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gINTELLIGENCE

RECOMMENDATIONS & GUIDELINES

Youth Manifesto on Non-Communicable Diseases

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Non-communicable diseases (NCDs), including cancers, heart disease, chronic respiratory illnesses, diabetes mellitus, and mental disorders[2], are leading causes of mortality and morbidity globally. A landmark publication by the World Health Organization (WHO) in 2005 reported that these diseases caused 35 million deaths (60% of total mortality) that year [1]. Despite many presumptions to the contrary, NCDs are not exclusive to older individuals; approximately one-third of global NCD deaths occur prematurely in individuals less than 60 years, leading to 20.5 million potentially productively years of life lost in Brazil, South, Africa, Russia, India, and China in 2000 alone [2]. Moreover, 70% of global disability-adjusted life-years (DALYs), a marker of morbidity, are due to NCDs. These figures suggest that NCDs are not only significantly reducing people's longevity, but also their quality of life and capacity to work.

The burden of NCDs is neither distributed equally across the globe nor across age categories. Four out of five NCD deaths in 2005 occurred in low- and middle-income countries (LMICs) [1]. In these countries, nearly 44% of deaths due to NCDs occurred before the age of 60 years, compared to only 19% in high-income countries [3], and the risk of individuals between the ages of 15–29 years dying from an NCD is 30% higher in LMIC than in high-income countries. Maternal and child health interventions and infectious disease control programs have extended global life

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[1] These authors contributed equally to this work. [2] Mental disorders account for 28% of the disability-adjusted life years (DALYs) caused by all NCDs. Despite the disproportionate burden of disease they cause, mental illnesses receive scant attention – and resources – globally. There are only 89,000 psychiatrists serving Europe's 879 million people and 1800 psychiatrists serving Africa's population of 702 million. Mental health is a crosscutting issue that contributes to and affects the outcomes of all NCDs and mental health interventions should therefore be developed and integrated as part of comprehensive NCD treatment programs.

expectancies and helped to close the gap in life expectancy between the richest and the poorest countries over the past 50 years. However, without significant changes to address these contemporary global health priorities, these gains may be obliterated and disparities may again widen [4].

While these statistics are sobering, effective solutions do exist and reversal of current NCD trends is possible. Experience in high income countries has shown that CVD events and mortality have reduced over the years, partly owing to medical therapies, and partly to risk factor control [5,6]. Tobacco use; excess consumption of alcohol; consumption of foods high in fat, salt, and sugar; and inadequate physical activity are known to cause more than 50% of the NCD burden [1,7]. These important lifestyle factors are modifiable, but are often difficult and complex to change. For instance, recent research shows that although many countries have witnessed reductions in risk factors over time, stark disparities between the highest and lowest-income countries remain. The population's exposure to these risk factors is influenced by a myriad of socioeconomic, cultural, political, and environmental forces that often lie outside the formal health sector. In essence, addressing the NCD burden by designing and building societies that enable people to increase control over, and to improve, their own health, as outlined in the Ottawa Charter for Health Promotion 25 years ago [8], requires challenging and changing the status quo.

At the same time, the power of "top-down" approaches to affect the lives of millions must be employed. The 2011 UN General Assembly High-Level Meeting offers a key opportunity to begin such a change [9]. The Young Professionals Chronic Disease Network (YP-CDN) is a transnational advocacy network of over 320 young professionals in 42 countries that aims to place NCDs higher on the global health and development agenda. We, the innovative and inspired youth of today and potential global health leaders of tomorrow, want to help build the mechanisms to enable other young people and communities around the world to have a role in global advocacy and the development of local solutions, setting into motion a grassroots social movement to address the escalating burden of NCDs. As the global younger generation, we contribute the skill, capacity, capital and innovation that is necessary to fully address the NCD issue. Here, we ask governments, civil society organizations, development agencies, and the global public health community at large to reduce the age-adjusted mortality and disability adjusted life years (DALYs) due to NCDs by 20% over the next 10 years, as targeted by the WHO, to enhance the productivity of all countries [1]. Specifically, we request that the UN representatives to the 2011 UN General Assembly High-Level Meeting on NCDs and other key stakeholders consider the following seven recommendations, which are the result of extensive dialogue and discussion among YP-CDN network members, and which focus on capturing the wide-ranging societal and life-course drivers of NCDs. Fig. 1 summarizes these recommendations.

