

COMMISSION ON SOCIAL DETERMINANTS OF HEALTH  
PRIORITY PUBLIC HEALTH CONDITIONS KNOWLEDGE  
NETWORK

SCOPING PAPER:  
PRIORITY PUBLIC HEALTH CONDITIONS

**Key Words**

- Population Health Outcomes
- Social Determinants & Equity
- Intervention & Implementation

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## **ABBREVIATIONS**

<b>AIDS</b>	Acquired Immuno-Deficiency Syndrome
<b>Alliance-HPSR</b>	Alliance for Health Policy and Systems Research
<b>CCO</b>	Country Focus Department
<b>CSDH</b>	Commission on Social Determinants of Health
<b>CSO</b>	Civil Society Organization
<b>DALY</b>	Disability Adjusted Life-Years
<b>EIP</b>	Evidence and Information Cluster
<b>EQH</b>	Equity in Health Department
<b>GNI</b>	Gross National Income
<b>HIV</b>	Human Immunodeficiency Virus
<b>HRD</b>	Human Resource Management
<b>HRH</b>	Human Resources for Health
<b>KMS</b>	Knowledge Management and Sharing
<b>KN</b>	Knowledge Network
<b>MMR</b>	Maternal Mortality Rate
<b>NGO</b>	Non-governmental Organization
<b>PHC</b>	Primary Health Care
<b>PPHC</b>	Priority Public Health Conditions
<b>PPHC-KN</b>	Priority Public Health Conditions Knowledge Network
<b>PPP Int\$</b>	Purchasing Power Parities - International Dollar
<b>RPC</b>	Research Policy and Coordination
<b>RHR</b>	Reproductive Health and Research
<b>SDL</b>	Staff Development and Learning Unit
<b>SEB</b>	Social, Economic and Behavioural Research Steering Committee
<b>TB</b>	Tuberculosis
<b>TDR</b>	Special Programme for Research and Training in Tropical Diseases
<b>U5MR</b>	Under-five Mortality Rate
<b>UN</b>	United Nations
<b>UNAIDS</b>	Joint United Nations Programme on HIV/AIDS
<b>WHO</b>	World Health Organization

## EXECUTIVE SUMMARY

Old public health problems such as, e.g., malaria, tuberculosis and sexually transmitted diseases and others persist, at the same time new challenges are presenting themselves. Many of the old problems persist because we have failed to effectively apply the tools that we had at hand - and some of those tools, we have even destroyed in the process. Another set of reasons for the failure is that we have not sufficiently recognized and appropriately dealt with the inequities underlying the average health statistics. This has meant that even if overall progress was made, large parts of the populations and even whole regions of the world were left behind.

Most, if not all the new public health challenges that we are facing, be it in the areas of: communicable, maternal, perinatal and nutritional conditions; non-communicable conditions; or injuries are directly related to how we organize our societies and live our lives. Again, inequities among and within populations stand out. Inequities both fuel the emergence of the new public health challenges and are results of these. Still, most ministries of health and health systems, including health programmes are primarily concerned with delivering down-stream interventions responding to the incidental needs and demands of individuals, i.e., the traditional intramural health care services. These are important and need to be provided in any decent society - however, they are not effective responses to the old and the new public health problems that keep being produced and reproduced.

In the public health community, there is a growing recognition that if we are to deal with both the old and the new challenges, and to achieve global targets, such as, e.g., those presented by the Millennium Development Goals, we will have to go far beyond the traditional health interventions and address the upstream determinants of health.

The Priority Public Health Conditions Knowledge Network (PPHC-KN) is one of the nine knowledge networks of the Commission on Social Determinants of Health, created by WHO in 2005 to draw attention to pragmatic ways of creating better social conditions for health. The PPHC-KN, whose scope of work is described in this paper aims at pushing the boundaries for defining what constitute public health interventions as well as for how public health programmes and services are organized. In doing so, the PPHC-KN will break new ground for working together. Within WHO, the PPHC-KN will foster collaborative work and learning across programmes and organizational structures. The PPHC-KN will also directly involve the wider public health community in its 12-15 'Programme nodes' as well as in its research node. Further, the PPHC-KN will provide a portal for participation for those who cannot be directly involved in the work of the network nodes.

The aim is to influence the thinking of public health programmes and the health sector at large. However, it cannot stop here. The analyzes presented in this paper and elsewhere, clearly shows the need also to influence the thinking of policy-makers and managers who are not necessarily considering health and equity as part of their respective agendas and responsibilities. Therefore, the processes of the PPHC-KN work as well as effective communication throughout these processes are as important as the physical outputs.

Nevertheless, a wide range of physical products are envisaged as result of the PPHC-KN work, including: analytical tools, intervention development and implementation guides, scientific publications, policy briefs, and learning materials. The work will draw on the strengths, expertise and resources vested in WHO's structures as basis for reaching out to the wider public health community. Only very limited additional funding will be required: upfront to leverage and catalyse - and later to publish the physical outputs.

# 1. INTRODUCTION

In her speech to the World Health Assembly on 9<sup>th</sup> November 2006, Dr Margaret Chan, Director General of WHO<sup>1</sup> remarked: "*In 1950, the top three priorities at WHO were sexually transmitted diseases, malaria, and TB. Substitute HIV/AIDS for sexually transmitted diseases, and things have changed very little*"; thus we do not have the right tools or are not doing the right things with the tools that we have. Dr Chan suggested that WHO must influence the research and development agendas to act on health problems also when there are not yet appropriate tools. Further, she stressed that the Organization has the moral authority as well as the power to lead a multi-pronged drive for health development and security addressing the determinants of health, i.e., the root causes of the health problems that the world is facing (1).

The Commission on Social Determinants of Health (CSDH) was created by WHO in 2005 to draw the attention of governments, civil society, international organizations and donors to pragmatic ways of creating better social conditions for health especially for the world's most vulnerable people. The goals of the Commission are:

- To support health policy change in countries by assembling and promoting effective evidence-based models and practices that address the social determinants of health;
- To support countries in placing health equity as a shared goal to which many government departments and sectors of society contribute; to help build a sustainable global movement for action on health equity and social determinants, linking governments, international organizations, research institutions, civil society and communities.(2).

