems, and communications (33). Health improvements will be blunted without a commitment to invest in the broad social agenda, including education, gender rights, and an open and inclusive society; similarly, progress in development more broadly will be blunted without a commitment to invest in health.

While Afghanistan is entering a vulnerable transition period, the development experiences of other countries that have transitioned from conflict to stability, such as Rwanda and Vietnam, remind us of how much can be accomplished by a group of committed stakeholders in the face of unlikely odds (30). While the impact of war and conflict cannot be ignored, there has already been a slow but steady shift from a conflict-driven, emergency-based system of services to a health system that is community-based and prioritizes the poor. *Global Health 2035* reminds the world that investments in health are inextricably linked to economic prosperity, social and financial protection, and national security (1). If the concerted actions of practitioners, policy makers, and donors, can be harnessed to leverage this momentum, key investments made through an integrated and phased approach will provide far reaching benefits shared across individuals, households, communities and the country as a whole.

Conflict of Interest

The authors declare that they have no conflicts of interest.

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