CHANGING THE STATUS QUO

Re-frame NCDs as a barrier to development. NCDs drain LMICs economic resources contributing to a widening poverty gap. The WHO estimates that cardiovascular disease and diabetes alone are estimated to reduce GDP between 1% and 5% in LMICs experiencing rapid economic growth [10]. There is evidence that NCDs pose a significant barrier to the achievement of the Millennium Development Goals (MDGs), to the eradication of poverty, and to the social and economic development of all nations [11]. NCDs exacerbate pre-existing health burdens in countries still dealing with high burdens of infectious diseases [12]. For example, people in LMICs are increasingly exposed to the widely available, intensely marketed high-fat, -sugar, and -salt foods, beverages and tobacco products. This availability increases the risk of many NCDs such as diabetes, cardiovascular disease, and cancers, which have been shown to, in turn, increase the risk of infectious diseases such as tuberculosis and pneumonia [13–15]. Parental smoking removes disposable income otherwise used for household food availability, directly contributing to food insecurity and stunting in LMIC [16]. NCDs are both a cause and consequence of poverty. We fully support the WHO in promoting the idea that, "non-communicable diseases are closely linked to global social and economic development" and have aligned our own advocacy efforts along these lines [7].

Accordingly, we must now strengthen NCD surveillance capacity to provide rigorous, high-quality data to monitor trends and effectiveness of interventions and to identify vulnerable populations and health disparities.

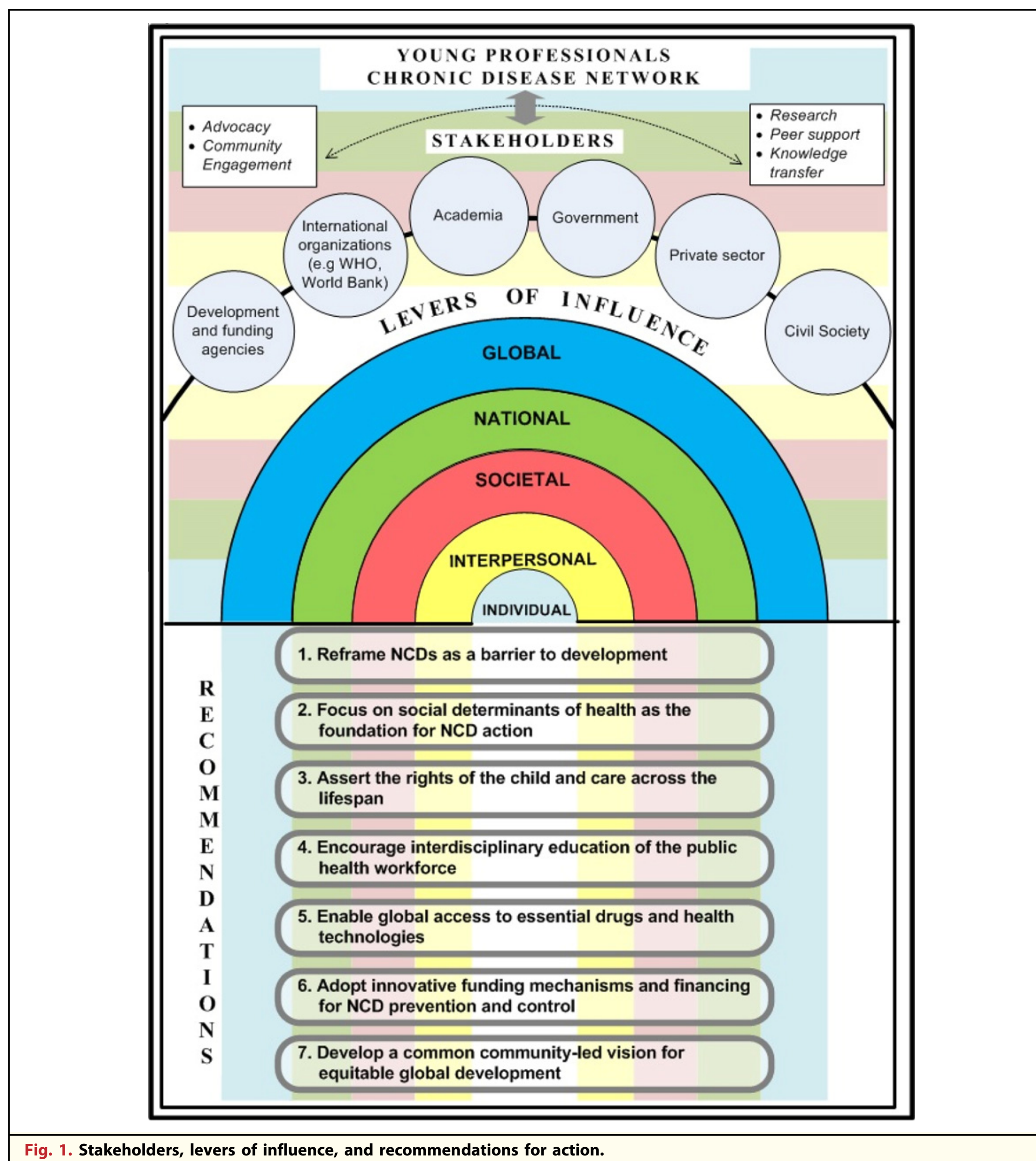

Fig. 1. **Stakeholders, levers of influence, and recommendations for action.**

Recommendations

1.1 Governments, civil society organizations, development agencies, and the global public health community at large should re-frame NCDs as a barrier to development by explicitly including NCDs as a target for “technical assistance, capacity building, program implementation, impact assessment of development projects, funding, and other activities,” as recommended by the Institute of Medicine [17].

