86th Inaugural Lecture

By

Prof. Benjamin S.C. Uzochukwu – Professor of Public Health

Accelerating the Achievements of Health-Related Millennium Development Goals: Social Determinants of Health approach and Mainstreaming Health in All Policies

I wish to humbly welcome all of you to this my inaugural lecture being the 86th Inaugural lecture of the University of Nigeria and the 12th in the series of inaugural lectures delivered by my predecessors in the College of Medicine and 2nd in the department of Community Medicine.

Preamble

The Millennium Development Goals (MDGs) are eight international developmentgoals that were established following the Millennium Summit of the United Nations in 2000 that adopted the United Nations Millennium Declaration. All 189 United Nations member states at the time (there are 193 currently) and at least 23 international organizations committed to help achieve the Goals by 2015. There are eight goals with 21 targets, and a series of measurable health indicators and economic indicators for each target. As of 2013, global progress towards the goals was uneven. With less than one year to go, some countries achieved many goals, while others including Nigeria are not on track to realize many of the health related goals.

The limitation in progress of MDGs has been linked with failure to address theSocial Determinants of Health (SDH). These are the economic and social conditions – and their distribution among the population – that influence individual and group differences in health status. They are risk factors found in one's living and working conditions (such as the distribution of income, wealth, influence, and power), rather than individual factors (such as behavioural risk factors or genetics) that influence the risk for a disease, or vulnerability to disease or injury. According to some viewpoints, these distributions of social determinants are shaped by public policies that reflect the influence of prevailing political ideologies of those governing a jurisdiction. The World Health Organization says that "This unequal distribution of health-damaging experiences is not in any sense a 'natural' phenomenon but is the result of a toxic combination of poor social policies, unfair economic arrangements where the already well-off and healthy become even richer and the poor who are already more likely to be ill become even poorer, and bad politics."

Therefore, to accelerate the achievements of MDGs and prepare for the post-MDGs agenda, we need actions on SDH. One main solution is to include Health in All Policies (HiAP). HiAPS is "an approach to public policies that aims to include health considerations in policy making across different sectors that influence health, such as Agriculture, Education, Housing, Transportation,

Financing, Public safety etc.It is built on the rationale that health is determined by multiple factors outside the direct control of the health care sector, such as conditions where people live, work, and play. Decisions made in other sectors can either positively or negatively affect the determinants of health.

In addition, poorly functioning health infrastructure, inadequate numbersof health workers, slow adoption of evidence-based health policies and insufficient focus on quality of care are holding back progress in many countries.Therefore, taking a social determinants approach requires coordination and alignment among different sectors and different stakeholders at national and sub-national levels. The health sector should take the lead on this by ensuring strong leadership, policy coherence and community participation.
This lecture therefore explores the achievements of the MDGs in Nigeria and elsewhere and presents evidence of SDH produced by Professor Benjamin Uzochukwu and his research colleagues over the past decade and half. It depicts clearly how addressing these SDH and mainstreaming health in all policies and sectors is a way to accelerating the achievements of the MDGs in the post 2015 agenda. My future research agenda by the Grace of God will be focused on health policy and systems research and anchored on both operational and implementation research to addressing the social determinants of health and health in all Policies in the post 2015 agenda of sustainable development goals.

SECTION ONE: INTRODUCTION

1. THE MILLENNIUM DEVELOPMENT GOALS (MDGS).

1.1. Definition and History

At the turn of the century in 2000, World leaders came together at the United Nations and agreed on a bold vision and established concrete targets for improving the lives of those threatened by disease and hunger through the Millennium Development Goals (MDGs). This was ***"The World's Biggest Promise".*** It pledged to uphold the principles of human dignity, equality and equity, and free the world from extreme poverty. It was endorsed by leaders from 189 countries at that time and at least 23 international organizations with baseline of 1990 and endline of 2015. They are:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education

3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

Although several of these goals and their targets have important health componentsmostnotably Goal 1, three of the goals and their targets are directly health related namely:

MDG4: Reduce child mortality
Target: - reduce under-five mortality by two-thirds between 1990 and 2015

MDG5: Improve maternal health
Targets: i) reduce by three quartersbetween 1990 and 2015, the maternal mortality ratio
ii) Achieve by 2015, the universal access to reproductive health

MDG6: Spread of HIV/AIDS, TB and malaria to be have been halted and begun to be
reversed by 2015.
Targets: i) Have halted, by 2015, and begun to reverse the spread of HIV/AIDS
ii) Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it
iii) Have halted, by 2015, and begun to reverse the incidence of malaria and other major disease

According to the United Nations' Secretary General Ban Ki Moon, if the MDGs are achieved in 2015, more than 500 million people will be lifted out of extreme poverty; more than 300 million will no longer suffer from hunger; there will be dramatic progress in child health: rather than die before reaching their fifth birthdays, 30 million children will be saved; lives of more than 2 million mothers will be saved.

At its inception, there was wide support garnered by the MDGs and this signalled the emergence of a new, relatively more consensual climate in international health and development, moving beyond some of the polarizations of the 1990s and creating a foundation for more collaborative partnership work among diverse actors.

According to Drager & Vieira, 2002, *"A shared interest has emerged in maximizing the real benefits of global processes while at the same time acknowledging the harm they can cause, in particular to vulnerable groups, and instituting policies to limit these negative effects and achieve a more equitable distribution of costs and benefits"*

1.2. The Global MDG score cards.

Over the past decade, important progress across all goals have been made in many low and middle income countries with some targets already having been met well ahead of the 2015 deadline. Health progress has also been made. There has been decline in child and maternal mortality rates in many countries, and demonstrable progress has been made in the fight against HIV/AIDS, tuberculosis and malaria. However, it is certain that many countries will not meet the MDG targets and therefore much remains to be done beyond 2015, particularly in sub-Saharan Africa (SSA) and South Asia, and in countries affected by conflict.

In general, according to the 2014 MDG Report, global poverty has been halved five years ahead of the 2015 timeframe. Ninety per cent of children in developing regions now enjoy primary education, and disparities between boys and girls in enrolment have narrowed. Remarkable gains have also been made in the fight against malaria and tuberculosis, along with improvements in all health indicators. The likelihood of a child dying before the age of five years has been nearly cut in half over the last two decades. That means that about 17,000 children are saved every day. The target of halving the proportion of people who lack access to improved sources of water was also met.

a. The world has reduced extreme poverty by half

In 1990, almost half of the population in developing regions lived on less than $1.25 a day. This rate dropped to 22 per cent by 2010, reducing the number of people living in extreme poverty by 700 million. The overwhelming majority of people living on less than $1.25 a day belong to two regions: Southern Asia

and SSA. In 2010, nearly two thirds of the extreme poor lived in India, China, Nigeria, Bangladesh and Democratic Republic of Congo. One third of the world's 1.2 billion extreme poor lived in India alone. Despite much progress in poverty reduction, China still ranked second, and was home to about 13 per cent of the global extremepoor. **Nigeria was home to 9 per cent,** Bangladesh 5 per cent and the Democratic Republic of the Congo 5 per cent.

Indeed, much of the progress made on poverty and hunger reduction has been made in a few large countries. More than 1 billion people still live in extreme poverty as they continue to face serious deprivations of basic human needs, including food, safe drinking water, sanitation facilities, health services, shelter, and education, with progress hampered by deep inequalities linked to income, gender, ethnicity, disability, location and age. The global economic downturn and increasing conflicts of recent years have worsened poverty and inequality, while climate change threatens to reverse achievements and undermine future gains.

b. Efforts in the fight against malaria and tuberculosis have shown results

Between 2000 and 2012, an estimated 3.3 million deaths from malaria were averted due to the substantial expansion of malaria interventions. About 90 per cent of the averted deaths—3 million—were children under the age of five living in SSA. The intensive efforts to fight tuberculosis have saved an estimated 22 million lives worldwide since 1995.

c. Access to an improved drinking water source

The target of halving the proportion of people without access to an improved drinking water source was achieved in 2010. In 2012, 89 per cent of the world's population had access to an improved source, up from 76 per cent in 1990. Over 2.3 billion people gained access to an improved source of drinking water between 1990 and 2012.

d. Disparities in primary school enrolment between boys and girls are being eliminated in all developing regions

Substantial gains have been made towards reaching gender parity in school enrolment at all levels of education in all developing regions. By 2012, all developing regions had achieved, or were close to achieving, gender parity in primary education.

e. Chronic undernutrition among young children has declined

In 2012, a quarter of all children under the age of five years were estimated to be stunted—having inadequate height for their age. This represents a significant decline since 1990 when 40 per cent of young children were stunted. However, about 162 million young children are still suffering from chronic undernutrition.

f. Child mortality has been almost halved

Worldwide, the mortality rate for children under age five dropped almost 50 per cent, from 90 deaths per 1,000 live births in 1990 to 48 in 2012.

g. Maternal mortality

Globally, the maternal mortality ratio dropped by 45 per cent between 1990 and 2013, from 380 to 210 deaths per 100,000 live births. Worldwide, almost 300,000 women died in 2013 from causes related to pregnancy and childbirth and these deaths were mostly preventable.

h. Access to Antiretroviral therapy

Access to antiretroviral therapy (ART) for HIV-infected people has been increasing dramatically, with a total of 9.5 million people in developing regions receiving treatment in 2012. ART has saved 6.6 million lives since 1995. Expanding its coverage can save many more.

i. Access to improved sanitation

Over a quarter of the world's population has gained access to improved sanitation since 1990. Between 1990 and 2012, almost 2 billion people gained access to an improved sanitation facility. However, in 2012, 2.5 billion people did not use an improved sanitation facility and 1 billion people still resorted to open defecation, which poses a huge risk to communities that are poor and vulnerable already.

j. Primary school attendance

Ninety per cent of children in developing regions are attending primary school as the school enrolment rate in primary education in developing regions increased from 83 per cent to 90 per cent between 2000 and 2012. Most of the gains were achieved by 2007, after which progress stagnated. In 2012 alone, 58 million children were out of school.

1.3. The Nigerian MDG score cards.

Over the past decade substantial progress has been made in many of the MDG goals in Nigeria. We have had some progress in the issue of maternal healthcare, improved maternal healthcare; had improved statistics on infant mortality, the number of out-of-school children has reduced substantially through some of the other policies like the Universal Basic Education (UBE). There is progress in sanitation issues; more communities have access to drinking water, and more access routes and infrastructure in place.

Nigerian MDG Results:

Goal 1. Eradicate Extreme Poverty and Hunger	The recent growth in agricultural sector in particular has led to improvement of nutrition but has not resulted in sufficient employment or a noticeable poverty reduction (NBS, 2013, UNDP, 2013). 37% of children under age 5 are considered to be short for their age or stunted, while 21% are severely stunted. The proportion of children who are stunted has been decreasing over the years. However, the extent of wasting has worsened, indicating a more recent nutritional deficiency among children in the country (NPC, NDHS 2013). The proportion of people living on less than $1.25 a day is 70%
Goal 2. Achieve Universal Primary Education	9 out of 10 eligible children are now in school as a result of UBE Programme interventions and enrolment in private schools (NBS), 2013). However, disadvantaged groups are still excluded and the quality of education remains poor.

Goal 3. Promote Gender Equality and Empower Women	Improvements: For every 9 boys in school, there are 9 girls, but female economic and political empowerment remains elusive (NBS, 2013).
Goal 4. Reduce child mortality	Reduction in infant mortality rate, from 100 deaths/ 1,000 LB in 2003 to 69 deaths/1,000 LB in 2013(NPC, NDHS 2013).**Target is 30 deaths/1000 live births** Reduction in U5 mortality rate, from 201 deaths/ 1,000 LB in 2003 to 128 deaths/1,000 LB in 2013 (NPC, NDHS 2013).**Target is 64 deaths/1000 live births** Measles immunization coverage by 12 months increased from 31.4% in 2003 to 49.2% in 2011 and 42% in 2013 (NBS, 2013; (NPC, NDHS 2013).**Target is 95%** Fully immunized children: Increased from 13% in 2003 to 25% in 2013 (NPC, NDHS 2013). **Target is 95% by 2015**
Goal 5. Improve maternal health	Slow progress: maternal mortality fell from 800 deaths per 100,000 births in 2003 to 545 deaths per 100,000 births in 2008(NPC, NDHS 2008). The proportion of births attended by skilled health personnel increased slightly from 36 % in 2003 to 38% in 2013 (NPC, NDHS 2013). Target is 85% by 2015. Contraceptive Prevalence Rate increased from 8% in 2003 to 15% in 2008 and 17% in 2013(NPC, NDHS 2013).
Goal 6. Combat HIV/AIDS, malaria and other diseases	HIV/AIDS prevalence dropped from 5% in 2001 to under 4% in 2008. However, there has been sudden rise in

	HIV prevalence or State HIV prevalence > national HIV prevalence of 4.1% in 21 States (FMOH, JAR Report, 2012). Population accessing ARV drugs increased from 16.7% in 2007 to 34.4% in 2010. However, Nigeria still has the second highest burden of HIV in the world after South Africa representing 9.0% of the global burden of infection (UNDP, 2014). Malaria prevalence (<5yrs) – 28% & 50% - (marked regional variation, different estimates) Proportion of children under-5 sleeping under ITN increased from 2.2% in 2003 to 16.4% in 2011 and 29% in 2013(NPC, NDHS 2013). Proportion of pregnant women sleeping under ITN was 30% in 2013 (NPC, NDHS 2013). TB case detection rate – 43%(FMOH, JAR Report, 2012).
Goal 7. Ensure environmental sustainability	Access to safe water and sanitation has not improved significantly and other environmental challenges, such as erosion, coastal flooding and climate change, are growing (UNDP, 2010).
Goal 8. Develop a global partnership for development	The benefits of debt relief have not been matched by an increase in aid. Trade and access to markets remain unequal (UNDP, 2010).