Social determinants of health and equity also feature prominently in the WHO 11<sup>th</sup> General Programme of Work 2006-2015, which states that any serious effort to improve the health of the world's most vulnerable people and reduce health inequities must tackle the key determinants of health. Some of these, such as income, gender roles, education, and ethnicity are related to social exclusion; others, such as living conditions, work environment, unsafe sex and the availability of food and water are more related to exposure to risks. Broader economic, political and environmental determinants include urbanization, intellectual property rights, trade and subsidies, globalization, air pollution and climate change" (3)

The 2006 Millennium Development Goals Report shows that some progress has been made towards the 2015 targets, however there is a long way still to go. It is also clear that there are vast disparities between and within countries with the most vulnerable populations falling behind (4). During the past several years, there has been much focus on poverty reduction through economic growth. However, there is, according to some observers, no evidence that economic growth will automatically lead to health improvements in the absence of simultaneous improvements in other factors (5) Leading economists such as Sen and Stern suggest that development in poor countries rests on two pillars, i.e., economic growth and empowerment. To address the social gradients in health, we need to "*focus not only on the extremes of income poverty but on the opportunity, empowerment, security and dignity that disadvantaged people want in rich and poor countries alike*" (6)

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<sup>1</sup> At the time Dr Margaret Chan was Director General Elect

Several of the frequently used economic and social indicators, including economic growth, life expectancy, infant and child mortality and education showed, during the period 1980-2000 a slowdown in progress in many low- and middle income countries (7). The health sector reforms implemented in the same countries during the 1990s in many cases did not yield the results expected and in, some cases had adverse effects in particular for disadvantaged population groups (8). Even targeted interventions, such as the Integrated Management of Childhood Illness (IMCI) have faced problems in reaching and yielding the anticipated results among the groups most in need (9). Targets for polio eradication, malaria and tuberculosis control, and 3by5 have not been reached as fast as expected. It has been suggested that as long as we consider, for example, TB control as a bio-medical intervention only, we will be bound to fail (10) The new Stop TB strategy, thus states that to achieve the MDG and Stop TB targets, it is necessary, in addition to DOTS to strengthen health systems, to tackle social and environmental factors as well as to empower communities and people with tuberculosis (11)

We might face a dual problem of inadequate interventions and poor implementation. The interventions we are using, frequently do not appropriately address the causes of good and ill-health of populations and, even when they do, implementation may fall short of choosing the right entry points and approaches. As one result, programmes might not only fail to address inequities - but at times, actually widen these; and, as another result, overall targets are not met or are delayed. In the process, we are at times destroying the tools we are using by, e.g., generating drug resistance. New methods, such as the 'equity effectiveness loop' are being developed to assist in assessing the impact of various factors on the gap in effectiveness of interventions across socio-economic gradients (12)

Priority public health conditions (PPHC), is one of the nine Knowledge Networks<sup>2</sup> of the CSDH and has three interlinked objectives (Box 1).

**Box 1:** Specific objectives of the Priority Public Health Conditions Knowledge Network (PPHC-KN)

1. To analyse selected priority public health conditions with the aim to identify the social determinants causing inequities in population health outcomes.
2. To propose interventions and implementation approaches to improve the situation, including possible changes to the organization of public health programmes
3. To mainstream and integrate the outputs of (1) and (2) into public health policy and programming in general and WHO's work in particular

In preparation of the PPHC-KN Scoping Paper, individual and collective discussions took place with almost 20 WHO/HQ Departments and the CSDH focal points in WHO regional offices. These discussion revealed that programmes and offices are well aware of the need to tackle inequities in health and their social determinants in order to achieve the MDG as well as other health targets. Some have started developing interventions and incorporating these into their programme strategies, although most were struggling with the 'how to'. Several stressed the need to look

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<sup>2</sup> The other eight Knowledge Networks are: Early child development, Globalization, Health systems, Urban settings, Women and gender equity, Social exclusion, Employment conditions, and Measurement and evidence (2)

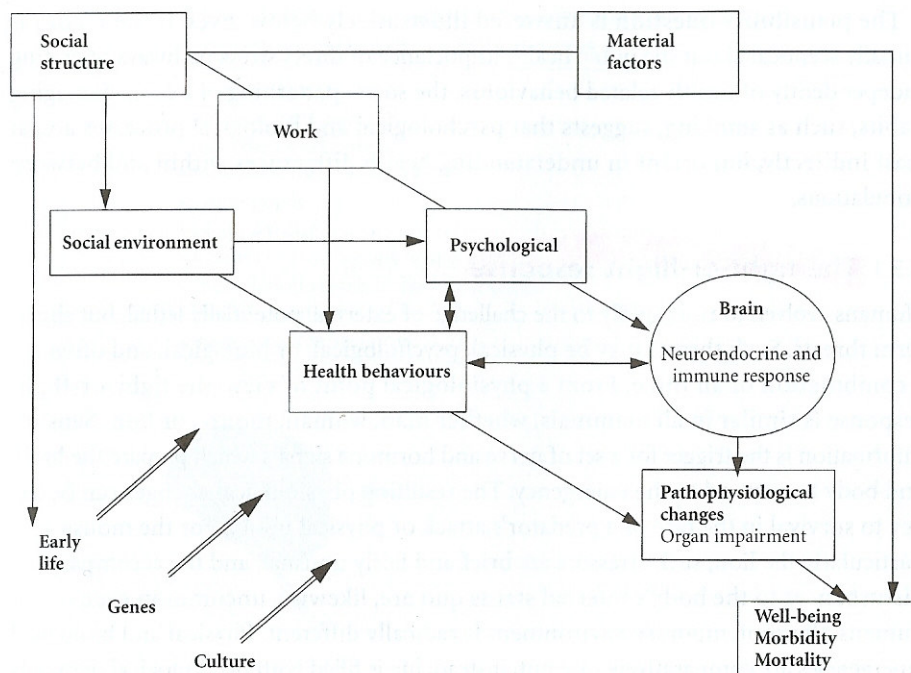


beyond the particular health conditions of their immediate responsibility - possibly taking an inter-programme perspective, realizing that often public health conditions share the same social determinants and implementation problems. Taking a fresh look at Primary Health Care was also suggested during these discussions.

A commitment from staff and the leadership of WHO to address inequity and social determinants of health is certainly present and the PPHC-KN will build on this.