1.2 Governments, civil society organizations, development agencies, and the global public health community at large should expand the next round of development targets beyond MDG-specific targets to a combination of human and economic development goals that explicitly address primordial, primary, secondary, and tertiary prevention and the treatment of NCDs.

1.3 Governments should include NCDs and NCD risk factor data collection across all age groups, including biospecimen sub-samples, as part of country-level demographic health surveys to understand the current burden of NCDs and long-term effects of NCDs and to provide more reliable future projections of the NCD burden.

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FOCUS ON THE SOCIAL DETERMINANTS OF HEALTH AS THE FOUNDATION FOR NCD ACTION

Health outcomes are strongly influenced by the social, physical and economic environments in which people are born, grow, live, work and age, and receive health care [18]. While individual responsibility is important, we must move beyond a notion that this is the *most* important determinant of health, or that individuals should self-regulate in the absence of adequate governmental and international regulation. Individuals, especially the young, elderly, and vulnerable, live in an increasingly affluent yet unequal world, confronted by an array of social and economic factors that makes the healthy choices the most difficult.

These societal factors, most of which lie outside the traditional health sectors, are modifiable through broad-based action to restructure the world in which we live and the food supply from which we eat [5]. Relevant evidence-based, affordable policy interventions are available to member countries; sufficient political will and capacity are now required to implement them. Global polices including the WHO Framework Convention on Tobacco Control [19], the WHO Global Strategy on Diet, Physical Activity and Health [20], the World Bank NCD policy report [21], the Disease Control Priorities Project [22], the WHO Global Strategy to Reduce the Harmful Use of Alcohol and the WHO Commission on the Social Determinants of Health report [18] are ground-breaking contributions to the understanding of these risk factors and the understanding of cost-effectiveness and operational feasibility of interventions. These policy documents should serve as the foundation for policy interventions.

Hence, governments and international actors must focus on the underlying conditions that create or determine health, by modifying and creating new forms of social and economic policy.

There are substantial gains to be made. For instance, research shows that implementing preventive measures can result in unprecedented success – in some instances reducing the risk of NCD incidence by more than 90% [23,24]. Whereas sick individuals require individual care, sick populations require transformative environmental changes to prevent the causes of disease incidence [25]. Such primordial prevention is vastly more effective at reducing population-level risk [5] but requires the collective will of multiple stakeholders.

Changing the status quo is never easy. For instance, addressing the underlying societal drivers of NCDs requires tackling, and ultimately changing, current economic and production modalities. Many vested interests resist such changes, stating that restricting the production of tobacco and sugar will result in economic hardship for poor populations; these arguments are overstated and often simply wrong. Stringent tobacco control policies have been shown to have minimal negative (and more often positive) impact on a country's GNP, employment, tax revenue, and foreign trade balance, despite tobacco industry rhetoric [26]. Arguments that limiting population level sugar intake will harm LMIC sugar farmers are unsubstantiated. The global welfare gains from removing all sugar trade distortions that result from protectionist trade policies in Japan, Western Europe, and the United States, are estimated to be as much as $4.7 billion per year [27].

Recommendations

2.1. Governments should implement programmes that tackle the social determinants of NCDs with particular reference to the following: access to information (disparities in awareness), lifestyle choices (disparities of accessing healthier options), therapies (access to primary health care services and essential medicines), and financing.

2.2. Governments should engage local, regional, national, and global communities in health-related priority setting, ensuring fair representation from all stakeholders, including civil society

2.3. Governments should adopt and adapt evidence-based global strategies developed by the WHO Global Strategy on Diet, Physical Activity and Health [20] and the WHO Global Strategy to Reduce the Harmful Use of Alcohol and other programs such as the Disease Control Priorities Project as the foundation of future evidence-informed policies to reduce the burden of NCDs.

2.4. All stakeholders should engage with the private sector in reducing the amount of salt, sugar, and saturated fat content in the food supply and should eliminate *trans* fats intake, with an emphasis on minimizing price shocks that disproportionately harm poor populations.