Despite all the achievements, Nigeria continues to lose shocking numbers of children before their fifth birthdays as well as thousands of mothers who die unnecessarily during childbirth. The fear is therefore being entertained even in Civil Society Organizations' circles that Nigeria will not be able to attain the MDGs. For example, according to the Secretary of the Commonwealth Local

Government Forum (CLGF) *"Nigeria is off track in the attainment of the Millennium Development Goals (MDGs) by 2015 deadline many of which happen at the local level and must be mindful of the need for better integration between levels of government, mainstreaming support within budgets, and improving transparency and accountability"* (Wright 2014).

1.4. *How can we accelerate these achievements of MDGs and prepare for the Post –MDG Health Agenda?*

Continued progress towards the MDGs in the remaining year is essential to provide a solid foundation for the post-2015 development agenda. Therefore to accelerate the achievement and position for the post MDG agenda, a more integrated approach, looking beyond health to address other issues are essential. Three key approaches are:

1. Addressing Sustainable Development Goals (SDGs) Post MDGs
2. Addressing action on the Social Determinants of Health (SDH)
3. Mainstreaming Health in All Policies (HiAP)

SECTION TWO: SUSTAINABLE DEVELOPMENT GOALS (THE POST MDG AGENDA)

2.1. Definition

As the 2015 deadline for the MDGs approaches, the international community has started to work on a new development framework to accelerate their achievement called sustainable development goals. These are Goals that address and incorporate all three dimensions of sustainable development – economic, social, and environmental – to guide the United Nations development agenda beyond 2015. Sustainable Development Goals (SDGs) are action- oriented, global in nature and universally applicable to all countries, while taking intoaccount different national realities, capacities and levels of development and respecting national policies and priorities. They integrate economic, social and environmental aspects and recognize their inter linkages in achieving sustainable development in all its dimensions. At present there are 16 topic areas / overarching goals, more than 140 targets so far. There is one standalone health goal**: ensure healthy lives at all ages,** multiple sub-goals (>20 targets), baseline 2015 and endline 2030. The Goals are:

1. End poverty in all its forms everywhere
2. End hunger and improve nutrition for all through sustainable agriculture and improved food systems

3. Ensure **Healthy life at all ages for all**
4. Provide quality education and life-long learning for all
5. Attain gender equality and women's empowerment everywhere
6. Provide water and sanitation for a sustainable world
7. Ensure access to affordable, sustainable, and reliable modern energy for all
8. Promote sustainable, inclusive and sustained economic growth and decent jobs for all
9. Promote sustainable industrialization and equality among nations
10. Build inclusive, safe and sustainable cities and human settlements
11. Promote sustainable consumption and production patterns
12. Take urgent and significant action to mitigate and adapt to climate change
13. Take urgent and significant actions for the conservation and sustainable use of marine resources, oceans and seas
14. Protect and restore terrestrial ecosystems and halt all biodiversity loss
15. Strengthen global partnership for sustainable development
16. Peaceful and inclusive societies, rule of law and capable institutions

2.2. SDGs Health Sub-Goals

Overarching Health Goal: Ensure healthy lives and universal health coverage at all ages

Sub-Goals:

1. Achieve the health-related MDGs
2. Address the burden of non-communicable diseases, injuries and mental disorders
3. Achieve Universal Health Coverage including financial risk protection
4. Address the social and environmental determinants of health

SUB-GOAL 1: Achieve the MDGs for child and maternal health, and for major communicable diseases (Similar to MDGs 4 to 6)	
	Targets for 2030 (except where stated, baseline 2015)
End preventable child deaths	under-5 mortality below 20/1000 live births in all countries by 2035;

	neonatal mortality below 10/1000
End preventable maternal deaths	Maternal mortality ratio below 50/100,000 by 2035
End the epidemics of HIV/AIDS, tuberculosis, malaria and other communicable diseases	Reduce new HIV infections by 75% and eliminate new infections among children (<1% MTCT) Reduce TB incidence rate by 80% and number of TB deaths by 90% Reduce malaria incidence and death rates by 75% by 2025; eliminate malaria from 20 countries; 80% coverage of NTD interventions; reduce viral hepatitis incidence/mortality)
SUB-GOAL 2: Address the burden of noncommunicable diseases, injuries and mental illness	
	Targets for 2030
Reduce premature deaths from non-communicable diseases	Reduce mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory disease between ages 30 and 70 by one-third
Reduce deaths and disabilities from injuries and mental disorders	Reduce road traffic deaths by 50% (others to be set)
SUB-GOAL 3: Achieve Universal Health Coverage including financial risk protection	
	Targets for 2030
Financial risk protection	Zero impoverishment due to health expenses; zero catastrophic out of pocket expenses
Universal coverage of quality health services	At least 80% coverage of services in all population groups: -promotion/prevention: immunization, antenatal care, family

	planning; sexual and reproductive health services; non-use of tobacco; safe water and sanitation; insecticide-treated nets -treatment/rehabilitation/palliation: skilled birth attendance; prevention, detection and treatment of HIV, TB, malaria, NTDs, viral hepatitis; treatment of hypertension, diabetes and severe mental disorders; assistive devices for persons with disabilities; palliative care; access to basic technologies and essential medicines
SUB-GOAL 4: Address the social and environmental determinants of health	
	Targets for 2030
Reduce exposure to environmental risk factors	To be set (improved water sources, adequate sanitation; household use of modern fuels for cooking/heating/lighting; improved indoor air quality; cities with lower mean PM 2.5)
Improve nutrition	Reduce child stunting by 50%, reduce child wasting to 5% , reduce anaemia in women of reproductive age by 60%, low birth weight by 30%; reduce child overweight by 25%; at least 50% exclusive breastfeeding 0-5 months
Promote health security	To be set (implementation of International Health Regulations)

SECTION THREE: ADDRESSING ACTION ON THE SOCIAL DETERMINANTS OF HEALTH (SDH)

3.1. Preamble

The limitation in progress of MDGs has been linked to in part to a failure to reach the most vulnerable populations (as advances in national indicators for the MDGs often mask increasing inequities within countries) and **the failure to address the** social, economic and environmental determinants of health and not just the proximal causes of illness and disease. For example, globally, the National TB programmes have succeeded in increasing access to treatment, yet the rate of reduction in the incidence of the disease remains slow because there is no commensurate targeting of vulnerable populations and the social and economic factors which influence access to treatment, adequate nutrition, and social support are neglected. The global HIV/AIDS response offers similar lessons. With the rapid scale-up of international assistance to prevention and treatment programmes, including antiretroviral therapy, HIV incidence and mortality have declined but this progress is not uniform and not as fast as it could be, given the investments that have been made.

3.2. What is social determinant of Health?

3.2.1. Definitions:

In our words- Breaking down the word:

Social: Your interactions with the external environment (your friends, family, places, and different systems).

Determinants: Affecters or indicators… something that is determined or influenced by…

Health: We all know what health is, but we put it in the context of physical, social, spiritual, and mental well being.

Social determinants of healthdescribe the conditions in which people are born, grow, live, work and age and their influence on health. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels, which are themselves influenced by policy choices (Commission on Social Determinant of Health 2008). They are "societal risk conditions", rather than individual risk factors that either increase or decrease the risk for a disease. They are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries and encompass the social, economic, political, cultural and environmental determinants of health. A girl born today can expect to live for more than 80 years if she is born in Japan or Sweden – but less than 45 years

if she is born in many African countries including Nigeria. (Commission on Social Determinant of Health 2008). Within countries there are also dramatic differences in health that are closely linked with degrees of social disadvantage. Differences of this magnitude, within and between countries, simply should not happen. Factors related to health outcomes include:

i. How a person develops during the first few years of life (early childhood development)
ii. How much education a person obtains
iii. Being able to get and keep a job and what kind of work a person does
iv. Having food or being able to get food (food security)
v. Having access to health services and the quality of those services
vi. Housing status
vii. Discrimination and social support
viii. How much money a person earns

3.2.2. Perspectives of social determinants of health:

a. Literary Perspectives

Bertolt Brecht, a worker in 1938 said to a doctor: "We know what makes us ill. When we are ill we are told that it's you who will heal us. When we come to you our rags are torn off us and you listen all over our naked body as to the cause of our illness. One glance at our rags would tell you more. It is the same cause that wears out our bodies and our clothes"

b. Academic Perspectives

"It is one of the greatest of contemporary social injustices, that people who live in the most disadvantaged circumstances have more illnesses, more disability and shorter lives than those who are more affluent" (Benzeval et al. 1995)

c. International perspectives

The social conditions in which people live and work can help create or destroy their health. Poverty, food insecurity, social exclusion and discrimination, poor housing, unhealthy early childhood conditions and low occupational status are important determinants of most diseases, deaths and health inequalities between and within countries

The need to make a clear link between broad social and economic inequalities and disparities in the coverage of health interventions has been championed by the Social Determinants of Health movement (Marmot 2010; Lee 2011). Common SDH include: daily living conditions: healthy physical environment, fair employment and decent work, social protection and access to health care (maldistribution of health care – not delivering care to those who need it most). Poverty, social exclusion, poor housing and poor health systems are among the main social causes of ill health.

3.3. Structural determinants of health inequity.

In the Commission on Social Determinants of Health (CSDH) framework, the structural mechanisms are those that interplay between context and socio-economic position: generating and reinforcing class divisions that define individual socioeconomic position within hierarchies of power, prestige and access to resources. "Context" is broadly defined to include all social and political mechanisms that generate, configure and maintain social hierarchies, including: the labour market; the educational system political institutions and other cultural and societal values. Among the contextual factors that most powerfully affect health are the welfare states and its redistributive policies (or the absence of such policies). Structural mechanisms are rooted in the key institutions and policies of the socioeconomic and political context. The most important structural stratifiers and the proxy indicators include:

1. Income and Social Class
2. Education
3. Occupation
4. Gender
5. Race/ethnicity.

Together, context, structural mechanisms and the resultant socioeconomic position of individuals are "structural determinants" and in effect it is these determinants we refer to as the "social determinants of health inequities."

In the highly published Titanic accident, the highest proportions of women and children who died were in the 3rd class areas and very few were in the first class areas as shown in the figure 1 below.

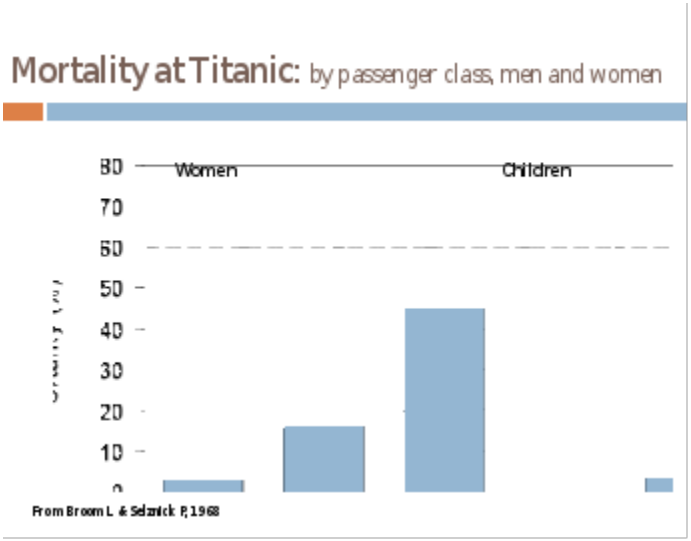

Figure 1: Mortality at Titanic

3.4. Intermediary determinants of health The underlying social determinants of health inequities operate through a set of intermediary determinants of health to shape health outcomes. The main categories of intermediary determinants of health are: material circumstances; psychosocial circumstances; behavioural and/or biological factors; and the health system itself as a social determinant. Material circumstances include factors such as housing and neighbourhood quality, consumption potential (e.g. the financial means to buy healthy food, clothing, etc.), and the physical environment including climate change. Psychosocial circumstances include psychosocial stressors, stressful living circumstances and relationships, and social support and coping mechanisms (or the lack thereof). Behavioural and biological factors include nutrition, physical activity, tobacco and alcohol consumption, which are distributed differently among different social groups. Biological factors also include genetic factors. When referring to the more downstream factors, we use the term '***intermediary determinants of health***'

3.5. Linking social determinants of health and health equity

3.5.1. What are health inequities or inequalities?

Health inequality is defined as the difference in health outcomes between different population groups, including socioeconomic groups

*(*Mackenbach *et al. 2007),* i.e. the structural and systematic differences in health status between social groups (Exworthy et al. 2003). 'Health inequities' as measured by unfair 'inequalities in opportunities' are closely linked to the social determinants of health. Social and economic conditions and their effects on people's lives determine their risk of illness and the actions taken to prevent them becoming ill or treat illness when it occurs.