## 2 SOCIAL DETERMINANTS OF HEALTH AND EQUITY

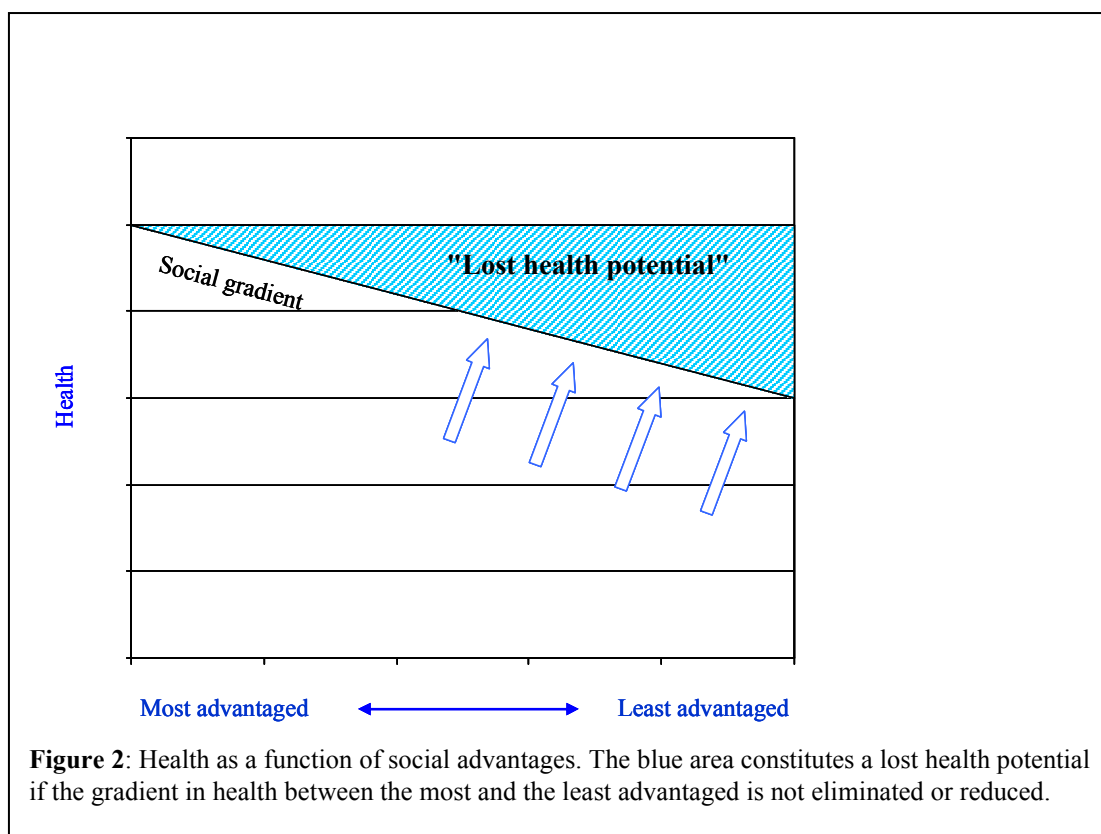
A framework which takes into consideration factors operating at the population as well as the individual level is illustrated in figure 1. This framework indicates three main pathways from social structures in the top left to well-being, morbidity and mortality in the bottom right, i.e.: material, work and social environments. *Material circumstances* relate to health directly while *work and social environments* shape psychological factors and health-related behaviours, which, in turn influence the individual's response and health. Early life experience, genes and cultural factors also exert influence on health (13).



**Figure 1:** Social determinants of health. The model links social structure to health and disease via material, psychosocial, and behavioural pathways. Early life, generic, and cultural factors are further important influences on population health (13)

The left-hand side of figure 1 thus indicates *upstream* determinants, or social causes and the right-hand side, the *downstream* psychological and biological determinants, and individual dimensions, which is the main focus of clinical medicine. However, unless the upstream determinants are effectively dealt with, these will continue to reproduce conditions affecting the individual's health regardless of the efficiency of the downstream interventions.

Huge differences are displayed in health indicators among and within countries and across population groups. If possible explanations are sought, analyzes tend to focus on one or two determinants, e.g. related to economic or gender factors. However, cross-sectionally, advantage or disadvantage in one sphere of life is likely to be accompanied by other advantages or disadvantages in other spheres. Social organization also structures advantages and disadvantages longitudinally during the life course. (14). In other words, disadvantages tend to cluster and reinforce each other, potentially leading to very steep gradients in health outcomes, thus requiring multi-level analysis and action.



Improving equity in health means pushing up the social gradient in figure 2 towards being more horizontal and thereby releasing a population health potential that would otherwise be lost. Inequities are unnecessary and avoidable in addition to being unfair and unjust - therefore, reducing them is of value by itself (15). However, as has been argued elsewhere, it also makes good economic sense to address social determinants to reduce inequity in health. Reducing social gradients in health might turn out to provide considerable economical gains at a relatively low investment (16;17).

### 3 PRIORITY PUBLIC HEALTH CONDITIONS

The concept 'priority' have different meanings to different people and in different contexts. While the PPHC-KN is not about setting priorities between public health conditions, it might still be useful to look at 'priority public health conditions' from at least four perspectives, e.g.:

- represent large aggregate burden of disease
- display large disparities across and within populations

- affect disproportionately certain populations or groups within populations
- emerging / epidemic prone conditions

### 3.1 LARGE AGGREGATE BURDEN OF DISEASE

WHO estimated that 48% of the global burden of disease in 2005 was due to non-communicable diseases, including mental illnesses; 39% to communicable, maternal and perinatal conditions and nutritional deficiencies; and 13% to injuries (18).

However, breaking down global figures to, e.g., regional figures reveals significant geographical variations. Listing the ten top causes for each of the World Bank regions (table 1), yields a total of 26 different leading causes of burden of disease across the six regions (19) and thus reflecting the different demographic, ecological, political, social and economical realities of these six regions.