2.5. Governments should ratify and implement the Framework Convention on Tobacco Control in its entirety to reduce global tobacco consumption by 30% in 10 years. Special commissions should be instituted to target informal sector tobacco consumption practices.

ASSERT THE RIGHTS OF THE CHILD: TACKLING NCDS ACROSS THE LIFE COURSE

NCD risks develop across the life course: exposure to risk factors begin in utero and early childhood, continuing through to adulthood [28,29]. NCDs have been shown to directly affect children as young as 8 years old, who can develop obesity with concomitant blood pressure and glucose derangements [30–34]. The nutrition and epidemiological transition underway in many LMIC is exposing children to unprecedented levels of high energy, nutrient poor foods with consequential rises in childhood obesity and type-2 diabetes mellitus. The health of the mother and child from pre-conception through to adolescence, therefore, is an important determinant of adult health.

Many international and national laws, policies and international institutions recognize the rights of the child to adequate health, which are enshrined in the UN Convention on the Rights of the Child [35]. Specifically, the Convention acknowledges the rights of the child to play (i.e. participate in physical activity) (Article 31) and the right of the child to be protected from "information and material injurious to his or her well-being, bearing in mind the provisions of articles 13 and 18" (Article 17(e)), encouraging the development of appropriate guidelines for advertising and marketing of unhealthy products. In many nations, those who are the least able to control their consumption behaviors or understand them – namely children – remain exposed to unprecedented levels of advertising of unhealthy foods, beverages, and tobacco. Recognizing these rights of the child to health, all countries should take actions to implement the policies outlined in the WHO's Marketing of Foods and Non-Alcoholic Beverages to Children (resolution WHA63.14). Special consideration should be given for cross-border advertising, which requires new formats of supranational codes and regulations.

Recommendations

3.1. Governments should include "health across the lifespan" as a central pillar of all policies ("health in all policies") to enhance the conditions and health system in which people are born, grow, live work, and age.

3.2. Governments, civil society organizations, development agencies, and the global public health community at large should strengthen maternal and child health programs to reduce maternal and infant mortality rates by 75% as a means to assert women and children's health rights, with an emphasis on the life course approach to policy development.

3.3. Governments and private sector actors should implement recommendations from the WHO policy document, "Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children" [36].

AUGMENT CAPACITY THROUGH INTERDISCIPLINARY EDUCATION OF THE FUTURE PUBLIC HEALTH WORKFORCE

The publication of the Welch-Rose report on public health and medical education at the turn of the 20th century led to vital investments in public health and medical education to prepare a generation to cope with the traditional plagues of infectious disease [37]. In the 21st century, a modern health workforce sensitive to interdisciplinary methods needs to be familiar with the complex nature of current health issues, including NCDs. In addition to expertise in public health, epidemiology, and medicine, the future health workforce needs training in economics, international and domestic law, and agriculture to effectively address NCD policy issues ranging from comprehensive tobacco control to climate change to food policies. Future health workforce also needs training in participatory approaches that will ensure the authentic participation of all stakeholders in the processes of initiative development, implementation, and evaluation. This training will guarantee that future initiatives targeting NCDs have the broad buy-in that they need to be appropriate, effective and sustainable. In this generation, a new investment into tackling the social determinants of health is now needed with the appropriate breadth and depth to train global leaders who can think across core disciplines.

Recommendations

4.1. Governments and development agencies should actively seek input from young professionals on global development issues to harness their energy, creativity and leadership and recognize their role as a key partner in combating NCDs.

4.2. Governments should invest in health professional education at the primary, secondary, undergraduate, graduate, and postgraduate level, stressing: (1) intellectual capital, (2) communication skills, and (3) cross-disciplinary networks.

4.3. Educational institutions should build leadership capacity in young professionals by developing

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and implementing cross-disciplinary and transnational leadership programs that address NCDs.

4.4. The WHO and civil society should improve accessibility, affordability, and availability of global level internships, scholarships and other training opportunities for young people, particularly for trainees from LMICs., in order to facilitate cross-pollination of ideas, enhance diplomacy and strengthening of international relations through health, and acknowledge the increasingly global world needs.

ENABLE GLOBAL ACCESS TO ESSENTIAL DRUGS AND HEALTH TECHNOLOGIES

In all areas of the world, access to NCD prevention and treatment tools remains inadequate. The proposed amendments to the WHO EB128/Conf. Paper 10/Rev1 by Bangladesh and other countries accurately depict the need to "develop and implement legal and policy tools, as appropriate, to ensure access to affordable care and treatment by ensuring availability of necessary diagnostic tools and medical products including medicines and other equipment for the diagnosis and treatment of NCDs". Health care systems must also be reoriented to deal with chronic conditions that require a lifetime of care and follow-up.