According to CSDH, health inequalities could not be explained by access to health services, or by income poverty alone but are more related to political, economic and social forces the unfair distribution of power, money and resources (Epstein D et al. *2009)*. In the words of UN Secretary General, *'Although some of the inequities in health outcomes are due to differences in accessto health services, the majority are attributable to the conditions in which people areborn, grow, live, work, and age. In turn, poor and unequal living conditions are largelythe result of poor social policies and programmes, unfair economic arrangements, and politics driven by narrow interests.' (*Moon, Ban Ki 2009).

Reducing inequalities was not a key element in the health-related MDGs but it is an important focus of the post-2015 agenda. This involves studying how inequalities change, how they relate to policies and health systems, and how they relate to global processes, such as conflict or economic growth or recession (Kawachi et al. 2010).

According to a new report, Countdown to 2015, despite the achievements made in the MDGs, substantial inequities persist in most of the 75 countdown countries including Zimbabwe, Nigeria, China, Mexico, Morocco, Egypt, Malawi, Cambodia, Brazil, Peru, Bangladesh, Liberia, Senegal, Uganda, Ethiopia, South Africa, Zambia, and Mozambique. In virtually every countdown country including Nigeria, the wealthy receive far higher coverage of key interventions than the poor.In Nigeria for example, as shown in figure 2, the wide bars show Nigeria's highly inequitable coverage for many coverage indicators except for insecticide treated nets (ITN) use among children under 5 years and early initiation of breast feeding. In the figure, coverage levels are shown for the poorest 20% (red circles) and the richest 20% (Orange circles). The longer the line between the two groups the greater

the inequality. This is in contrast to Malawi (figure 3) where the narrow bars show Malawi's quite equitable coverage for many coverage indicators.

(www.countdown2015mnch.org).

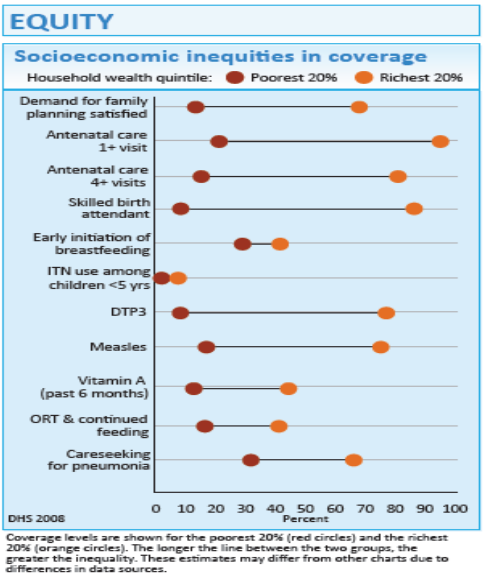

Figure 2: Socioeconomic inequities in coverage of key health interventions in Nigeria

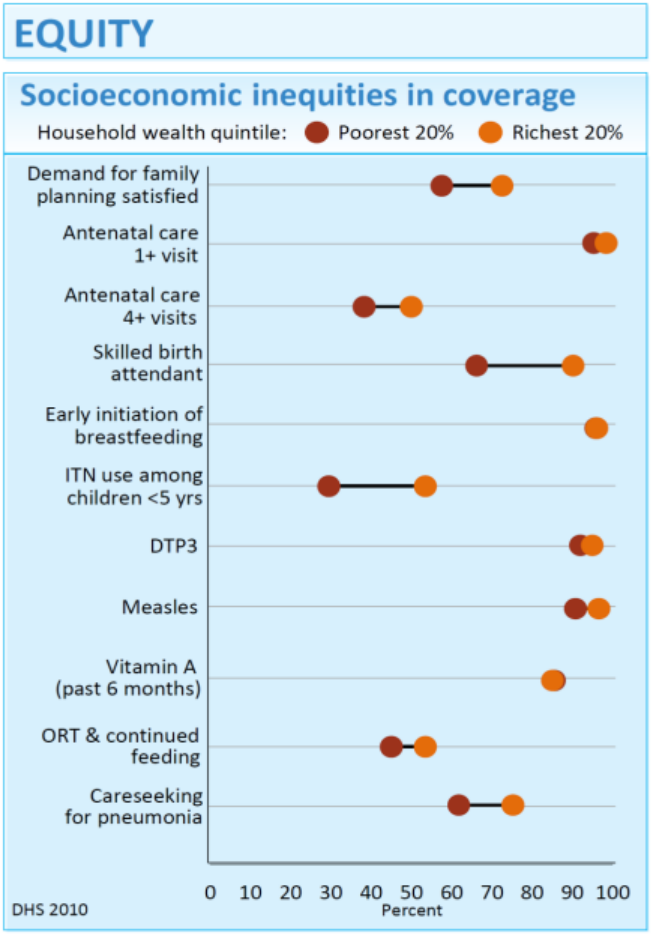

Figure 3: Socioeconomic inequities in coverage of key health interventions in Malawi

3.6. Key Social Determinants of Health

3.6.1. The Health Systems as a Social Determinant of Health

Health-care systems are an important social determinantof health as poorly performing health systems can be a major barrier to health care. Moreover, there are high levels of inequalities in the distribution of health services,

access to health services and the burden of ill health, according to socioeconomic status, geographical location, gender and age, including an unfair burden of out-of-pocket expenses and a high proportion of catastrophic household spending on health. A well-performing health system can help to increase equity in health care access, improve health outcomes and improve health equity. To improve performance of health systems in many low- and middle-income countries in order to achieve universal access to health care based on affordability and availability of services requires continuous support and concerted efforts from several actors, including international organizations, governments, civil society organizations and academia. Moreover, health systems should address the social determinants of health, and universal health coverage should include aspects of social determinants of health.

Some potential key actions to be taken to ameliorate these include:

i. ***Strengthened focus on primary health care***including adequate funding and supply of health workers trained on social determinants of health approach.

ii. ***Deliver quality health services to all people,*** with specific attention to vulnerable groups, when and where they need them; ensure increased outreach of national prepayment mechanisms that decrease out-of-pocket expenses for health.

iii. ***Establish innovative and effective policy frameworks***that allow coordination across sectors, enable and sustain equitable health system development, and present opportunities to engage civil society in health system decision-making and action, especially at the local level (CSDH, 2007).

iv. ***Improve universal health coverage***by building on existing international commitments to ensure universal access to a nationally defined set of goods and services, constituting essential health care, including maternity care, that meets the criteria of availability, accessibility, acceptability and quality

v. ***Provide specifically designed health services and social protection measures***for socially disadvantaged and marginalized groups, as well as the general population, including protecting people with chronic illnesses from income loss.

vi. ***Improve capacity of the health sector***to identify and contribute to addressing social determinants of health through intersectoral action and policies.

3.6.2. Gender as a social determinant of health

Gender discrimination is "the single most widespread driver of inequalities in today's world", and it is one of the most important social determinants of health, and reducing gender inequality is an important step in improving health equity. "Gender" refers to those characteristics of women and men which are socially constructed, whereas "sex" designates those characteristics that are biologically determined (WHO 2002).

Gender-biased values translate into practices and behaviour that affect people's daily lives, aswell as key determinants of wellness and equity such as nutrition, hygiene, acknowledgement of health problems, health-seeking behaviour, and access to health services. For example women and girls in some settings miss out on educational opportunities due to their household responsibilities to collect water and wood for cooking. Therefore, gender power relations function as a key social determinant of health and of inequity in health. For example, gender was noted to be significantly associated with Schistosomiasis infection in Nigeria as males were more likely to have infection than females (Uzochukwu et al 2010a). While girls and women as well as inter-sex and transgender people are typically more at risk of poor health outcomes because of gendered norms, structures, behaviours and practices, boys and men are also negatively affected by gendered norms and behaviours.

Health effects of discrimination can be immediate and brutal (e.g. in cases of female infanticide, or when women suffer genital mutilation, rape or gender-based domestic violence). Disproportionately high levels of HIV infection among young women in some SSA countries including Nigeria are fuelled by patterns of sexual coercion, forced early marriage (UNAIDS, 2002) and economic dependency among women and girls (CADRE 2003). Although gender inequity in health is pervasive and persistent, it can be changed throughеffective political leadership, well designed policies and programmes, and institutionalincentives and structures. *Seven approaches that can make a difference include:*

i. Address the essential structural dimensions of gender inequity
ii. Challenge gender stereotypes and adopt multilevel strategies to change the norms and practices that directly harm women's health.
iii. Reduce the health risks of being women or men by tackling gendered exposures and vulnerabilities
iv. Transform the gendered politics of health systems by improving their awareness and handling of women's problems as both producers and consumers of health care, improving women's access to health care, provide effective reproductive health services and making health systems more accountable to women
v. Take action to make organizations at all levels function more effectively to mainstream gender equality and equity and empower women for health by creating supportive structures, incentives, and accountability mechanisms
vi. Support women's organizations which are critical to ensuring that women have voice and agency
vii. Take action to improve the evidence base for policies by changing gender imbalances in both the content and the processes of health research

3.6.3. Education as a social determinant of health

Education is a major social determinant of health (WHO 2011). It has a critical role in improving health outcomes and reducing health inequities. For example, there is strong evidence that mothers who are educated have better maternal and child health outcomes. Improving the health of preschool, school and out-of-school children will have a lasting impact on education outcomes (reduce absenteeism from class, motivate children to attend schools and produce better scholastic performance). Education can have a positive impact on malaria burden and medium/long term improvement of overall literacy rates (Dike et al. 2006). Education improves opportunities for individuals, and promotes overall social development.

People with higher levels of educational attainment consistently experience lower risks for a wide array of illnesses and increased life expectancy. (Olshansky et al. 2012). They also experience improved future economic well-

being (West and Philip, 2009). In turn, educational attainment itself is shaped by health. For example, the health of students significantly impacts school dropout rates, attendance, and academic performance (Jackson et al. 2011; Chang & Romero 2008). Educating people on the seriousness of diseases will help improve their perception of the seriousness of such diseases and so help them avoid trivializing the health care needed in the event of such illnesses (Uzochukwu et al. 2007)

Some key actions to deal with education as a social determinant of health include providing quality compulsory primary and secondary education for all children, ensuring access to information on health and improving health care access for mothers and young children through formal educational institutions and informal settings in communities. Governments and donors should also invest in expanding girls' and women's capabilities throughinvestment in formal and vocational education and training.

3.6.4. Poverty, Income and social status as a social determinant of health

Poverty is pronounced deprivation in well-being, and comprises many dimensions, including low incomes and the inability to acquire the basic goods and services necessary for survival with dignity. It encompasses low levels of health and education, poor access to clean water and sanitation, inadequate physical security, lack of voice, and insufficient capacity and opportunity to better one's life. It is commonly thought that the major reason why countries cannot achieve improved health or social wellbeing is that they are simply too poor: poverty traps communities into a vicious cycle of inadequate capital to build schools and businesses, and such communities never have enough money to fund sustainable services needed for health, education, or other basic community infrastructure, which in turn is needed to have healthy workers and business development that would produce capital(United Nations 2009; Sachs & McArthur 2005). Regular income can mean good nutrition and a healthy place to live. It can help fight disease and early death. And a regular income helps us feel part of a strong community.Higher income and social status are linked to better health as the greater the gap between the richest and the poorest people, the greater the differences in their health status.

3.6.5. Race/ethnicity as a social determinant of health

Racial/ethnic discrimination is the foundation for the proximate causes of the social determinants of racial/ethnic disparities in health. The racial and ethnic

disparities in health and together with differences in income, power, and control over one's life gives the explanation for health disparities and inequalities. Structural racism contributes to persistent inequities. People of colour have consistently lower incomes, less household wealth, and lower educational achievement levels than Whites. Children living in poverty are more likely to be Hispanic or African American (U.S. Census Bureau, 2011). Even at equivalent income levels, people of colour in the United States consistently experience significantly higher rates of illness and injury than their White counterparts (California Pan-Ethnic Health Network, 2009).

3.6.6. Occupation as a social determinant of health

According to HL Mencken *"it is an absurdity to call a country civilized in which a decent and industrious man, laboriously mastering a trade which is valuable and necessary to the common wealth, has no assurance that it will sustain him while he stands ready to practice it, or keep him out of the poorhouse when illness or age makes him idle"*

Occupation is a determinant whose impact increases over the life span due to its cumulative impact. Lower occupational status is associated with worse health, controlling demographics, health habits and income among other factors. Direct effects may occur through job characteristics like physical nature of the job (e.g.manual labor) or adverse physical conditions such as heat and noise. Occupation may affect health indirectlythrough factors such as wages, (which ultimately will be translated into income) that arecorrelated with occupation. Unemployment or low-paying, stressful jobs can actually bring on illness and injury. A good job can promote better health, self-esteem and social contacts. Poor health habits, such as smoking, drinking alcohol, over eating/consumption of high fat and calorie foods, and lack of exercise may be initiated or exacerbated due to peers' influence in the occupation. In addition, occupation confers prestige and relates to socioeconomic status, which is thought to affect health (Marmot, Bosma et al. 1997).With a good job, we feel we belong.

3.6.7. Housing as a social determinant of Health

Millions of people struggle every day with poor housing, overcrowding,lack of affordability, and lack of basic services connected to their homes. Dwellings provide adequate shelter from natural elements and hazardous substances, allow occupants to live without fear of intrusion, provide safety, and allow safe entry and exit. It also provides space appropriate tohousehold

size and composition; allows access to social services, and space for activities of daily life, and economic opportunities if well located and protect occupants from climate change.