**Table 1:** Ten leading causes of the Burden of Disease, by World Bank region, 2001

East Asia and Pacific	Percentage of total DALYs(3,0)	Europe and Central Asia	Percentage of total DALYs(3,0)
1 Cerebrovascular disease	7.5	1 Ischemic heart disease	15.9
2 Perinatal conditions	5.4	2 Cerebrovascular disease	10.8
3 Chronic obstructive pulmonary disease	5.0	3 Unipolar depressive disorders	3.7
4 Ischemic heart disease	4.1	4 Self-inflicted injuries	2.3
5 Unipolar depressive disorders	4.1	5 Hearing loss, adult onset	2.2
6 Tuberculosis	3.1	6 Chronic obstructive pulmonary disease	2.0
7 Lower respiratory infections	3.1	7 Trachea, bronchus, and lung cancers	2.0
8 Road traffic accidents	3.0	8 Osteoarthritis	2.0
9 Cataracts	2.8	9 Road traffic accidents	1.9
10 Diarrheal diseases	2.5	10 Poisonings	1.9

Latin America and the Caribbean	Percentage of total DALYs(3,0)	Middle East and North Africa	Percentage of total DALYs(3,0)
1 Perinatal conditions	6.0	1 Ischemic heart disease	6.6
2 Unipolar depressive disorders	5.0	2 Perinatal conditions	6.3
3 Violence	4.9	3 Road traffic accidents	4.6
4 Ischemic heart disease	4.2	4 Lower respiratory infections	4.5
5 Cerebrovascular disease	3.8	5 Diarrheal diseases	3.9
6 Endocrine disorders	3.0	6 Unipolar depressive disorders	3.1
7 Lower respiratory infections	2.9	7 Congenital anomalies	3.1
8 Alcohol use disorders	2.8	8 Cerebrovascular disease	3.0
9 Diabetes mellitus	2.7	9 Vision disorders, age-related	2.7
10 Road traffic accidents	2.6	10 Cataracts	2.3

South Asia	Percentage of total DALYs(3,0)	Sub-Saharan Africa	Percentage of total DALYs(3,0)
1 Perinatal conditions	9.2	1 HIV/AIDS	16.5
2 Lower respiratory infections	8.4	2 Malaria	10.3
3 Ischemic heart disease	6.3	3 Lower respiratory infections	8.8
4 Diarrheal diseases	5.4	4 Diarrheal diseases	6.4
5 Unipolar depressive disorders	3.6	5 Perinatal conditions	5.8
6 Tuberculosis	3.4	6 Measles	3.9
7 Cerebrovascular disease	3.2	7 Tuberculosis	2.3
8 Cataracts	2.3	8 Road traffic accidents	1.8
9 Chronic obstructive pulmonary disease	2.3	9 Pertussis	1.8
10 Hearing loss, adult onset	2.0	10 Protein-energy malnutrition	1.5

However, table 1 hides the absolute level of the burden, the differences between countries and populations, as well as the dynamics of the burden. A case in point is Sub-Saharan Africa, which, in the table does not show non-communicable conditions among the top-ten, despite this being both a significant and growing problem in several of the countries of the African region (20).

### 3.2 LARGE DISPARITIES ACROSS AND WITHIN POPULATIONS

Maternal Mortality Rates (MMR) range from 0 in Iceland and 4 in Ireland to more than 1500 per 100,000 live-births in Afghanistan and several African countries. The under-five child mortality rates (U5MR) range from about 4 to 5 in most industrialized countries to more than 200 per 1000 live-births in many African countries (18). However, the level of economic development alone does not provide the whole explanation for the differences in these two health outcomes.

Mauritania and Kyrgyzstan have about the same GNI per capita (table 2), yet Mauritania's MMR is almost ten times that of Kyrgyzstan. Yemen, having less than half the GNI per capita of Mauritania has about half the MMR. The per capita income in Turkmenistan is more than three times that of Kyrgyzstan while its MMR is less than one-third of Kyrgyzstan's - yet, Kyrgyzstan's U5MR is much lower than Turkmenistan's.

**Table 2:** Gross national income (GNI) per capita, Maternal Mortality Rate (MMR), under-five Child Mortality Rate (U5MR) and inequities in U5MR in selected countries by WHO region for which data on inequities in U5MR are available from Demographic Health Surveys (18)

WHO Region	Country	GNI per capita (PPP Int\$-2004)	Overall MMR (2000)	Overall U5MR (2004)	Inequities in U5MR			Year
					Rural-Urban ratio	Wealth quintile (L/H)	Mother's education (L/H)	
AFR	Mauritania	2050	1000	125	0.9	1.2	1.3	2000-01
AFR	Nigeria	930	800	197	1.6	3.3	2.5	2003
AMR	Peru	5370	410	29	2.2	5.3	3.0	2000
AMR	Guatemala	4140	240	45	1.2	2.0	1.9	1998-99
EMR	Egypt	4120	84	36	1.5	2.9	2.2	2000
EMR	Yemen	820	570	111	1.3	2.2	1.8	1997
EUR	Turkmenistan	6910	31	103	1.4	1.5	1.5	2000
EUR	Kyrgyzstan	1840	110	68	1.4	2.0	1.7	1997
SEA	Bangladesh	1980	380	77	1.1	1.7	1.7	2004
SEA	Indonesia	3460	230	38	1.5	3.5	2.4	2002-03
WPR	Cambodia	2090	450	141	1.4	2.4	1.8	2000
WPR	Philippines	4890	200	34	1.7	3.1	3.7	2003

Peru, Indonesia and the Philippines, although having the lowest U5MRs in the table, have the highest inequities within their populations. A child born in the lowest wealth quintile in Peru has more than five times greater risk of dying before the age of five compared to one born in the highest wealth quintile and three times greater risk if the mother is in the least educated group. Mauritania and Cambodia have comparable GNI per capita and overall U5MR, however, the inequities in U5MR ratios in Cambodia are much higher than in Mauritania.

If they indeed are true reflections of the situation in countries, such differences and inequities in maternal and child health outcomes are unlikely to have simple explanations. They are rather rooted in political and socio-economic structures and are persistent over time. A retrospective analysis of U5MR in Tanzania found that despite overall improvements, geographical-administrative variations in performance by and large remained the same between 2002 and 1988 and that these differences

were due to a complex combination of variables rather than a single dominant one (21). The case of Tanzania highlights the need to have data at sub-national and population levels. Further, the first article in Lancet's recent maternal survival series concluded "*..irrespective of stage of development or the condition of health system, inequalities in the risk of maternal death are found everywhere*" (22). Thus, even where the overall burden is low, differential outcomes caused by social determinants exist.

Some conditions do not lend themselves easily to 'disease measures' such as burden of disease, mortality, morbidity, e.g., reproductive health and are not captured in mainstream health statistics. Still and even if they are difficult to measure and quantify, these are likely to show significant social gradients across and within populations.