Recommendations

5.1. Governments should mandate generic substitution of medicines and utilize compulsory licenses to reduce the cost of managing chronic diseases by expanding global financing bodies like The Global Fund and UNITAID for the provision of essential NCD medicines and diagnostics.

5.2. The WHO should swiftly enable pre-qualification for the 34 NCD medicines in the WHO Primary Essential Medicines for NCDs (PEN).

5.3. Government finance and health ministries should support local supply chain management through increased accountability and incentives [38].

5.4. The WHO should survey the availability and financial cost of diagnosis and treatment of NCDs, including catastrophic health spending, among WHO member states [39,40] and work with the World Bank and others to develop financial safety nets for populations in need.

5.5. National health ministers and international health bodies should take action to reorient health systems toward a diagonal approach that encompasses both acute care, chronic care and follow-up; this is consistent with Recommendation 4 on augmenting capacity towards new methods of integration and implementation.

ADOPT INNOVATIVE FUNDING MECHANISMS AND FINANCING FOR NCD PREVENTION AND CONTROL

Cost-effective interventions for controlling many NCDs exist and provide opportunity for substantial public health gains [41]. However, a serious lack of NCD-specific financing hampers global and national efforts to expand programs. The high burden of preventable diseases in poor countries and communities calls for strategic planning of investments across health and health-related sectors to promote development. Existing levels of health spending for NCDs in Member States, especially in LMICs, is insufficient to implement cost-effective interventions [42].

Despite the growing literature describing the NCD epidemic in LMICs, NCDs have often been ignored by traditional global health funding mechanisms [43,44]. Even countries that are less reliant on external funds, such as India, Brazil, and Russia, continue to ignore or grossly under-fund NCDs, guided by international doctrine [45]. In 2007, 2.3% of the $22 billion in global health funds went to NCDs [46,47]. Approximately half of the funds for NCDs prevention and control came from private foundations or companies, rather than government and public bodies, despite causing 60% of deaths worldwide.

The rising burden of disease inflicted by NCDs can be described as a symptom of failed development approaches that promote unhealthy lifestyles and disease-specific programs. Innovative funding mechanisms, such as earmarked excise taxes on soft drinks, tobacco, and alcohol, could be successful strategies to fund prevention programs whilst simultaneously improving health through discouraging consumption. The Thai Health Promotion Foundation, for example, has successfully implemented a sustainable funding model to support NCD prevention, based on a 2% surcharge on alcohol and tobacco. In the United States, numerous states continue to consider, or are currently implementing, taxes on sugar-sweetened soft drinks to reduce their consumption [48–51].

Dichotomizing of disease funding by a subjective view of need should end. Health policy and provision should be built around a more holistic view of people and of the health system – able to deliver multiple services for multiple needs. Further, in a world of limited resources and a "zero-sum" game in which increasing allocations to one disease category threatens the amount available for other disease priorities, funding need not –

and should not – come solely from typical "global health" funders. Rather, NCD prevention can be recognized as a co-benefit of actions and resources stemming from other global issues, such as climate change and food security. Urban policies to reduce greenhouse gas emissions via promotion of walking and cycling over motorized transport would simultaneously increase physical activity levels. Similarly, agriculture and trade policies that support crop substitution from tobacco and toward production of fruits, vegetables and whole-grains for human consumption could contribute to improved diets, which would in turn reduce risk of NCDs.

Recommendations

6.1. Augment and align global health funding from donor agencies, member countries and private industry with areas of greatest public health gains, as measured through estimated age-adjusted death rates and DALYs.
6.2. Governments should identify regional- and country-level secondary economic gains or losses from interventions that impact NCDs, including interventions outside the health system, in order to achieve a "health in all policies" policy as done in Finland.
6.3. Governments should introduce NCD Action plans at the ministerial level including NCDs as a line-item in national budgets but also taking care to integrate NCD prevention and control into current priorities.
6.4. Governments and international research and funding bodies should direct more funds to translation trials that can add externally valid evidence to support extensive implementation of science-based findings into real-life settings.

DEVELOP A COMMON, COMMUNITY-LED VISION FOR EQUITABLE GLOBAL DEVELOPMENT

We advocate for a new 21st century movement that distinguishes NCDs as a barrier to development. The complexities of our globalizing world, and the widespread risk factors for NCDs, require unprecedented adaptations to the structures of global and national level public health agencies. To assert public health and medicine as socially transformative disciplines, we must first transform the very nature of public health – we must change the status quo and empower communities to do the same, look outside of the health sector, invest in and engage young people, and actively include individuals in the policy decisions that affect them, breaking down silos and enabling synergy via simultaneous top-down and bottom-up approaches.