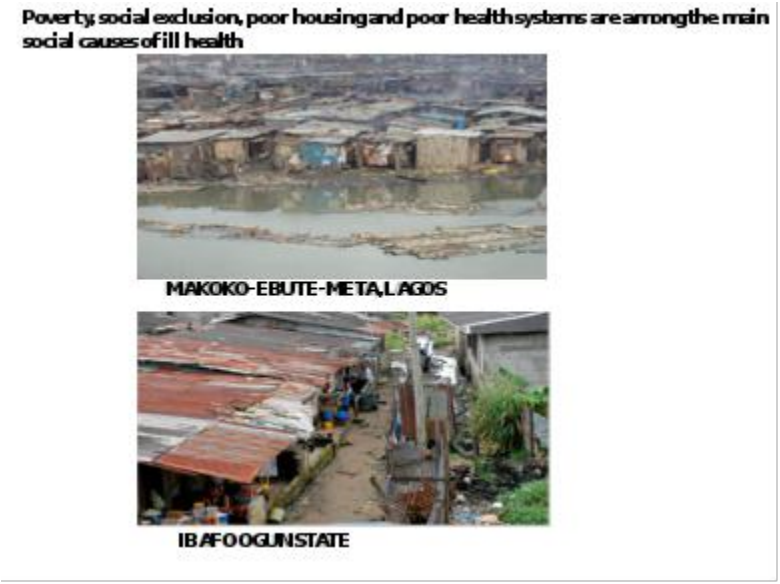

Figure 4: Housing conditions in southwest Nigeria.

Housing affects all aspects of one's development. As a social determinant of health,housing impacts one's health in many ways such as: whether there is enough space forall family members to live comfortably, whether children live in neighbourhoods where itis safe enough to play outside, and also how the house is built and whether it has thenecessary physical conditions to ensure a healthy environment. The pictures in figure 4 speak for itself. Furthermore, housing is directly tied to family income. If a family is unable to pay the rent they will not have a place to live. As stated in the Adelaide Statement on Health in All Policies, "well-designed,accessible housing and adequate services can successfully addressfundamental determinants of health for disadvantaged individuals andcommunities".

3.6.8. Social determinants as major drivers of non-communicable diseases (NCD)

Social determinants are major drivers of non-communicable diseases notably

diabetes, cardiovascular diseases, cancers and chronic respiratory diseases that causes about 60% of all deaths globally(Leppo 2013).The causes and determinants of non-communicable diseases are wide ranging and include exposure to environmental toxins, unhealthy diets and various forms of malnutrition, tobacco use, excess salt and alcohol consumption, and increasingly sedentary lifestyles. These proximal drivers are, in turn, linked to broader social conditions, such as low and insecure income, poor housing and working conditions, inadequate transportation systems, and misguided agricultural and education policies. Poor people, lacking education and information, or the funds for healthier options, are more vulnerable to the impact of NCDs than the rich and a likely to die earlier. Directly and indirectly, NCDs will have far-reaching impacts on progress towards the MDGs (Asia-Pacific Regional MDG Report 2011/12)

3.6.9. Climate change as a social determinant of health

Global climate change is a new threat to the well-being of humans and other living things through impacts on ecosystem functioning, biodiversity, capital productivity, and human health and therefore public health. There is consensus within the scientific community that the global climate is changing and that this change is affecting human health (Pan American Health Organization (2007). Although poor populations and low-income countries have contributed relatively littleto global warming emissions, they will experience a disproportionate amount of the negativeconsequences of climate change, and be least able to cope with the effects.

As a developing Country, Nigeria is one of the most vulnerable to the impacts of Climate Change; the North- East and South-South Zones are said to be most vulnerable in the Country (FMOH, 2013). The main health concerns related to Climate Change are: injuries, disability, drowning, death, illness, thermal and mental stress exacerbating cardiopulmonary ailments, malnutrition from impaired crop, livestock and fisheries yields, water borne diseases, food-borne diseases, food poisoning, vector-borne diseases from microbial proliferation (malaria, dengue, salmonella infection, Schistosomiasis), unsafe drinking water, loss of livelihoods, displacement leading to poverty, adverse health and physical risks, airborne and respiratory diseases.Climate change therefore poses a threat to the advances that are currently being made by countries in achieving and maintaining their achievements with regard to the MDGs Goals (WHO 2008). For example:

a. Climate change, urbanisation, rural development, agriculture and food security are intertwined determinants of population health and health equity (WHO/CSDH, 2008).
b. When assessing early childhood development, evidence demonstrates that deprivation of food and water as well as an unsafe environment will interfere in the development of a child if the necessary environmental provisions are not guaranteed. (Galvao et al. 2009)
c. Within the area of employment conditions, a key concern is the very large informal sector, which lacks any form of social protection or occupational health services. Thus, specific groups within populations are vulnerable to any change in the environment, particularly migrant workers and poor populations (Galvao et al. 2009)
d. An analysis of the health system demonstrates the risks of poor infra-structures and illustrates how health services suffer when demand is increased upon the service as a result of climate change such heat waves or poor quality of water and food (Galvao et al. 2009)

Climate change is a common concern for every sector of society and interventions addressing public health and climate change can strengthen inter-sectoral collaboration, which is needed to tackle such a complex issue. Thus, it should be considered a priority area when addressing social determinants of health. There is an urgent need to highlight the public health dangers of climate change as well as the many health benefitsassociated with greener economic activity and lifestyles. It is also necessary to recognise and address environmental protection factors such as the community approach to control vector borne diseases including malaria, Chagas disease and dengue, as well as water borne diseases such as diarrheal (Galvao 2009).

Ensuring health systems' preparedness and ability to respond and providing early warning systems and information and advice to citizens as well as modification of individual behaviourscan help to reduce mortality (Uzochukwu et al. 2008). Climate change economics attends to these issues by offering theoretical insights and empirical findings relevant to the design of policies to reduce, avoid, or adapt to climate change. (Uzochukwu and Ossai 2010b). To this effect, the Federal Ministry of Health have established a Climate Change Unit in the Ministry and the need for State Ministries of Healthand the Health Secretariat, FCT to also set up Climate Change Units has been stressed (FMOH 2013).

3.6.10. Food Safety

At the structural level a number of social determinants (ethnicity, gender, education, migration, trade, urbanization, demographic factors and poverty) imply inequity in relation to food safety (Aagaard-Hansen & Aidara-Kane 2010). Food security is a key precondition for a healthy life, especially in early childhood. Cutting down on food expenses leading to temporary interruption of a child's energy, protein, vitamin and mineral intake during the first 1000 days of its life can result in permanent reduction of its cognitive abilities. The double epidemics of obesity and malnutrition are increasing in many low- and middle-income countries, requiring action at the local, national and regional levels to tackle the structural determinants of both (Jouve et al 2010).

3.6.11. Conflicts and insurgence

The social determinants of health in conflict settings reflect and further reinforce existing inequalities, and the vulnerability of those who are disadvantaged due to poverty, marginalization and discrimination. The three social determinants that have bearing on healthand are peculiar to a conflict setting are (Watts et al. 2007):

a. The **loss of human rights,** which can be seen as the first and most important social determinant in a conflict situation;
b. **Breaches of medical neutrality**, in violation of the Geneva Convention, Article 18, comprise a second social determinant in conflict;
c. **Progression from stress to distress and disease** that results from constant, unremitting exposure to a life threatening situation.

Many people living in areas of conflict have lost their livelihoodsdue to a combination of forced population movement, deliberate destruction of farmland and homes, barriers denying access to jobs, and fear and flight when livelihoods are threatened. The civilian population suffer killings, assaults, sexual violence, and the abduction of children.

Health systemsin conflict settings are usually disrupted, which already were prior to the conflict and become a financial barrier, and thus a social determinant to accessing health care for a large proportion of the affected

population. The health system is also often unable to ensure social protection to the population, and thus may serve to push its users into poverty.

In the North East zone of Nigeria for example, no fewer than six million residents of Borno, Adamawa and Yobe States have been directly affected by Boko Haram attacks. The Islamic terrorist group has carried out daily killings, bombings, lootings and destruction of schools, homes, markets and hospitals in over 40 remote villages in the three North-Eastern states. Over 5,000 people are said to have been killed in Boko Haram-related violence, making it one of the deadliest terrorist groups in the world. This onslaught has caused displacement, restricted movement, disrupted food supply, hampered food access, as well as seriously hindered basic services and farming. According to National Emmergency Management Agency reports, between January and July 2014, 'Boko Haram' displaced 400,000 persons in North east Nigeria. Only 37 per cent of health facilities are functional in the North Eastern states, dozens of clinics had also been shut down and doctors fled, leaving residents to seek medical attention in Cameroon(NEMA, 2014). This has brought the health system to a "total collapse" in most local government areas of Borno state.Operating medical facilities are overwhelmed with internally displaced persons) who are in need of medical assistance.

There is high risk of epidemics in these three Northern states. Mortality rates have also been increasing. "Conflicts disrupt disease prevention programmes such as routine vaccination sessions and this could cause outbreak of polio and measles and other childhood vaccine preventable diseases following the stoppage of immunization campaigns in many parts of the state, especially northern Borno. It will be recalled that the Boko Haram sect killed nine health workers on immunization duty in two local governments of Kano State in 2013.

Social determinants in conflict settings are the concern of the citizens, local community based organizations, the international NGOs, the media, academia, and the government. The global powers and players should also be part of the solution, yet they are often seen as part of the problem. *Interventions at operational and local level include s*trengthening family and community networks for sustainable, healthy development, especially through work with civil society; strengthening capabilities for sustainable development through employment creation and livelihood initiatives, and provision of education, housing, and safe water and sanitation; reconstruction and maintenance of

essential health services, working with various partners and strengthening the role of ministries of health.

3.7. Evidence of Social Determinants of health and Dynamics of Health Inequality in Nigeria.

Over the years we and other researchers have generated evidence of social determinants of health in Nigeria and these include:

1. Juvenile Female street hawkers who are mainly from poor families are sexually abused in Enugu (Akpala and Uzochukwu, 2000).
2. Ethnicity was the most significant social predictor of female genital cuts (Snow, Slanger & Okonofua et al. 2002).
3. The poor are not using maternal health services whether private or public and that public services are pro-rich, and as such, the rich get much of the public subsidy provided in these health services, thus increasing the inequity (Uzochukwu & Onwujekwe,2003)
4. Teenage Pregnancy is significantly associated with age, occupation, no education, early marriage, religion and practice of "Osu" caste system (Uwaezuoke, Uzochukwu et al. 2004).
5. Self diagnosis for malaria was practiced more by the poorer households and use low level health facilities that are likely to offer low quality health care (Uzochukwu and Onwujekwe 2004)
6. The high malaria burden associated to the poor and people in the rural settings is due to their poor living conditions and irrational health seeking behaviour. (Uzochukwu and Onwujekwe 2004a)
7. Households in the lower economic status quintiles had a lower hypothetical and actual Willingness to pay for Insecticide Treated Nets, meaning that they may not have adequate financial access to the intervention. (Uzochukwu et al. 2004b).
8. The poorest socio economic status group and rural dwellers are the major sufferers of inequality in costs and payment strategies for PHC services in South East Nigeria (Onwujekwe and Uzochukwu 2005)
9. There are marked differences in perception and prioritization of endemic diseases across different LGAs and even within LGAs in South East Nigeria (Uzochukwu et. 2007).
10. There are rural-urban differences in maternal responses to childhood fever in South East Nigeria (Uzochukwuet al. 2008)

11. Being a female and age under 35 years was significantly associated with non adherence to ART with implications for development of drug resistance (Uzochukwu et al. 2009)
12. Inequities in incidence, morbidity and expenditures on prevention and treatment of malaria in southeast Nigeria (Uguru, Onwujekwe and Uzochukwu (2009)
13. The level of catastrophic payment for ART was generally found to be more with females, rural dwellers and most poor patients while females and urbanites had more benefits incidence than males and rural dwellers (Onwujekwe et al. 2009)
14. Gender and source of water in school and at home are significantly associated with *Schistosomiasis infection*(Uzochukwu et al. 2010b)
15. There are geographical differences in peoples' willingness to pay for RDT for malaria as the Urban dwellers were more willing to pay than the rural dwellers, hence benefiting more from this modern diagnostic technology. The rich were also likely to pay more than the poor when the diagnostic commodity is made available to the community. (Uzochukwu et al. 2010d)
16. Inequities exist in how different SES groups perceive the levels of ease of accessibility and utilization of different providers for malaria treatment (Onwujekwe & Uzochukwu, et al.2010)
17. Socio Economic Status and by geographic location influenced preferences for provision of malaria treatment services in SE Nigeria(Uguru, Onwujekwe & Uzochukwu et al 2010
18. In Nigeria, bad health is disproportionately concentrated on the poor and some geopolitical zones of the country. Differences in wealth account for about 58.0 percent and 33.0 percent of differences in child nutritional and underweight status between the poor and non poor (Ichoku 2011).

19. The rural dwellers and poorer SES groups in SE Nigeria mostly used low-level and informal providers.(Onwujekwe, Onoka & Uzochukwu et al. 2011).

20. The better-off households capture most of the benefits of government spending(Onwujekwe , Hanson &Uzochukwu 2012).

21. Rural women and less educated women are less likely than others to receive assistance from a skilled provider during delivery and to be delivered in a health facility (NPC, NDHS 2013).