### **3.3 DISPROPORTIONATELY AFFECTING CERTAIN POPULATIONS**

Some conditions may not appear prominent in the global, regional or even national statistics. However, they can be very important for some groups. One example is the cluster of tropical diseases, at times called the neglected diseases. An analysis of the 1990 burden of disease data showed that these diseases had to be reduced by 99.9% in order to eliminate the excess mortality gap due to these diseases between the poorest and the richest 20% of the global population (23). About these neglected diseases, Paul Hunt, a United Nations Special Rapporteur<sup>3</sup> states: "*They typically affect neglected populations - the poorest in the community, usually the most marginalized and those least able to demand service. These often include women, children and ethnic minorities, displaced people, as well as those living in remote areas with restricted access to services. Neglected diseases are often a symptom of poverty and disadvantage*" (24). Again, disaggregated standard mortality and morbidity [and even surveillance] data are rarely available for particularly vulnerable population groups. Other conditions could include, e.g., HIV among sex-workers in low prevalence areas, gender-based violence, etc..

### **3.4 EMERGING / EPIDEMIC PRONE CONDITIONS**

Some diseases or conditions do not appear high in the burden of disease statistics, even if they are easily quantifiable - still they may be important to address for the PPHC-KN. Some because they are currently controlled, e.g., due to high immunization coverage - however, if coverage drops and the wrong circumstances are present, they will quickly re-emerge. Others are coming and going depending on a number of social and ecological factors. Others again, are new and providing new potential threats to population health.

33 completely new pathogens have emerged during the past three decades, i.e., about one per year. This includes newly identified pathogens, diseases crossing the species barrier to people, diseases and vectors adapting to new environments and disease

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<sup>3</sup> Paul Hunt is the United Nations Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health

appearing in more virulent forms (25). Such diseases by nature will mostly show minimal burden and carry moderate or even low risks - but they might have eventual high health and political impact. Common to these new as well as the classical epidemic diseases is that their emergence, re-emergence and spread are determined by factors such as population growth, migration, urbanization, poor sanitation, poverty and marginalization, invasion of new ecological zones, farming practices, poorly functioning health systems, etc..

Several non-communicable and chronic conditions, such as, e.g., over-weight and obesity, cardiovascular diseases, cancers, chronic respiratory diseases, diabetes, etc. are on the rise across countries of the world regardless of level of economic development. This rise is clearly related to factors such as changes in social structures, work processes, life-styles, conflicts, globalization including 'nutrition transition', poverty, etc. (26).

## **4 PUBLIC HEALTH INTERVENTIONS AND PROGRAMMES**

Public health programmes have taken many forms and shapes and the perceptions of what constitutes a public health programmes vary across observers. For the purpose of the PPHC-KN, public health programmes will be defined as organized *suites* or *sets of interventions* with the population or population groups as the level of analysis and action. Public health programmes are parts and parcel of any health system, without which health systems risk degenerating into demand-driven *clinical care systems*. Public health programmes currently and in the past have in their actions and recommendations often gone beyond narrowly defined health care interventions to address upstream social determinants of health and inequities in health. These kinds of interventions are sometimes called structural interventions and are aiming at altering the context within which health is produced and reproduced (27)

Examples of structural interventions include among others: the international code on marketing of breast milk substitutes, the tobacco framework convention, the essential drugs list, seat belt laws, 'shaming' initiatives, smoke-free public buildings, regulation of food industry, industry boycotts, outreach programmes, regulations on public space, social marketing, water fluoridation, etc.. However, documentation of interventions specifically addressing inequity are few in the published literature (27)

In HIV/AIDS, structural interventions were from the start seen as critically important. The WHO/Global Programme on AIDS (GPA) realized that the epidemic to a large extent was driven by inequity, socio-economic disadvantages, unequal negotiation power, etc, and during the early years it took an intersectoral social determinants-based approach. A massive concerted set of intersectoral interventions in Uganda targeting the social environment pathway of figure 1 influenced the social norms, which, gave some protection to vulnerable young women against abuse, altered sexual behaviours and, finally led to a reversal of the HIV epidemic (28). However, leadership change in WHO shifted the programme to a more narrow health sector focus, eventually leading to closure of the programme and establishment of UNAIDS in 1995.

Implementing structural changes, and in particular those addressing inequities poses considerable challenges to health systems/programmes, including issues of: scaling up, reaching beyond the health sector, ensuring sustainability, dealing with power relations and values, and not the least with political processes. However, there is little doubt that reaching the MDG and other public health targets will require programmes to learn and strengthen their ability to more systematically take forward concerted approaches to addressing inequity and social determinants of health. One challenge will be to work across programmes. Many social determinants are likely to be at the pathways of several public health conditions addressed by different public health programmes. Another challenge will be to work across sectors, defining and stretching roles of public health programmes in this respect.

## **5 THE PPHC KNOWLEDGE NETWORK**

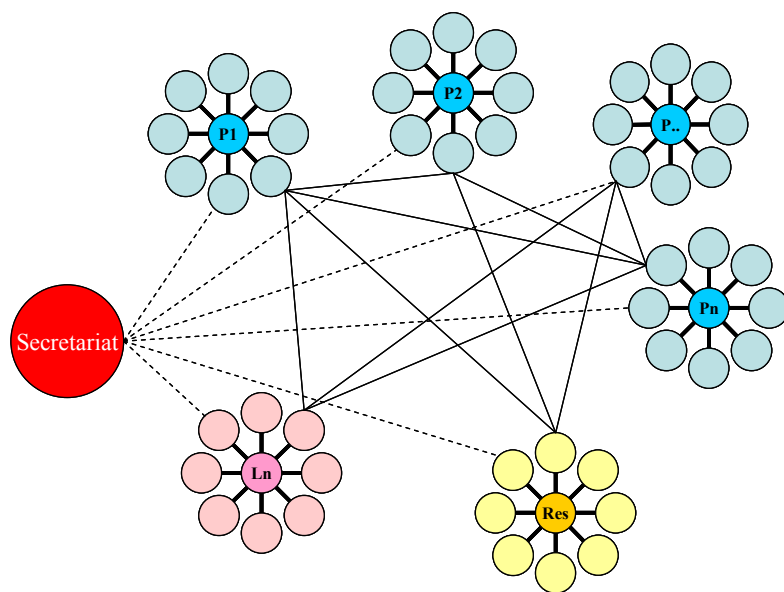
The PPHC-KN is one of the nine knowledge networks of the CSDH. The PPHC-KN is different from the other networks in three distinct ways: (1) its analysis evolves from specific public health conditions rather than from the determinants; (2) its organizational hub and most members are located in WHO where the hubs / co-hubs for other KNs and most members are in institutions outside of WHO; and (3) it is starting later than the others, meaning that the PPHC-KN can benefit from the works of these as they become available during the first half of 2007.