There are a myriad of initiatives led by or directly engaging community members that have successfully improved the population's health. One example comes from a group of community health workers in rural Nepal who investigated a sudden and mysterious increase in COPD among women in their village, only to find that the cause was not tobacco smoking (as presumed by a group of foreign medical doctors in the village at the time) but by the coal-burning stoves they were using to cook food for their families [52]. Another example comes from Community Interventions for Health (CIH), a multinational program to implement and evaluate community-based interventions to prevent NCDs in China, India, and Mexico. A distinguishing feature of CIH is that it involves community-members directly in the design, implementation, and evaluation of the interventions [53]. A final example of the importance of involving community-members in public health initiatives is Agita Sao Paulo, a community-based and community-led intervention program that has successfully increased physical activity levels among 34 million inhabitants in Sao Paulo, Brazil and has been scaled up throughout Latin America and globally [54].

Recommendations

7.1. Governments, civil society, development agencies and global public health organizations should empower and engage communities, particularly youth, to promote equitable access to education and leadership.
7.2. Governments, development agencies, and global health practitioners should incorporate the voice of the empowered community in decision-making.
7.3. Governments, civil society, development agencies and global health organizations should work to increase local communities' awareness of risk factors for NCDs and their long term effects, thereby enabling individuals to take control of their own health and amplifying the positive effects of societal changes on health.

COMMITMENTS FROM THE YOUNG PROFESSIONALS' CHRONIC DISEASE NETWORK

The YP-CDN recognizes the multitude of issues, concepts, approaches, definitions, and proposed solutions related to NCDs. It is important to note that our overall goal is not to transgress the

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autonomy and rights of choice by individuals. Rather, we advocate informing people about choices and engaging both industry and government to adopt policies that offer choices that are commensurate with better NCD health outcomes. While many of us work in disciplines outside of the traditional "global health" field, each of us has a role to play and commits to being a global health advocate by promoting and implementing a set of principles to approach the societal problem of NCDs. To spur action by global stakeholders, the YP-CDN members commit to:

1. Reframe NCDs as a barrier to development: lobbying our specific governments, promoting NCD awareness on university campuses around the world, and engaging our local communities in print and social media on the social drivers of the NCD epidemic. We will promote the view that these diseases should not be viewed solely as "the fault" of the individual, but that NCDs are societal problems that require societal solutions.
2. Focus on social determinants of health as the foundation for NCD action: contributing to the development of a vision of a future society rooted in a social determinants of health approach and to work towards integrating the multitude of global agendas, including climate change and sanitation,
3. Assert the rights of the child and care across the lifespan: performing research to create new knowledge to realize health gains across the life course, including how they relate to the rights of the child, and to share current research with governments to accelerate progress.
4. Encourage interdisciplinary education of the public health workforce: lobbying our individual academic institutions to introduce lectures on the global burden of disease, social determinants of health, and the relation of NCDs to development priorities like the Millennium Development Goals, and leveraging interdisciplinary training opportunities to tackle the complexities of real-world implementation and integration in our curricula.
5. Enable global access to essential drugs and health technologies: monitoring the WHO Essential Medicines List (EML) concept including adding NCD medicines to the EML, ensuring their listing in national EMLs; monitoring whether medicines make it to shelf and partner with grassroots organizations and Health Action International to prevent drug stockouts, and helping set up systems that satisfy a good balance of equity and efficiency
6. Adopt innovative funding mechanisms and financing for NCD prevention and control: encouraging synergies and fostering dialogue between public health (clinical- and population-based) and related disciplines, such as urban planning or agriculture, as well as actively recruiting alternative, non-medical sources of revenue in partnership with our peers who work in these disciplines.
7. Develop a common, community-led vision for equitable global development: contributing to the development of a highly skilled movement through peer-to-peer support and capitalize upon opportunities offered by seniors in the field to develop intellectual capital, influence, and cross-disciplinary networks. We will continue to use virtual communities (web 2.0 technologies) to produce a dynamic and barrier-breaking health movement driven by a common vision, and the development of YP-CDN Network itself is an example of such a model.

CONCLUSIONS

We identify key proximal, upstream behavioral and environmental risks that are amenable to public policy, community-based, and private sector– and we must actively and sensibly engage these sectors. At the same time, critical distal risks (e.g. biochemical risks) linger that are amenable to medication, and we must ensure equitable access for all that need these through increased commitments to global access to essential drugs and diagnostics. Finally, awareness is the key that unlocks the effectiveness of proximal and distal interventions – individuals and communities have a role in challenging and changing the status quo on their health. Youth and young professionals provide a key bridge and mobilizing force to do just this.