22. Differentials in the coverage levels show that the proportion of children fully vaccinated is lower for children in rural areas than in urban areas. Among zones, the proportion of children fully vaccinated in the North West is the lowest. The percentage of children who have received no vaccinations is especially high in the Northern than Southern States (NPC, NDHS 2013).
23. Mothers' educational attainment affects the health of their children. Children whose mothers have no education are far less likely to be fully vaccinated than children whose mothers have more than secondary education(NPC, NDHS 2013).
24. There are more neonatal deaths in the North East, North West and North central zones than South East South South and South West zones as shown in the figure 5 below (Uzochukwu BSC 2012)

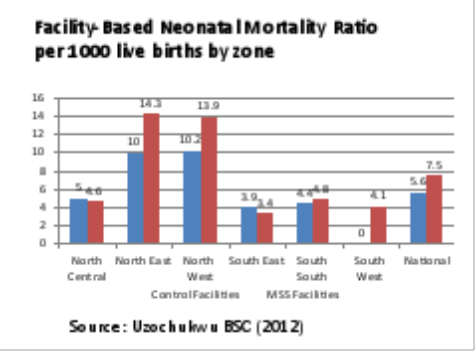

Figure 5: Facility-based neonatal mortality ratio by zones in Nigeria

25. As shown in figure 6, there are zonal variations in fully immunized children with more children from the south being fully immunized than children from the North as shown in figure below (FMOH 2012). Also measles vaccination coverage was more among the urban dwellers than rural and among the wealthiest 20% than the poorest 20%. (NBS 2013)

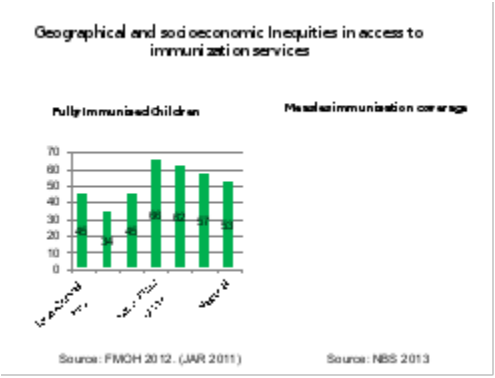

Figure 6: Geographical and socioeconomic inequities in access to immunization services

26. Infants die more in rural and Northern regions than in urban and southern regions (NBS 2013) as shown in figure 7.

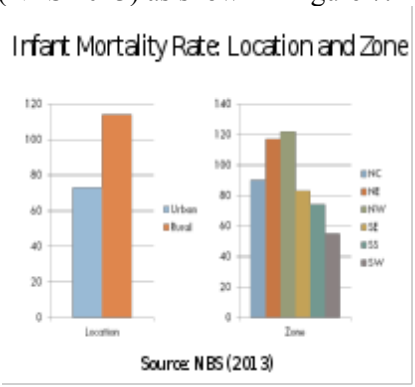

Figure 7: Infant mortality rate by location and zone

27. Infants from poor households and households with less educated women die more than the rich and more educated (NBS 2013) as in figure 8

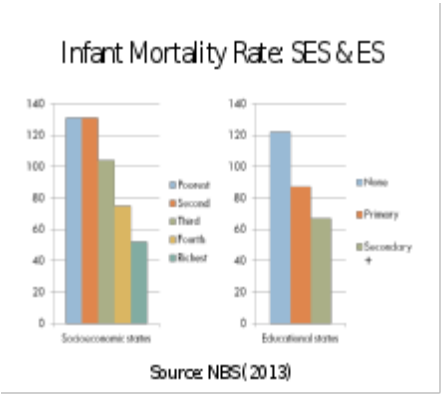

Figure 8: Infant mortality rate by socioeconomic and educational status

28. Children under five years die more if they are from rural areas, are from poor households and are from Northern zones than are from urban, from rich households and are from southern zones (NBS 2013) as in figure 9

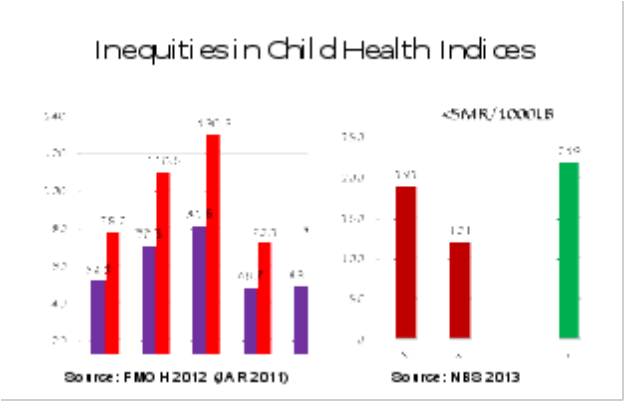

Figure 9:Inequities in child health indices in Nigeria

3.8. Why Emphasize Social Determinants of Health and Why is addressing the role of social determinants of health important?

Social determinants of health have a direct impact on health; predict the greatest proportion of health status variance;structure health behaviours and interact with each other to produce health. According to the former WHO Director General*, "interventions aimed at reducing disease and saving lives succeed only when they take the social determinants of health adequately into account"* (Lee 2005). The social conditions in which people live and work can help create or destroy their health. Without progress in fighting poverty, strengthening food security, improving access to education, supporting women's empowerment and improving living conditions in slums, for example, the health-specific MDGs will not be attained in many low- and middle-income countries. At the same time, without progress in health, countries will fail to reach their MDG targets in other areas.

The need to address social determinants of health for improved health outcomes has its roots in the Constitution of the World Health Organization (WHO), and the Universal Declaration of Human Rights. The WHO Constitution states that "*health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*, and that *the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition".* Further, it recognizes that "*the health of all peoples is fundamental to the attainment of peace and security and is dependent upon the fullest co-operation of individuals and States*. It also states that *the Governments have a responsibility for the health of their peoples which can be fulfilled only by the provision of adequate health and social measures"* (WHO, 1946).

The Universal Declaration of Human Rights acknowledges that "*everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control"*(United Nations, 1948). Health and social security are thus recognized as human rights. It also emphasizes the need for special care and social protection for children, and compulsory elementary education for children.

Given the growing recognition of its importance, action on social determinants of health was discussed at the 66th World Health Assembly

(WHA) held in May 20-28, 2013 in Geneva, Switzerland. During the opening of the assembly, WHO Director-General Dr. Margaret Chan reminded Member States that *"factors that contribute to good health at low cost include a commitment to equity, effective governance systems, and context-specific programmes that address the wider social and environmental determinants of health."*And tackling social determinants of health was identified as a fundamental approach to the work of the WHO and a priority area of work in itself in the draft twelfth WHO general programme of work 2014–2019, which was also approved in this the World Health Assembly.

3.9. Historical Overview: Roots of a social approach to health

The recognition that social and environmental factors decisively influence people's health is ancient. The sanitary campaigns of the 19th century and much of the work of the founding fathers of modern public health reflected awareness of the powerful relationship between people's social position, their living conditions and their health outcomes. Recent epidemiological research has confirmed the centrality of social and environmental factors in the major population health improvements registered in industrialized countries beginning in the early 19th century. Most of the substantial modern reduction in mortality from infectious diseases such as tuberculosis took place prior to the development of effective medical therapies. Instead, the main driving forces behind mortality reduction were changes in food supplies and living conditions(McKeown 1976)**.**

The Constitution of WHO shows that the founders wanted WHO to address the social roots of health problems, as well as the challenges of delivering effective curative medical care as it provided space for a social model of health linked to broad human rights commitments. However, the cold war politics of the post-World War II hampered the implementation of this vision and favoured an approach based more on health technologies delivered through campaigns which focused on high technology curative care in a handful of urban hospitals giving little concern for broader public health and few services for people living in slums or rural areas(Bonita 2000). International public health during this period was characterized by the proliferation of "vertical" programmes – narrowly focused, technology-driven campaigns targeting specific diseases such as malaria, smallpox, TB and yaws.

Some of these vertical programmes generated a few notable successes. The most famous among them was the eradication of smallpox. However, they tended to ignore the social context and its role in producing well-being or disease leaving most serious health challenges of the bulk of the population (particularly the rural poor) unaddressed.

During the 1960s and early 70s, the concept of community-based health programmes was conceived by health workers and community organizers in a number of countries (Werner & Sanders 1997). Such initiatives emphasized grassroots participation and community empowerment in health decision-making and downplayed the importance of high-end medical technology and reliance on highly trained medical professionals and rather went for locally recruited community health workers with limited training, who will be able to assist their communities in confronting the majority of common health problems. In some instances, such initiatives engaged directly not only with social and environmental determinants of health, but with underlying issues of political-economic structures and power relations (Uzochukwu et al. 2010c).

By the early 1970s, awareness was growing that technologically driven approaches to health care had failed to significantly improve population health in many developing countries, while results were being obtained in some very poor settings through community-based health programs (CBHP).

In 1975, a publication "*Health by the People"*, presented success stories from a series of community-based health initiatives*(*Newell 1975). In the same year, WHO and UNICEF published a joint report examining *Alternative approaches to meeting basic health needs in developing countries* that emphasized that, social factors such as poverty, inadequate housing and lack of education were the real roots underlying the proximal causes of morbidity in developing countries (Djukanovic 1975).

In 1978 there was the Alma-Ata declaration on Primary Health care (PHC). Thisexplicitly stated the need for a comprehensive health strategy that not only provided health services but also addressed the underlying *social,economic and political causes of poor health*" (Werner and Sanders 1997) and the subsequent Health for All movement gave prominence to health equity and intersectoral action on SDH. PHC was noted as "the first level of contact of individuals, the family and community with the national health system" (WHO/UNICEF 1978). However, neoliberal economic models

(Coburn 2000) dominant during the 1980s and 1990s impeded the translation of these ideals into effective policies in many settings.

The late 1990s and early 2000s witnessed mounting evidence on the failure of existing health policies to reduce inequities. And the momentum for new, equity focused approaches grew mainly in wealthy countries.

In 2005, the WHO established an independent Commission on Social Determinants of Health ("the Commission" or CSDH) as a global strategic mechanism to strengthen health equity by widening knowledge and encouraging debate on the opportunities for policy and action on the social determinants of health. (Irwin et al., 2006). The Commission published its report on how death and poor health are not randomly distributed in the world and the fact that they are easily solvable. To quote one statistic directly from the report: *"A girl born in Sweden will live 43 years longer than a girl born in Sierra Leone."*

3.10. How do we develop interventions that address the social determinants of health

3.10.1. How do we address 'the causes of the causes'?

In 2011, the World Conference on Social Determinants of Health which was convened by WHO in Rio de Janeiro, Brazil called for governments to develop and support policies, strategies, programmes and action plans that addressed the social determinants of health. The five priority areas were as follows:

a. Adopt improved governance for health and development

Taking a social determinants approach requires governments to coordinate and align different sectors and different types of organizations in the pursuit of health and development — for all countries, rich and poor — as a collective goal. Building governance, whereby all sectors take responsibility for reducing health inequities, is essential to achieve this goal. Intersectoral action — that is, effectively implementing integrated work between different sectors — is a key component of this process.

b. Promote participation in policy-making and implementation

The governance required to act on social determinants is not possible without a new culture of participation that ensures accountability and equity at all levels. Facilitating participation can help safeguard equity as a principle and ensure its inclusion in public policies. Besides participation in governance, other aspects of participation, such as individual participation in taking up services or participation of communities in service delivery, are also important for reducing health inequities. However, the participation of communities and civil society groups in the design of public policies, in the monitoring of their implementation, and in their evaluation is essential to action on social determinants.

c. Further reorient the health sector towards promoting health and reducing health inequities

Poorly performing health systems can be a major barrier to health care and a critical social determinant of health. Moreover, there are high level of inequalities in the distribution of health services, access to health services and in the burden of ill-health, according to socio-economic status or geographical status, including unfair burden of out-of-pocket expenses and high proportion of catastrophic household spending on health.

Well performing health system can help improve health outcomes and health equity. Improving performance of health systems in many low and middle income countries require continuous support and concerted efforts from several actors- including the international organizations, Governments, civil society organizations and academia.

d. Strengthen global governance and collaboration

Increasing the ability of global actors (including bilateral cooperation agencies, regional agencies, philanthropic groups, and international organizations) to contribute to national and local action on social determinants requires improvements in global governance. Coherent global policies are also essential, in order to mutually contribute to development. Like national governance mechanisms, global governance mechanisms are currently inadequate to address multifaceted problems like health inequities along with other global priorities. This situation challenges global institutions to reform in order to accommodate the changing realities of the 21st century.

e. Monitoring progress

Measurement and analysis to inform policies and build accountability on social determinants.

Specifically, three broad approaches to addressing SDH and reducing health inequities are based on: (1) targeted programmes for disadvantaged populations; (2) closing health gaps between worse-off and better-off groups; and (3) addressing the social health gradient across the whole population.