Vast experience and knowledge exist within the various parts of WHO, including already functioning networks of individual experts, national programme managers and international players. Therefore, creating a decentralized network with several nodes is deemed the most productive (figure 3). The nodes will need to be flexible, strong and self-sustained with ties between them to foster mutual learning and experience sharing as well as to drive progress and quality.

The role of the Secretariat will be process-oriented, i.e., providing general guidance, managing, monitoring, facilitating and supporting specific analysis. The Secretariat maintains the relationships, and is the guardian of the strategic vision ensuring that all nodes are on track (see Annex I). It will act as facilitator and communicator of information: technical data, experiences and good practices, news, activities and projects, feed back from members, etc. inside as well as outside the network ensuring continued visibility and support. Finally, the Secretariat will be responsible for the overall synthesis and final publication, including organizing external peer reviews.

A PPHC-KN Steering Group will be formed consisting of the HQ-based node leaders and the Secretariat to create a supportive environment for the node leaders, including: monthly meetings, workshops, regular formal and informal peer reviews, etc.. Three types of output-oriented nodes are foreseen: public health programmes (about 12-15 nodes), research (one node) and learning (one node), see figure 3.

**Figure 3:** Priority Public Health Conditions – A knowledge and practice network with multiple nodes



**Note!** P1 to Pn = Programme nodes; Res = Research node, Ln = Learning node

## 5.1 PUBLIC HEALTH PROGRAMME NODES

The types of questions to be addressed by the public health programme nodes include: What are the specific pathways and associated social determinants for the PPHC? What are the equity issues? What are the possible entry-points for intervention? What will effective interventions look like? What has been tried before and with what results? What are the programmatic and organizational changes required? Etc.? (see also section 6).

The tentative list of participating Programmes is:

- Child and Adolescent Health and Development
- Chronic Diseases and Health Promotion
- Control of Neglected Tropical Diseases
- Epidemic and Pandemic Alert and Response
- Food Safety
- Malaria
- HIV
- Immunization , Vaccines and Biologicals
- Injuries and Violence Prevention
- Making Pregnancy Safer
- Mental Health and Substance Abuse
- Nutrition for Health and Development
- Recovery and Transition Programme
- Reproductive Health
- Stop TB



Specific outputs of the public health programme nodes include: path-way analysis charts, proposals for interventions and their implementation, a 15-20 pages analytical chapter to a book (see Annex II).

The node-leaders will, for logistical reasons be Geneva-based. The nodes will have from 10 to 15 members each primarily drawn from each programme's already existing networks, including: relevant regional staff, relevant other HQ staff, at least one member from a civil society organization, at least one member from a bilateral/development agency operating significant programme in countries, at least one national programme manager, and relevant UN-agency partners. The node members will meet/consult virtually as well as taking advantage of events otherwise organized by each programme.

## **5.2 RESEARCH NODE**

Potential case programmes will be identified through the public health programme nodes, regional offices and others. Each study will be undertaken by a national scientist with case study experience and a manager from the case programme. It will be a requirement that the case has not earlier been internationally published. The final selection of cases will be done by the research node, taking into consideration condition and geographical coverage and case studies of the other Knowledge Networks.

The enquiry will document and analyse cases of good programme practices, addressing questions such as, e.g.: Which structural interventions or actions took place? How did implementation happen? What were the process facilitators and inhibitors? Which results were achieved with respect to level and inequity in PPHC outcomes? (See also section 6). The case studies, in other words, will document experiences of implementation and programmatic issues, i.e., organized suites of interventions rather than evaluating the effect of single interventions

The specific outputs of the research node include a 10-15 pages analytical report for each case study, a booklet of summarizing findings (see Annex II). The node-leader will be a scientist from TDR/SEB. Members will include: two members of TDR/SEB Steering Committee, RHR, the Alliance-HPSR, relevant regional research advisers, and EQH.

## **5.3 LEARNING NODE**

The purpose of the learning node is to: (1) support the PPHC-KN learning processes; (2) facilitate integration into WHO's larger corporate learning processes, e.g., staff development, WHO country strategy formulation, guideline development, management training, etc.; as well as (3) translation of knowledge of use by the wider policy and public health community. Therefore, the learning process is to be an integral part of the overall PPHC-process right from the start.

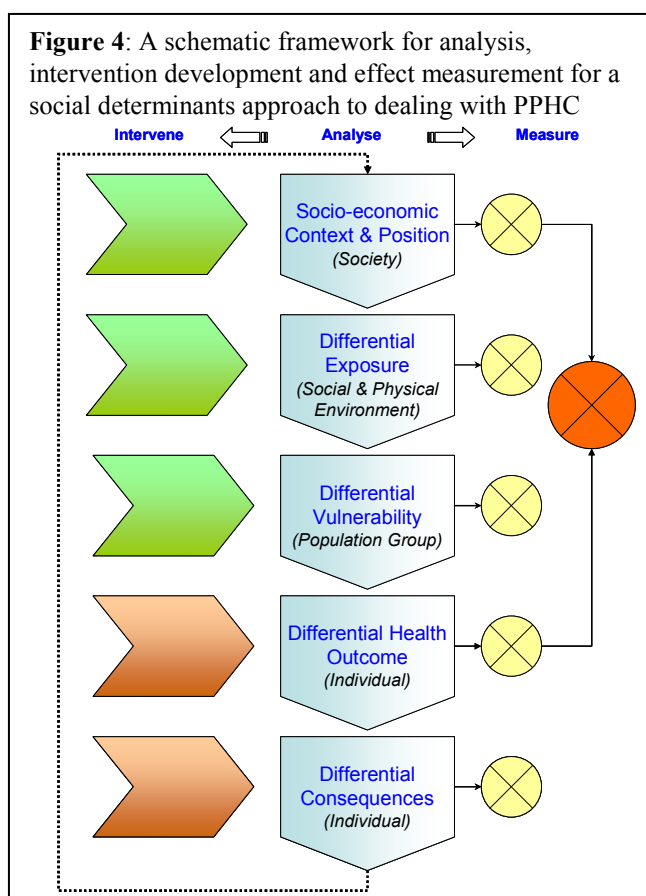
The specific outputs of the learning node may include: a review of WHO programme guidelines published between 2001 and 2006, WHO guidelines for guidelines, a self-learning guide for public health practitioners, a learning programme for staff of WHO

and other organizations, and a book-chapter on the WHO-specific corporate learning process, policy briefs (see Annex II). The node-leader will be a WHO Geneva-based staff. 10 to 12 members are foreseen to be drawn from, e.g., HRD/SDL, KMS, CCO, HRH, RPC, EQH and relevant regional staff

Realizing that there might be great interest and knowledge in the wider public health community, an interactive portal through which this wider community can participate will be established by the learning node.