The 2011 UN General Assembly High-Level meeting offers a key opportunity to begin such changes [9]. Here, we the Young Professionals Chronic Disease Network (YP-CDN) request that the UN representatives to the 2011 UN General Assembly High-Level Meeting on NCDs and other key stakeholders consider the following seven recommendations: (1) Reframe NCDs as a barrier to development, (2) Focus on social determinants of health as the foundation for NCD action (3) Assert the rights of the child and care across the lifespan, (4) Encourage interdisciplinary education of the public health workforce, (5) Enable global access to essential drugs and health technologies, (6) Adopt innovative funding mechanisms and financing for NCD prevention and control, (7) Develop a common, community-led vision for equitable global development. The healthy development and sustainability of our world depends on it.

The Manifesto on NCDs is statement affirming NCDs as the social justice issue of our generation and detailing our recommendations to the United

Nations representatives for the 2011 High Level Meeting on NCDs: (1) Reframe NCDs as a barrier to development, (2) Focus on social determinants of health as the foundation for NCD action (3) Assert the rights of the child and care across the lifespan, (4) Encourage interdisciplinary education of the public health workforce, (5) Enable global access to essential drugs and health technologies, (6) Adopt innovative funding mechanisms and financing for NCD prevention and control, (7) Develop a common, community-led vision for equitable global development. The healthy development and sustainability of our world depends on it.

REFERENCES

1. WHO. Preventing chronic diseases: a vital investment. Geneva: World Health Organization; 2005.
2. Leeder S, Raymond S, Greenberg H. A race against time: the challenge of cardiovascular disease in developing economies. New York: The Earth Institute at Columbia University; 2004.
3. Suhrcke M, et al. Chronic disease: an economic perspective. London: Oxford Health Alliance; 2006.
4. Olshansky SJ, et al. A potential decline in life expectancy in the United States in the 21st century. N Engl J Med 2005;352:1138–45.
5. Ford ES, et al. Explaining the decrease in US deaths from coronary disease, 1980–2000. N Engl J Med 2007;356:2388–98.
6. Wijeysundera HC, et al. Association of temporal trends in risk factors and treatment uptake with coronary heart disease mortality, 1994–2005. JAMA 2010;303:1841–7.
7. WHO. Interventions on diet and physical activity: what works. Geneva: World Health Organization; 2009.
8. WHO. Ottawa charter for health promotion. In: First international conference on health promotion. Ottawa, Canada: World Health Organization; 1986.
9. Alleyne G, Stuckler D, Alwan A. The hope and promise of the UN Resolution on non-communicable diseases. Global Health 2010;6:15.
10. WHO. WHO: Cardiovascular Diseases (CVD). WHO Fact Sheets 2011. Available from: http://www.who.int/mediacentre/factsheets/fs317/en/index.html [accessed 29.03.11].
11. Stuckler D, Basu S, McKee M. Drivers of inequality in Millennium Development Goal progress: a statistical analysis. PLoS Med 2010;7:e1000241.
12. Jeon CY, Murray MB. Diabetes mellitus increases the risk of active tuberculosis: a systematic review of 13 observational studies. PLoS Med 2008;5:e152.
13. Kapur A, et al. Diabetes and tuberculosis – old associates posing a renewed public health challenge. Eur Endocrinol 2009;5:10–2.
14. Harries AD, et al. Defining the research agenda to reduce the joint burden of disease from diabetes mellitus and tuberculosis. Trop Med Int Health 2010;15:659–63.
15. WHO. WHO report on the Global Tobacco Epidemic. Implementing smoke-free environments, 2009, Geneva: World Health Organization; 2009. p. 7–E422.
16. Efroymson D, et al. Hungry for tobacco: an analysis of the economic impact of tobacco consumption on the poor in Bangladesh. Tob Control 2001;10:212–7.
17. IOM. Promoting cardiovascular health in the developing world: a critical challenge to achieve global health. Washington, DC: Institute of Medicine; 2010.
18. WHO. Closing the gap in a generation: health equity through action on the social determinants of health: commission on social determinants of health final report. Geneva: WHO Commission on Social Determinants of Health; 2008.
19. WHO. The framework convention on tobacco control. Geneva: World Health Organization; 2003.
20. WHO. Global strategy on diet, physical activity and health. Geneva: World Health Organization; 2004.
21. Adeyi O, Smith O, Robles S. Public policy and the challenge of chronic noncommunicable diseases. Washington, DC: The World Bank; 2007
22. Jamison DT, Mosley W, editors. Disease control priorities for developing countries, 2nd ed. Washington, DC: The World Bank; 2006.
23. Stamler J, et al. Low risk-factor profile and long-term cardiovascular and noncardiovascular mortality and life expectancy: findings for 5 large cohorts of young adult and middle-aged men and women. JAMA 1999;282:2012–8.
24. Gaziano TA, Galea G, Reddy KS. Scaling up interventions for chronic disease prevention: the evidence. Lancet 2007;370:1939–46.
25. Rose G. Sick individuals and sick populations. Int J Epidemiol 1985;14:32–8.
26. Jha P, Chaloupka F. Curbing the epidemic: governments and the economics of tobacco control. Washington, DC: The World Bank; 1999.
27. World Bank. World Bank Policy Research Working Paper 3222. Washington, DC: World Bank; 2004.
28. Aboderin A, et al. Life course perspectives on coronary heart disease, stroke and diabetes: key issues and implications for policy and research. Geneva: World Health Organization; 2002.
29. Ben-Shlomo Y, Kuh D. A life course approach to chronic disease epidemiology: conceptual models, empirical challenges and interdisciplinary perspectives. Int J Epidemiol 2002;31:285–93.
30. Chiolero A, et al. Prevalence of elevated blood pressure and association with overweight in children of a rapidly developing country. J Hum Hypertens 2007;21:120–7.
31. Skinner AC, et al. Multiple markers of inflammation and weight status: cross-sectional analyses throughout childhood. Pediatrics 2010;125:e801–9.
32. Short KR, et al. Vascular health in children and adolescents: effects of obesity and diabetes. Vasc Health Risk Manag 2009;5:973–90.
33. Gupta N, et al. Imbalanced dietary profile, anthropometry, and lipids in urban Asian Indian adolescents and young adults. J Am Coll Nutr 2010;29:81–91.
34. Narayan KM, et al. Lifetime risk for diabetes mellitus in the United States. JAMA 2003;290:1884–90.
35. UN. Convention on the Rights of the Child; 2007. Available from: http://www2.ohchr.org/english/law/crc.htm [accessed 20.03.11].
36. WHO. Set of recommendations on the marketing of foods and non-alcoholic beverages to children. Geneva: World Health Organization; 2010.
37. Fee, Bu QL. Models of public health education: choices for the future? Bull World Health Organ 2007;85:977–9.
38. Stop Stock-outs. Stop Stock-outs: ensure access to essential medicines for all; 2011. Available from: http://stopstockouts.org/ [accessed 31.03.11]