3.10.2. Proposed principles for selection and prioritisation of interventions

1. Address the area's wider needs (Intervention likely to impact on the greatest needs of the population regardless of what sphere the intervention takes place in and allowing for the fact that the timescale needed for an impact on health outcomes might be long

2. Is universal and addresses the social gradient in health (Intervention likely to impact on the whole population, but provides more intense support to those in greater need, with less socio-economic resources, or living in areas of greater economic or environmental deprivation)

3. **Is aligned with other local and national policies** (Intervention does not interfere with other policy objectives, e.g. sustainability, and is likely to have positive impact on other social outcomes and performance indicators)

4. **Is backed-up by evidence of efficacy** (Intervention considered because thereis evidence strong evidence base that it is likely to have an impact on the SDHand on health inequalities)

5. **Is cost-beneficial** (Intervention likely to positively impact on long term costs to health and social services, and to provide significant social gains for its cost)

6. **Takes advantage of existing assets and resources** (Intervention makes efficient use of existing service infrastructure and enhances the availability and quality of community resources)
7. **Provides the population with control over their lives** (Interventions devised on the basis of clear community priorities as stated by consulted stakeholders and users; intervention engages the public in decision-making and delivery)

8**. Falls within one of the following unifying themes**:
a. The importance of improving the physical, social and economic environment of deprived areas.
b. Early intervention and the long term public health benefits of intervening early in the life course particularly for prevention.
c. Looking at the close interplay between physical and mental health when designing strategies to reduce health inequalities.
d. The use of fiscal and financial policy instruments to enable deprived populations to live healthier lives.

3.11.3 Population-based programmes addressing SDH

a. Child Health

Improving the health and nutrition of children requires an understanding of the multiple levels of social determination of inequity. There are many potential entry points for intervention calling for different sectors to contribute to child health. Most deaths of children under 5 years of age in the world are caused by a few conditions, namely neonatal causes, pneumonia, diarrhoea, malaria, measles and HIV/AIDS (Black et al. 2003) with malnutrition being an underlying cause in about a third of these deaths (Black et al. 2008). Child deaths
are usually the result of the joint action of several risk factors (Black et al. 2003) a fact that has to be taken into consideration when understanding their determination and planning their prevention.

Addressing socioeconomic inequities in child health and nutrition will be essential for achieving the first (poverty and hunger), fourth (child survival) and sixth (malaria, HIV and other diseases) Millennium Development Goals (Gwatkin 2005)**.**

Countries can get on track "if they can combine good policies with expanded funding for programs that address both the direct and the underlying determinants of the health-related goals" (Wagstaff 2006) that is, effective programmes that take equity considerations into There are many potential interventions against social determinants. These include
Integrated Management of Childhood Illness (IMCI) programme (Tulloch 1999); Promotion of insecticide-treated mosquito nets (Grabowsky et al. 2005; Noor et al. 2007); Conditional cash transfers (Skoufias 2001; NPHCDA 2012).

b. Sexual, reproductive and maternal health.

Empowerment of women through effective access to quality educational opportunities for girls has the potential to decrease unwanted pregnancy and disease and to increase maternal health. It has also been linked to overall long-term health benefits for women and children.

3.11.4. Disease-focused programmes addressing SDH

a. Addressing Social determinants of Neglected tropical diseases (NTD)

The so-called neglected tropical diseases (NTDs) are the 17 diseases covered by the World Health Organization (WHO) Department of Neglected Tropical Diseases: **Virus**(Dengue and rabies); **Protozoa**(Chagas , human African Trypanosomiasis, leishmaniasis); **Helminths** (Cysticercosis/Taeniasis, Drancunculiasis, Echinococcosis, food borne trematodiases, lymphatic filariasis, onchocerciasis, schistosomiasis, soil transmitted helminths) and **Bacteria:** (buruli ulcers, leprosy, trachoma and yaws). Many of the NTDs are characterized by their focality (Ranjan et al. 2005; Ghadirian 1979). Thus, morbidity and mortality may vary significantly from one place to another due to different local factors.

The analysis shows overwhelming evidence of how the intermediary social determinants of water and sanitation, and housing and clustering, determine NTDs. Consequently, there is a need to address these risk factors in endemic communities to provide sustainable prevention for clusters of NTDs. Other interventions include reducing environmental risk factors, Improving health of migrating populations, reducing inequity due to sociocultural factors and gender, reducing poverty in NTD-endemic populations and setting up risk assessment and surveillance systems.

3.11.5. Risk-factor based programmes addressing SDH

a. Alcohol-related disorders

From the perspective of public health policy, there are several opportunities for interventions along the causal pathways between social determinants and alcohol- attributable health outcomes that could reduce health disparities. An international consensus that alcohol is not an ordinary commodity to be marketed without restrictions is required for governments to act to reduce alcohol-related harm and inequities in health outcomes. This includes

increased alcohol taxationand the discriminatory effect of alcohol taxation could be neutralized by earmarking the tax receipts for purposes that benefit the poor (Schmidt et al., 2010).

b. Violence and injury

Virtually all of the progress in preventing violence and injury has come from acting directly on the social environment. Multilevel interventions restricting the opening hours of bars by authorities and incorporating safety features into road design has proven effective also in poorer environments, e.g. through inexpensive speed bumps

c. Tobacco and Health

Tobacco use is a leading cause of death and of poor pregnancy outcome in many countries especially in resource poor settings, and threatens to undermine or reverse hard won gains in maternal and child health. It is estimated that by the year 2030, 80% of deaths caused by tobacco use are expected to occur (Nichter et al. 2010). Maternal smoking during pregnancy impairs fetal growth and causes preterm labor leading to preterm birth with significant fetal and infant mortality and morbidity. Also, studies have shown that maternal smoking during pregnancy increases the risks of respiratory outcomes in childhood (Tsai et al. 2010). A study in Enugu, Nigeria has shown the prevalence of tobacco smoking during pregnancy to be 4.5% with education as a good predictor of avoidance of smoking and exposure to advertising for tobacco products. (Obiora, Dim, Uzochukwu and Ezugwu 2014). Policies are therefore needed to combat smoking. These policies should be in line with theFramework Convention on Tobacco Control (FCTC) and include:comprehensive bans on smoking in work places and public places, increased taxation on tobacco and tobacco products, bans on the advertising and promotion of tobacco and tobacco products, health warnings on all tobacco products, increasing the minimum age of purchase for tobacco and tobacco products, action on smuggling of tobacco and tobacco products and comprehensive provision of smoking cessation services.

Financial barriers are among the most critical in denying disadvantaged individuals access to tobacco prevention and cessation services. Making cessation services accessible, e.g. by subsidizing nicotine replacement therapies and other cessation aids within the primary health care system, are important strategies in this regard. To enhance compliance, training in

smoking cessation should be a core competence area for all health care workers (David et al., 2010).

Food safety and nutrition.
Here, efforts are focused on the weak links that are important determinants of inequities related to foodborne hazards, through (i) controlling zoonotic agents in animal and poultry reservoirs; (ii) improving informal food vending and the safety of foods sold in the street; (iii) promoting food safety assurance and management in small and less developed businesses; and finally; (iv) ensuring universal access to at least a minimum amount and quality of food including cash and non-cash transfers, embedded in national social protection floors; (vi) improving regulation of food trade and ensure proper food handling; (v) ensuring that differences in standards between domestic and international markets do not result in inequities in local access to safe food. (Aagaard-Hansen & Aidara-Kane, 2010).

Potential key actions include(Jouve et al 2010).**:**

a. **Improve food safety through** environmental hygiene; provision of adequate infrastructures and facilities; education,implementation of good hygiene practices and sanitation; and implementation of food safety assurance schemes.

b. **Improve regulation of food trade and ensure proper food handling through** enforcement of food safety legislation and for the inspection of premises, processes and foods to prevent unsafe food entering the food chain at any level.

c. **Enhance food security by** ensuring universal access to at least a minimum amount and quality of food essential in improving the social determinants of health, including cash and non-cash transfers, embedded in national social protection floors.

3.11.6. Collective action

The priority public health conditions will not be brought under better control or become more equitable without effective interventions on core social determinants outside the health system. The implications for national and international public health programmes of taking up a social determinants approach are numerous and potentially very significant. There is still hesitation among some control programmes to move beyond administering

known or incrementally improved health technologies. There can be several reasons for this. First, often staffs, especially at the senior level, have biological/medical-based training rather than a social approach to health. Second, during the past two decades, health has crept up the political agenda, which has increasingly played out in the public media. Third, and as a result of the second, funds are allocated with a view to generating immediate measurable effects, often on a limited range of narrowly defined indicators.

3.12. Case studies addressing the social determinants of health

How has specific public health programmes addressed issues related to the social determinants of health? Evidence shows that if we have the right interventions and implement them in the right way, we get the right results. Several case studies addressing the social determinant of health have been documented in Nigeria, Kenya, Tanzania, South Africa, Bangladesh, Pakistan, Iran, Indonesia Vanuatu, Chile, Peru and China (Blas et al.2011). Others include effective social determinants approaches in India (Mukhopadhyay 2011), Thailand (Thammatach-aree, 2011) and Morrocco (Abdesslam 2011). These approaches are categorised into:

a. **Policy/legislation:** These involvedintervening to regulate the availability and control of services, resources and commodities such as alcohol and tobacco with the aim of modifying the *context and position* determinants of health (Uzochukwu et al.2011a; Altobelli & Acosta-Saal 2011 and Harris et al. 2011)

b. **Norm change:** Addressing *differential exposure* by modifying what the society formally or informally encourages or discourages, for example, in terms of what to eat, what women can or cannot do, and what young people value and do (Sinclair et al. 2011; Agurto et al. 2011; Khan & Agha 2011;Harris et al. 2011)

c. Community empowerment: handing over control of institutions and/or public funds in full or in part, for example, from civil service structures to communities, thus involving some transfer of power and control with the potential to reduce *differential exposure* (Khan & Agha 2011; Siswanto & Sopacua 2011; Altobelli & Acosta-Saal 2011).

d. **Community development:** releasing the potential within communities to make them take things in their own hands and thereby reducing group or individual *differential vulnerability*. It involved provision of information and training and, in some cases, loan opportunities and direct injection of resources (Sinclair et al. 2011; Siswanto & Sopacua 2011; Javanparast 2011; Tozan etal. 2011; Khan & Agha 2011; Hargreaves et al. 2011; Harris et al. 2011; Mukhopadhyay 2011; CHEPSAA, 2014). It has been noted that Community participation is one of the pillars of health programmes. Communities are always willing to participate once they are aware of what they were expected to participate in (Uzochukwu et al. 2004c).

e. **Commodity access:** reducing barriers to access of commodities such as healthy food and insecticide treated nets (ITNs) and thus aiming to modify the *differential vulnerability*. This included making these available at subsidized prices or for free (Agurto et al. 2011; Javanparast 2011; Khan & Agha 2011; Koot et al. 2011)

f. **Service access:** reducing barriers to access of selected health-care services for certain population groups in order to reduce their *differential vulnerability*, including making services available, removing or reducing fees, etc. (Uzochukwu et al. 2011a; Johnston et al. 2011; Xu et al. 2011; Tozan et al. 2011; Altobelli & Acosta-Saal 2011; Thammatach-aree 2011).

g. **Service responsiveness:** modifying the way that pregnancy, delivery and general PHC services are provided in order to make these better correspond to the needs of and usability for certain population groups with the aim of reducing the differential in health-care outcomes experienced by these groups (Uzochukwu 2012; Johnston et al. 2011; Xu et al. 2011; Altobelli & Acosta-Saal 2011; Abdesslam 2011).

In all the case studies, addressing the social determinants of health meant more than providing health-care services (Blas et al. 2011). In most cases, it meant expanding the traditional scopeof the health sector and dealing with new partners. The programmes often found that these partners had different value bases, success criteria, constraints and management cultures, which frequently made coordination and joint action challenging; at times creating conflicts. Difficulties were documented across government sectors, as in Iran,

Kenya, Nigeria and Vanuatu; across the government– private sector divide in Chile, Pakistan, Peru and Tanzania; and within the private sector in Chile. In Kenya and Vanuatu, the compartmentalized structure in which the government and donors work was found to create barriers to effective coordination and integration.

3.13. Intersectoral collaboration in addressing SDH

Implementing a social determinant approach to improving the health of the population starts with realizing that health is the outcome of all sector (not just health) programmes. Focusing on outcomes related to a single condition is unlikely to attract sustained political and multisectoral commitment, as shown in a nutrition and equity programme in Iran (Javanparast 2012). Rather, the emphasis should be on a range of conditions and indicators of success beyond health, as was pursued in Indonesia (Siswanto & Sopacua, 2004). Taking a social determinants approach requires coordination and alignment among different sectors and different stakeholders at international, national and local levels as different sectors may have different interests. For example, for the education sector the purpose of food rations in schools is not nutritional, but rather to attract families to schools.

However, while interests may differ, successful intersectoral collaboration for social determinants of health depends on identifying and defining a common core and ensuring that individual interests are not counter to collective interests including health(Agurto et al. 2012). Different sectors often have different management cultures and different views on criteria for success, as was experienced in South Africa in a collaboration between a microfinance and a HIV programme. For the microfinance partner, sustainability meant that the scheme was self-financed, with full cost recovery; for the HIV programme, sustainability meant ensuring a continued flow of external resources to allow change in social norms to take root.

3.14. Challenges of addressing SDH

There are a number of barriers to the development of policies and interventions that address the social determinants of health and that are truly preventive and ‘upstream’. Such barriers include the need for government agencies at the national and local level, and for other stakeholders to work in partnership in order to address issues which do not strictly relate to health and health budgets. Moreover, it is difficult for all agencies concerned with

delivering improved health and reducing health inequalities to draw on the complex evidence which shows that health outcomes relate closely to the SDH.

Outside of the health sector, general knowledge about SDH is neither recognized nor given value in terms of the health outcomes of their policies. The social determinants of health fall outside the sphere of influence of one single agency or the Department of Health. Non-health intersectoral policy actors need to become aware that they have the organizational space, the resources and even a mandate to define appropriate action to address SDH.