## 6 FRAMEWORK FOR ANALYSIS

Most literature on equity and social determinants of health is based on high-income country data and about possible causal relationships. Even in high income countries there is limited documentation on interventions and implementation approaches to redress the situation. The work of the PPHC-KN is about practice, i.e., starting from specific public health conditions '*looking up the stream*' to identify the social determinants producing or reproducing them. Effectively addressing the inequities might involve not just new sets of interventions, but will likely also require modifications to the way that public health programmes are organized and operate as well as pushing the definition boundaries of a public health intervention.



The work will build on the CSDH conceptual framework a simplified schematic version of which is shown in figure 4. It has five levels of analysis, i.e., socio-economic context and position, exposure, vulnerability, health outcomes, and consequences; and three dimensions of activities, i.e., to analyse, intervene and measure. The small circles with crosses to the right indicate the different levels of measurement and the big circle an overall measure.

### 6.1 ANALYSIS

The five levels of analysis can briefly be described as<sup>4</sup>:

**Socio-economic context and position.** Social position exerts a powerful influence on the type, magnitude and distribution of health in societies. The

different levels of power and resources generate stratifications and are reflected in institutional, legal arrangements as well as in political and market forces. While social stratification is often seen as the

<sup>4</sup> Building on - adapted from Whitehead and Dalgren (15):

responsibility of other policy sectors and not central to the health sector per se, addressing stratification is critical to decrease the impact on health and health equity. Factors defining position include: development, economic, trade, labour market, education, and family welfare policies which can be reviewed in the context of each public health condition. These factors constitute the global, national and sub-national contexts for health.

**Differential exposures.** Exposure to almost all risk factors (material, psychosocial and behavioural) is inversely related to social position. Many health programmes do not differentiate exposure or risk reduction strategies according to social position, however, if analysis was done for each socio-economic group, it would become clear which risk factors were important to which group and whether these were different from those important to the overall population. Understanding these causes behind the causes are important for developing appropriate equity-oriented strategies for health. There is increasing evidence of differential exposures of people in disadvantaged positions, e.g., with respect to natural or man-made crises, unhealthy housing, dangerous working conditions, food availability and quality, barriers to adopting healthy behaviours, etc.

**Differential vulnerability.** The same level of exposure may have different effects on different socio-economic groups, depending on their social, cultural and economic environments and cumulative life-course factors. Clustering of risk factors such as social exclusion, low income, alcohol abuse, cramped housing and poor access to health services may be as important as the individual exposure itself. Further, co-existence of other health problems, such as, e.g., co-infections often augment vulnerability. The evidence base on the synergetic effects of reinforcing factors is still limited. However, they are known to exist for low-income populations and marginalised groups and when attempting to reduce or eliminate them the key issue is to identify appropriate entry points for breaking the vicious circles.

**Differential health outcome.** Equity in health implies that ideally everyone attain their full health potential regardless of their social position or other socially determined circumstances. The outcome should be the reduction of all systematic differences in health between different socioeconomic groups in a way that levels everyone up to the health of the most advantaged. The effects of the three framework levels above may be further aggravated by treatment and care responses by the health services, which are not appropriate for certain population groups or disadvantages people.

**Differential consequences of ill-health.** Poor health may have several social and economic consequences, including loss of earnings, loss of ability to work, social isolation or exclusion. Further, sick people often face additional financial burdens to pay for health care and drugs. While advantaged population groups are better protected, e.g., in terms of job security, health insurance - for the disadvantaged ill-health might result in further socioeconomic degradation, accelerating a downwards spiral that further damages health.

For each level, the analysis will establish and document:

- Social determinants at play and their contribution to inequity, e.g.: path-ways, magnitude and social gradients
- Promising entry points for intervention
- Potential side-effect of eventual change
- Possible sources of resistance to change
- What has been tried and what were the lessons learned

Specific analytical tools will be assembled, developed and adjusted over the coming months in collaboration with the PPHC-KN nodes, inputs from the other CSDH networks and others.

## 6.2 INTERVENTIONS

There are five clusters of possible interventions, corresponding to the five levels of the analytical framework ranging from the most upstream societal level to downstream individual levels. One of the prime tasks of public health programmes is to translate knowledge on causes into concrete action. Consideration about interventions and how these are to be implemented, as well as about risks and assumptions will therefore be key to the PPHC-KN. For the three most up-stream levels, it may be fruitful to consider the classification of structured interventions suggested by Blankenship et al (27) when proposing interventions for each of these levels of the framework

**Availability interventions** are based on the assumption that health problems result from the lack of or, conversely, the excessive availability of products, tools, behaviours, or settings, and, as such seek to influence their availability

**Acceptability interventions** recognize that the health of a society and of its members is partially determined by its values, cultures and beliefs, or of subgroups within it, and, as such seek to alter the social norms

**Accessibility interventions** acknowledge that health is a function of social, economic and political power and resources, and, as such, manipulate power and resources to promote public health.

The intervention development process could be launched from a three by three matrix with one dimension being the three most upstream levels of the analytical framework (figure 4), populated with key determinants for each. The other dimension could be the above three classes of interventions.

At the two downstream levels of the framework, the interventions are in response to incidental needs or demands of the individual. The design characteristics of the interventions or the way interventions are provided may, by themselves contribute to increasing outcome inequity. It has been proposed to view factors in this respect as a staircase with four, respectively five steps that an individual has to climb in order to fully benefit from a service (see table 3). It is further suggested that, e.g., the poorer have a greater reduction in efficacy at each step than the less poor (12)

**Table 3:** Comparison of two staircase perspectives for viewing obstacles to achieving effective and equitable outcome of health care interventions

Tugwell et al (12)	Tanahashi (29)
Access	Availability coverage
	Accessibility coverage
	Acceptability coverage
	Contact coverage
Diagnostic accuracy	Effectiveness coverage
Provider compliance	
Consumer adherence	

For a given intervention, the importance of each of the potentially seven steps is likely to depend on the specific health condition, the socio-economic situation of the individual as well as the underlying health and social systems. It might also be useful

to keep this staircase concept in mind when addressing some structural interventions, in particular accessibility interventions targeting population vulnerability.