39. WHO. Prevention and control of noncommunicable diseases, in EB128/Conf. Paper No. 10 Rev 1. Geneva: World Health Organization; 2011.
40. Niens LM, et al. Quantifying the impoverishing effects of purchasing medicines: a cross-country comparison of the affordability of medicines in the developing world. PLoS Med 2010;7:e1000333.
41. Laxminarayan R, et al. Advancement of global health: key messages from the Disease Control Priorities Project. Lancet 2006;367:1193–208.
42. WHO. Investing in health: a summary of the findings of the Commission on Macroeconomics and Health. Geneva: World Health Organization; 2007.
43. Stuckler D, et al. WHO's budgetary allocations and burden of disease: a comparative analysis. Lancet 2008; 372:1563–9.
44. Sridhar D, Batniji R. Misfinancing global health: a case for transparency in disbursements and decision making. Lancet 2008;372:1185–91.
45. Sridhar D, Gomez EJ. Health financing in Brazil, Russia and India: what role does the international community play? Health Policy Plan 2010: czq016.
46. Nugent RA, Feigl AB. Where have all the donors gone? Scarce donor funding for non-communicable diseases. Washington, DC: Center for Global Development; 2010.
47. Ravishankar N, et al. Financing of global health: tracking development assistance for health from 1990 to 2007. Lancet 2009;373:2113–24.
48. Brownell KD, Frieden TR. Ounces of prevention – the public policy case for taxes on sugared beverages. N Engl J Med 2009;360:1805–8.
49. Brownell KD, et al. The public health and economic benefits of taxing sugar-sweetened beverages. N Engl J Med 2009;361:1599–605.
50. Brownell KD, Warner KE. The perils of ignoring history: big tobacco played dirty and millions died. How similar is big food? Milbank Q 2009; 87:259–94.
51. Smith TA, Lin B-H, Lee J-Y. Taxing caloric sweetened beverages: potential effects on beverage consumption, calorie intake, and obesity. United States Department of Agriculture: Economic Research Service; 2010.
52. Stuckler D, Siegel K, editors. Sick societies: responding to the global challenge of chronic disease. Oxford: Oxford University Press; 2011.
53. Wong F, et al. Community Health Environment Scan Survey (CHESS): a novel tool that captures the impact of the built environment on lifestyle factors. Glob Health Action 2011:4. doi: 10.3402/gha.v4i0.5276.
54. Matsudo V, et al. Promotion of physical activity in a developing country: the Agita Sao Paulo experience. Public Health Nutr 2002;5:253–61.