The most important challenge, however, lies in the health sector itself. Historically, the Ministry of Health that provides public health care have adopted a medical-care approach to address population health. Most of the top decision-makers in the health sector have been physicians and surgeons as in Nigeria that lack a public health background, preventing them from fully understanding social factors such as income, education, housing or transportation as determinants of health.The challenge also lies in how to exercise leadership among different sectors. First of all, a common and clear language delivered by the health sector and understood by all stakeholders, including the private sector is needed. Meaningful arguments to support health should be clearer and be presented in language that speaks to policy-makers across arange of sectors, particularly government agencies of social development and education.

SECTION FOUR: HEALTH IN ALL POLICIES

4.1. Definitions

Health in All Policies (HiAP) is an approach to public policies across sectors that
systematically takes into account the health and health systems implications ofdecisions, seeks synergies, and avoids harmful health impacts, in order to improvepopulation health and health equity (WHO 2013). It is a collaborative approach to improving the health of all people by incorporating health considerations into decision-making across sectors and policy areas.

HiAP is a paradigm shift of whole-of government, horizontal health governance, where health becomes systemized as a standard part of the policy-formation process, and agencies are driven to integrate the policy formation process under a health lens (Department of Health, Government of South Australia 2010). The goal of HiAP is to ensure that all decision-makers are informed about the health, equity, and sustainability consequences of various policy options during the policy development process(California Health in All Policies Task Force. (2010).

A HiAP approach identifies the ways in which decisions in multiple sectors affect health, and how better health can support the achievement of goals from multiple sectors. It engages diverse governmental partners and stakeholders to work together to improve health and simultaneously advance other goals, such as promoting job creation and economic stability, transportation access and mobility, a strong agricultural system, environmental sustainability, and educational attainment.(Ståhl et al 2006).

HiAP focuses on policy-making and is therefore concerned with thedevelopment and implementation of legislation, norms, standards, majorstrategies, programmes and decisions on resource collection and allocation,among others. It builds on a long public health tradition of successful intersectoral collaboration first articulated in the Alma Ata Declaration in 1978, and healthy public policy, which is enshrined in the Ottawa Charter for Health Promotion in 1986.It thus focuses on action in the policy sphere in a more systemic manner rather than applied to single health issues. It encompasses a wide spectrum of activities, with one-time collaborative efforts with a single partner at one end, and whole-of-government approaches involving on-going collaboration across many agencies at the other end.

The Adelaide Statement on Health in All Policies (Adelaide Statement (2010) is to engage leaders and policy-makers at all levels of government—local, regional, national and international. It emphasizes that government objectives are best achieved when all sectors include health and well-being as a key component of policy development. This is because the causes of health and well-being lie outside the health sector and are socially and economically formed. Although many sectors already contribute to better health, significant gaps still exist.

The Adelaide Statement outlines the need for a new social contract between all sectors to advance human development, sustainability and equity, as well as to improve health outcomes. This requires a new form of governance where there is joined-up leadership within governments, across all sectors and between levels of government. The Statement highlights the contribution of the health sector in resolving complex problems across government. Intersectoral action is necessary to address the social determinants of health (Skeen et al 2010.)

At its core, HiAP represents an approach to addressing the social determinants of health, which are the key drivers of health outcomes and health inequities. It is founded in the recognition that public health practitioners must work with partners in the many realms that influence the social determinants of health, which are largely outside the purview of public health agencies.

4.2. Sectors involved in HiAP

Relevant sectors include agriculture, food and nutrition; education; gender and women's rights; labour market and employment policy; welfare and social protection; finance, trade and industrial policy; culture and media; environment, water and sanitation; habitat, housing, land use and urbanization (WHO 1986).Such sectors according to the *Adelaide Statement on Health in All Policies 2010are:*

Sectors and Issues	Interrelationships between health and well-being
Economy and employment	Economic resilience and growth is stimulated by a healthy population. Healthier people can increase their household savings, are more productive at work, can adapt more easily to work changes, and can remain working for longer period. Work and stable employment opportunities improve health for all people across different social groups.
Security and justice	Rates of violence, ill-health and injury increase in populations whose access to food, water, housing, work opportunities and a fair justice system is

	poorer. As a result, justice systems within societies have to deal with the consequences of poor access to these basic needs. The prevalence of mental illness (and associated drug and alcohol problems) is associated with violence, crime and imprisonment.
Education and early life	Poor health of children or family members impedes educational attainment, reducing educational potential and abilities to solve life challenges and pursue opportunities in life. Educational attainment for both women and men directly contributes to better health and the ability to participate fully in a productive society, and creates engaged citizens.
Agriculture and food	Food security and safety are enhanced by consideration of health in food production, manufacturing, marketing and distribution through promoting consumer confidence and ensuring more sustainable agricultural practices. Healthy food is critical to people's health and good food and security practices help to reduce animal-to-human disease transmission, and are supportive of farming practices with positive impacts on the health of farm workers and rural communities.
Infrastructure, planning and transport	Optimal planning for roads, transport and housing requires the consideration of health impacts as this can reduce environmentally costly emissions, and improve the capacity of transport networks and their efficiency with moving people, goods and services. Better transport opportunities, including cycling and walking opportunities, build safer and more liveable communities, and reduce environmental degradation, enhancing health.
Environments and	Globally, a quarter of all preventable illnesses are the result of the environmental conditions in which

sustainability	people live. Optimizing the use of natural resources and promoting sustainability can be best achieved through policies that influence population consumption patterns, which can also enhance human health.
Housing and community services	Housing design and infrastructure planning that take account of health and well-being (e.g. insulation, ventilation, public spaces, refuse removal, etc.) and involve the community can improve social cohesion and support for development projects. Well-designed, accessible housing and adequate community services address some of the most fundamental determinants of health for disadvantaged individuals and communities.
Land and Culture	Improved access to land can support improvements in health and well-being for indigenous peoples as indigenous peoples' health and well-being are spiritually and culturally bound to a profound sense of belonging to land and country. Improvements in Indigenous health can strengthen communities and cultural identity, improve citizen participation and support the maintenance of biodiversity.

4.3. History of HiAP

Health in All Policies is not new. At different times and places, this has been called "Intersectoral action for health" to promote health, "horizontal health governance (Kickbusch, I. (2010), and "healthy public policy" (Sihto et al. 2006; WHO 1988). The understanding that health is largely created by factors outside healthcareservices has developed throughout history from at least the nineteenth century, expressed in many different contexts including: the WHO Constitution; Alma-Ata Declaration; Ottawa Charter; and, more recently,the CSDH final report; the Political Declaration of the United Nations General Assembly High-Level Meeting on the Prevention and Control of Non-communicable Diseases; and the Rio Political Declaration on the Social Determinants of Health. History shows that action on the social, economic and

environmental determinants of health involves multiple sectors and includes political and social struggles.Many historical actions have shared similar aims and strategies, including intersectoral action and healthy public policy which emerged from the health promotion movement in the 1980s (Leppo et al. 2013)

4.4. Why do we need HiAP?

Governments, at all levels, are challenged by declining revenues and shrinking budgets while also facing increasingly complex problems. Collaboration across sectors—such as through a HiAP approach—can promote efficiency by identifying issues being addressed by multiple agencies and fostering discussion of how agencies can share resources and reduce redundancies, thus potentially decreasing costs and improving performance and outcomes.

The need for HiAP was also buttressed in these extracts from the Rio Political Declaration on Social Determinants of Health (WHO 2011b). Article 2 states:*"We understand that health equity is a shared responsibility and requires the engagement of all sectors of government, of all segments of society, and of all members of the international community, in an "all for equity" and "health for all" global action"*.Article 7 further stated that *"Good health requires a universal, comprehensive, equitable, effective, responsive and accessible quality health system. But it is also dependent on the involvement of and dialogue with other sectors and actors, as their performance has significant health impacts. Collaboration in coordinated and intersectoral policy actions has proven to be effective. Health in All Policies, together with intersectoral cooperation and action, is one promising approach to enhance accountability in other sectors for health, as well as the promotion of health equity and more inclusive and productive societies. As collective goals, good health and well-being for all should be given high priority at local, national, regional and international levels"*.

4.5. Why does health also depend on policies outside the health sector?

HiAP seeks to focus on non-health sectors so that health is considered when policies are being formed and during the duration of the policy process. The WHO's CSDH has concluded that health depends on several factors and policies outside the direct remit of health ministries and recommended, therefore, the need to improve basic conditions of housing, health services, education and working conditions *(*Epstein *2009)*.

Intersectoral action for health has been a priority for WHO since the Alma Ata Conference in 1978 that was convened with input from non-health sectors2 in the formulation of health policies *(WHO 2012)*. Intersectoral action for health can be defined as the relevant sectors' coordinated activity to explicitly improve the health of people or influence the determinants of health; the activity is often coordinated by the health sector but there are exceptions, for example the security and transport sectors can combine actions to reduce the number of road traffic injuries, which is a public health goal, but without the direct involvement of the health sector *(WHO 2012)*. Intersectoral collaboration can occur between sectors of government at central or regional level, and intersectoral actions can occur between bodies representing different sectors of the community. Governmental intersectoral action can occur horizontally (e.g. between the health and employment sectors) and/or vertically (e.g. between different levels of government within a sector) *(*Public Health Agency of Canada 2007*)*. Intersectoral health actions aim to raise awareness about health and the consequences of health equity in different sectors of society *(WHO 2012)*.

It is now increasingly recognized that collaboration between different sectors is an effective approach for managing the needs of people with non communicable diseases or mental illness *(*Arora M et al 2011; Waghorn & Lloyd 2005*)*, so there is consensus on the need for intersectoral actions and a 'Health in All Policies' (HiAP) or 'Equity in All Policies' approach to address the social determinants of health *(*Public Health Agency of Canada 2007; Sken et al. 2010*)*.

Earlier attempts to incorporate health in all policies under the intersectorial Action for Health (IAH) failed to take off because decision-makers in other sectors complained that health experts were often unable to provide quantitative evidence on the specific health impacts attributable to activities in non-health sectors such as housing, transport, education, food policy or industrial policy. It also failed because many countries attempted to implement IAH in isolation from the other relevant social and political factors. So, despite the high profile accorded to intersectoral action in the Alma-Ata declaration, to address social and environmental health determinants generally proved, in practice, to be the weakest component of the strategies associated with "Health for All".

4.6. Key Elements of HiAP

The five key elements of Health in All Policies are:
1. Promote health and equity by incorporating health and equity into specific policies, programs, and processes, and by embedding health and equity considerations into government decision-making processes;
2. Support intersectoral collaboration by bringing together partners from many sectors to recognize the links between health and other issue and policy areas, break down silos, and build new partnerships to promote health and equity and increase government efficiency;
3. Benefit multiple partners and simultaneously address the policy and programmatic goals of both public health and other agencies;
4. Engage stakeholders beyond government partners, such as community members, policy experts, advocates, the private sector, and funders; and,
5. Create structural or procedural change in order to fundamentally change how government works by embedding health and equity into government decision-making processes at all levels.

4.7. Key components that need to be addressed in order to put the HiAP approach into action:

1. Establish the need and priorities for HiAP. The parties have identified a **need** to work together in order to achieve their goals. This requires clarity on both individual organisational goals and joint goals.
2. Frame planned action. The parties have developed a **relationship** on which to base cooperative, planned action. The relationship is clearly defined and is based on trust and respect.The **planned action** is well conceived and can be implemented and evaluated. The action is clear and there is agreement to undertake it. Roles and responsibilities are clear.
3. Identify supportive structures and processes. In the broader operating environment ensure there are **opportunities** that promote intersectoral collaboration, for example community understanding and being supportive.
4. Facilitate assessment and engagement
5. Ensure monitoring, evaluation, and reporting to sustain outcomes
6. Build capacity to ensure organisations have the **capacity**—the required resources, skills and knowledge —to take action.

4.8. Key drivers of HiAP

Building a process for HiAPrequires using windows of opportunity to change mindsets and decision-making cultures, and to prompt actions. Key drivers are context specific and can include:

a. creating strong alliances and partnerships that recognize mutual interests, and share targets;
b. building a whole of government commitment by engaging the head of government, cabinet and/or parliament, as well as the administrative leadership;
c. developing strong high-level policy processes;
d. embedding responsibilities into governments' overall strategies, goals and targets;
e. ensuring joint decision-making and accountability for outcomes;
f. enabling openness and full consultative approaches to encourage stakeholder endorsement and advocacy;
g. encouraging experimentation and innovation to find new models that integrate social, economic and environmental goals;
h. pooling intellectual resources, integrating research and sharing wisdom from the field;
i. providing feedback mechanisms so that progress is evaluated and monitored at the highest level.

4.9. Health in All Policies works best when:

a. a clear mandate makes joined-up government an imperative;
b. systematic processes take account of interactions across sectors;
c. mediation occurs across interests;
d. accountability, transparency and participatory processes are present;
e. engagement occurs with stakeholders outside of government;
f. practical cross-sector initiatives build partnerships and trust.

4.10. Prerequisite conditions for HiAP (Leppo et al. 2013)

Resources and skills to:

a. analyse impacts of major policies and policy proposals from the health perspective
b. communicate and negotiate across sectors
c. implement policy decisions
d. follow up policies' impacts on determinants of health, and their distribution.

Information on:

a. health situation and causes of ill-health, including distributional data on health inequities
b. potential health threats
c. effective policies/interventions from the health perspective
d. policy trends and proposals being developed across sectors
e. policy processes and actors beyond the health sector.