However, one thing is to develop promising interventions - another is to put these effectively to work in often very complex circumstances, where there might even be powerful interests in hindering their success. General considerations about implementing interventions should include:

- *Replicability* - can the intervention be implemented in different contexts and circumstances?
- *Sustainability* - are the required human, technical and financial resources such that the interventions can be continued for long enough to have the desired and lasting effect?
- *Scalability* - can the interventions be expanded to the scale required to be meaningful?
- *Political feasibility* - can the intervention be implemented in different political circumstances, e.g., with respect to timing, values, power structure, etc.?
- *Economic feasibility* - what are the required investments and are these reasonable? How can the finances be made available? What has to be given up by other sectors?
- *Technical feasibility* - are the tools required to make the intervention happen available or can they be made available?

Specific implementation considerations could include:

- What are the need for and characteristics of *champions* or *enablers* to drive implementation?
- What are the *critical resources, paths, timing and sequencing*, and potential *stumbling blocks* ?
- Who are the *key stakeholders* and their *power relations*? Who are the potential proponents of change and their values, reasons, arguments and power; and who are the potential opponents ?
- What are the possible *adverse effects*?

The answers to the above are likely to differ from one public health condition and suite of interventions to the other and are proposed for guidance only. The network nodes will review and reformulate as needed.

### **6.3 MEASURING**

Methods to measure impact and effectiveness will be critical for both programme and the research nodes of the PPHC-KN. An indicator frame work and tools for measurement are being developed by EQH-

## ANNEX I: PROCESS TIMELINE AND MILESTONES

The CSDH report due in May 2008 is the hard deadline for the work of the PPHC-KN project. However, the project does not stop with the Commission's report. It is foreseen that specific products and outcomes will continue to flow up to the end of 2008 and beyond.

<b>Time</b> <i>(Quarter &amp; Year)</i>	<b>Achievement</b>
Q4, 2006	<ul style="list-style-type: none"> <li>• Third and final version of the scoping paper</li> <li>• All nodes identified and networks being formed</li> <li>• Financing in place and work plans and aspirations adjusted accordingly</li> </ul>
Q1, 2007	<ul style="list-style-type: none"> <li>• <b>First Steering Group workshop</b> (end of January): Work processes for the public health programme nodes and tools for pathway analysis - agreed</li> <li>• <b>Second Steering Group workshop</b> (end of March): Internal peer review - pathway analysis with identification of potential synergies and collaborative activities across programme nodes, plus frame / tools for intervention development agreed</li> <li>• First interim report from network nodes consolidated and fed into the June meeting of the Commissioners</li> <li>• Case-study sites identified and PIs contracted</li> </ul>
Q2, 2007	<ul style="list-style-type: none"> <li>• All case studies ongoing</li> <li>• <b>Third Steering Group workshop</b> (end of June): Internal peer review - interventions, with identification of potential synergies and collaborative activities and agreement on tools for measurement</li> </ul>
Q3, 2007	<ul style="list-style-type: none"> <li>• <b>Fourth Steering Group workshop</b> (end of September): Internal peer review - complete with measurements</li> <li>• Draft synthesis report gone to the Commission to feed into its final report</li> </ul>
Q4, 2007	<ul style="list-style-type: none"> <li>• Work of the public health programme nodes completed and under external peer-review</li> <li>• All case studies completed after an analysis and writing workshop and gone for external peer review</li> <li>• Final synthesis report</li> </ul>
Q1, 2008	<ul style="list-style-type: none"> <li>• All chapters for book edited and ready to go to print</li> <li>• Manuscripts for theme issue of WHO Bulletin back with comments from the review process</li> </ul>
Q2, 2008	<ul style="list-style-type: none"> <li>• Book published</li> <li>• WHO guide on guidelines printed and disseminated</li> </ul>
Q3, 2008	<ul style="list-style-type: none"> <li>• Theme issue of WHO Bulletin published</li> <li>• Summary/policy briefs are coming out, e.g., one per month</li> </ul>
Q4, 2008	<ul style="list-style-type: none"> <li>• Guide/self-learning course for public health practitioners launched</li> <li>• Learning programme for designers and developers launched</li> <li>• The series of six to nine summary/policy briefs completed</li> </ul>

There will be monthly meetings of the PPHC-KN Steering Group (the node leaders).

## ANNEX II: LIST OF PROPOSED PRODUCTS

The processes of the PPHC-KN are as important as the physical outputs in achieving the objectives. This annex lists the physical outputs envisaged.

The main audiences for the products include: academia, intervention programme designers and developers in and outside of WHO, policy-makers, public health programme managers and practitioners. A range of specific products is foreseen, however, this may eventually be narrowed depending on the available resources. The proposed list includes:

*Interactive guide/self-learning course for public health practitioners* in the field as well as students of public health. It could automatically issue certificates, e.g., by submitting an email with a code showing that the person has completed the course. This could then, in addition to providing the student with a proof of participation, also enable monitoring of who/where the course is studied.

*Summary/policy briefs for policy and opinion makers* targeting health and other sectors as well as politicians addressing their specific needs. The series of briefs would highlight the benefits of addressing upstream social determinants - underlining that health is generated outside of the 'clinics' and that these can mainly deal with some of the ill-health created by the broader societal processes. They would also point to which concrete action could be undertaken by each target audience with respect to social determinants of and inequities in PPHC

*Interactive learning programme for intervention designers and developers*, e.g., for inclusion in the 'Developing Health-programme Competencies (WHO Global Learning Committee), preparation and guidance for Country Cooperation Strategies, induction programmes for new staff, etc..

*WHO guidelines for guidelines*. An important early output will be an assessment of current guidelines and other WHO programme specific materials with respect to addressing equity and social determinants of health. The guidelines for guidelines will propose generic arguments and approaches for taking equity and social determinants into account when developing programme specific material to address public health conditions and programmes

*Edited Volume (Book)*. This will provide a comprehensive analysis and action agenda for each of the public health programmes. In addition, there will be cross-programme and case analyzes and chapters on learning and measuring. The book will attempt to generalize the learning and propose new ways forward.

*Booklet on the case studies*, documenting each good practice case study as well as providing an overall analysis and recommendation with respect to implementation.

*Scientific Articles*. Single standing articles as well as possibly a theme issue of the WHO Bulletin on methods as well as the results of the PPHC-KN.

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