Supportive context with:

a. political will
b. legal backing
c. governance structures and processes for intersectoral communication and
d. implementation

4.11. Conditions for effective intersectoral governance

A range of factors influence whether a governance structure is successful in facilitating intersectoral action. Some of these factors, or conditions for effectiveness, are common to a range of governance mechanisms, while others are particular for a single mechanism. These conditions for effectiveness can be divided into eight main themes: political will, partnerships and constituents' interests, leadership, the political importance of the issue, the immediacy of the problem, context for effectiveness, resources and implementation practicalities.

4.12. What are Stakeholders' roles in mainstreaming HiAP?

4.12.1. What are the roles of Governments?

Identifying health policy areas of mutual interest with other sectors is helpful for intersectoral alignment. For example Public elementary schools are the most feasible policy space where banning unhealthy food for school-aged children's consumption could have a significant impact in the long run. The Ministry of education should appreciate the potential effects of preventing obesity and overweight in school aged children and partner with the ministry of health to achieve this.

1. Policy coherence is crucial – this means that different government departments' policies complement rather than contradict each other in relation to the production of health.
2. Providing equal access to quality education for individuals.

3. Poverty and social exclusions should be targets for intervention programmes.
4. Economic policies should aim at preventing unemployment and job insecurity; and to reduce the effects of unemployment.
5. Stake holders in the agriculture and food sector should strive to ensure sustainable agriculture and food production methods and healthy food cultures.
6. Public transport and road networks should be improved. Incentives can be put in place to discourage driving and sedimentary lifestyle and encourage walking and cycling

4.12.2. What are the roles of the health sector?

To advance Health in All Policies the health sector must learn to engage systematically across government and work in partnership with other sectors to address the health and well-being dimensions of their activities. This requires a health sector that is outward oriented, open to others, and equipped with the necessary knowledge, skills and mandate.

The health sector can support other arms of government by actively assisting their policy development and goal attainment. To harness health and well-being, governments need institutionalized processes which value cross-sector problem solving and address power imbalances. This includes providing the leadership, mandate, incentives, budgetary commitment and sustainable mechanisms that support government agencies to work collaboratively on integrated solutions.

This also means improving coordination and supporting champions within the health sector itself. New responsibilities of health departments in support of a Health in All Policies approach will need to include:

1. Providing the leadership, mandate, incentives, budgetary commitment and sustainable mechanisms that support government agencies to work collaboratively on integrated solutions.
2. Understanding the political agendas and administrative imperatives of other sectors in terms of their own priorities.
3. Building the knowledge and evidence base of policy options and strategies;
4. Assessing comparative health consequences of options within the policy development process and consider the potential and distributional impacts on health of policies/decisions taken in ‘non-

health' areas and take action to enhance positive impacts/ alleviate negative impacts
5. Creating regular platforms for dialogue and problem solving with other sectors;
6. Evaluating the effectiveness of intersectoral work and integrated policy-making;
7. Building capacity through better mechanisms, resources, agency support and skilled and dedicated staff to monitor the impact of HiAP on health;
8. Working with other arms of government to achieve their goals and in so doing advance health and well-being.

4.12.3. What are the roles of community leadership for action?

1. The participation of communities and civil society groups in decision-making is a key aspect of the governance required for action on social determinants across all sectors. This can drive new initiatives, increase accountability and sustain change. It implies a shift in power relationships in favour of population groups and willingness of policy makers to transfer real power to communities.
2. Encourage individual participation in taking up services
3. Encourage participation of communities in service delivery
4. Governments can act to ensure that they do not obstruct attempts at participation

4.13. Examples of HiAP

'Health in All Policies has been developed and tested in a number of countries and there are potential in other countries. We can learn from these examples. All that is mainly required is political commitment and accountability. Examples include:

1. Mexico:

A typical example of HiAPinterventions that seek to improve the SDH was in Mexico. This was with the participation of sectors other than health, namely: 1) the 'Opportunities' Human Development Programme; 2) the Healthy Communities Programme; 3) the Road Safety Action Programme; and 4) the National Agreement for Healthy Food. The ministries responsible for other sectors that collaborated with health included: the Ministry of Social Development, the Ministry of Education, the Ministry of Communications and Transport, the Ministry of Public Security, the Ministry of the Economy, the Ministry of

Agriculture, Livestock, Rural Development, Fisheries and Food, the Ministry of Finance and Public Credit, the Ministry of Labour and Social Welfare and local governments. Most of the evidence found was on health or health equity impacts and this evidence generally demonstrated positive health impacts for the population and, in many cases, for disadvantaged populations.

2. **Finland:**

HiAP has evolved from a focus on concerted actions on high-priority issues towards a more general pattern of integrated policy-making involving intersectoral preparation of statutes, stands and programmes. A comprehensive system of intersectoral apparatus for preparing national stands on EU policy proposals was established when entering the EU. Integrated assessments, including health, are required in all legislative proposals (Melkas 2013). Enacted in 2010, the new Health Act requires municipalities to prepare and discuss reports on their population groups' well-being and health and their major determinants within discussions of municipalities' strategic plans. The Finnish government programme states that "the promotion of well-being and health as well as the reduction of inequality will be taken into account in all societal decision-making, and incorporated into the activities of all administrative sectors and ministries".

3. **South Australia:**

South Australiahas developed the HiAP approach for its context, putting emphasis on incorporating health high on the government agenda, as well as on written agreements on joint strategic planning and budgeting. A health lens exercise has been used for working with other sectors on initiatives selected and monitored by the Executive Committee of the South Australian government (Lawless et al. 2012). HiAP implementation is led by a small unit within the South Australia's health ministry. However, authority for HiAP rests with the Department of the Premier and Cabinet, giving it the mandate of the head of state and a truly whole-of-government focus. South Australia has also adopted a new Public Health Act (2011) that requires all local governments to develop health plans.

4. **Ecuador: The National Good Living Plan**

Ecuador's National Plan of Good Living, or NPGL has become the roadmap for the development and implementation of social policies in Ecuador, with the full backing of the highest political authority. The concept of Good Living is based on a broad definition of health. Health is one of a set of specific sectoral work plans, each of which has to be consistent with national strategy and priorities. The health sector work plan is guided by the social determinants of health approach, and its goals are realized through the Development Coordinating Ministry, which supervises the Ministries of Health, Labour, Education, Migration, and Housing. Between 2006 and 2011 when the Programme was implemented, social investments increased 2.5 times; the proportion of urban homes with toilets and sewage systems increased from 71% to 78%; rural homes with access to collection of waste increased from 22% to 37% and health appointments in the public service sector increased by 2.6 per 100 inhabitants (PAHO 2013).

5. Sweden: Reducing Road Fatalities

The Vision Zero initiative is an example of how a government agency that is not normally associated with the health sector, the Swedish Road and Traffic Safety Agency, contributed significantly to improved population health. Based on the Agency's recommendations, the Road Traffic Safety Bill enacted in 1997 by the Swedish Parliament required that fatalities and serious injuries are reduced to zero by 2020 (Whitelegg & Haq 2006). It ushered in a systems approach that brought together the transport, justice, environment, health and education sectors, and established partnerships with the private sector and civil society. In addition to playing a facilitating role, including provision of data, the Swedish health authorities worked alongside the country's emergency services to reduce fatalities and improve outcomes. Through the police, road safety measures such as speed limits, seat belt use, and random breath testing for alcohol consumption were enforced, while civil society organizations and the private sector promoted safe driving. Technical measures included improved design of roads, vehicles, surveillance and safety equipment. The approach, increasingly emulated in other countries, led to a fall in the numbers of fatal road crashes from 9.1 deaths per 100,000 in 1990 to 2.8 deaths per 100,000 in 2010, despite a significant increase in traffic volumes (IRTAD 2012).

6. Thailand: Inserting Health Concerns into Intellectual Property Legislation

The process of drafting Thailand's National Plan for Intellectual Property in 2009 demonstrates how the health concerns of civil society can feed into the policy process in both the health and trade sectors. During the drafting of the Plan by the Thai Ministry of Commerce, civil society organizations (CSOs) made use of Section 11 of the 2007 National Health Act, which guarantees access to information on government programmes that "may affect [a person's] health or the health of a community, and shall have the right to express his or her opinions on such matters." On this basis, the CSOs requested that the Thai government review the Draft Plan in order to ensure that intellectual property (IP) regulations concerning otherwise legal essential generic medicines would not invoke charges of IP infringement, as had been the case of other countries. Instead, they requested a specific plan for IP protection and enforcement regarding pharmaceutical products. The involvement of CSOs in this process resulted in the establishment of a working group composed of the National Health Commission Office, the Ministry of Commerce, Department of Intellectual Property, and Ministry of Public Health, which was tasked with developing an IP plan specific to medicines and related products. Before any adoption of health-sensitive issues in free trade agreement frameworks, representatives of health authorities and civil society, including academics, are included in committees, working groups and hearing sessions of the trade sector; moreover, the issue of IP for pharmaceutical products is considered before setting any international trade or economic agreements. (Source: National Health Commission Office, Thailand).

Again in Thailandhealth impact assessment has been described as a means ofresolving conflict between government and civil society (Phoolcharoen 2003) – citizenshave the right to request an assessment when they have concerns about thehealth impacts of a government decision. HiAP (including mandated use ofhealth impact assessment) resulted from a popular movement for politicaland economic reform in the 1990s. Thai Health Promotion Foundation(ThaiHealth) provides a governance structure for HiAP. Chaired by the Prime
Minister, the ThaiHealth Board comprises representatives from economic and fiscal, education, agriculture, transport and health sectors (Phoolcharoen 2003).

7. Malaysia:Health in All Policies:

Malaysia embarked on a national transformation agenda based on the four pillars of inculcating the cultural and societal values under the "1Malaysia Concept" and the twin commitments of people first in all policies & projects and performance now; a government transformation programme (GTP); macroeconomic policies under the economic transformation programme (ETP); and the operationalisation of these policies through the 10th Malaysia Plan. The highest political commitment is given to the implementation of these national policies by the various agencies, orchestrated and coordinated by a central planning process which cascades down to the state and district administrative levels of the government machinery. The health policies follow these national policies. Malaysia's success has depended upon each agency performing well in the delivery of social services but intersectoral action at all levels of the government machinery which has resulted in synergising these efforts to deliver an outcome which has reduced health inequities whether geographical or ethnic. In addressing the social determinants of health, Malaysia has drawn upon its values of social justice and equity to foster national unity. These are enshrined in the Constitution and supported by a legal and policy framework (Noh &Safurah 2011).

8. Nigeria:

In Nigeria, the Subsidy, Reinvestment and Empowerment Programme (SURE-P) programme which is under the Presidency provides an opportunity to institute health in policies because most of its projects cut across different sectors of the economy. One of the pillars of the transformation agenda of the Federal Government is the progressive deregulation of the petroleum industry. In January, 2012, the decision to remove the subsidy on Premium Motor Spirit (PMS) was announced by government. In order to ensure the proper management of the funds that would accrue to the Federal Government from the partial withdrawal of subsidy, the Subsidy Reinvestment and Empowerment Programme (SURE-P) was established to `deliver service with integrity' and `restore people's confidence in the government' (FGN 2012). One of the official explanations for instituting the policy was that the fuel subsidies do not reach the intended beneficiaries as richer households consume larger quantities of petroleum products than the poor. Consequently, the subsidy benefits mostly the rich.

The objectives of the SURE-P are:

1. To mitigate the immediate impact of the partial petroleum subsidy removal on the population by laying a foundation for the successful development of a national safety net programme that targets the poor and vulnerable on a continuous basis. This applies to both the direct and indirect effects of subsidy withdrawal.
2. To accelerate economic transformation through investments in critical infrastructural projects, so as to drive economic growth and achieve the Vision 20:2020.
3. To promote investment in the petroleum downstream sector.

The SURE-P's funds are split between the Federal, States and Local Governments, and are meant to be used in two ways: to help fund infrastructural development; and to support social security programmes related to issues such as public works, vocational training, mass transit transportation, Maternal and Child Health, community services, women and youth empowerment and unemployment. If properly executed, it is likely to address some of the inequities in the country.

Furthermore, the Nigeria Vision 20-2020 plan which is a grand agenda intended to transform Nigeria into a fully developed economy and one of the world's leading 20 economies by 2020 is also a veritable platform for addressing Health in All policies. The plan addresses 29 thematic areas, each representing a different sector of the economy including Health.

9. International: Framework Convention on Tobacco Control

Tobacco control has been a major success for HiAP at the global level. The Framework Convention on Tobacco Control (FCTC), which entered into force on 27 February 2005, is the first treaty negotiated under the auspices of the World Health Organization. It was developed in response to the globalization of the tobacco smoking epidemic, in recognition that the spread of the epidemic is facilitated by a variety of complex factors with cross-border effects, including trade liberalization and direct foreign investment. The FCTC now has 177 signatory countries, and has successfully led to stronger tobacco control policies in many parts of the world. Both supply and demand reduction measures are included in a "package" of interventions. In addition to the Ministry of Health, relevant ministries or agencies such as Finance, Trade, or Customs in each signatory country work together to meet minimum standards governing the packaging, sale, advertising, and taxation of tobacco products (WHO 2013b).

4.14. Challenges in implementing Health in All Policies

In implementing HiAP, a number of questions are raised and need to be considered (Kickbusch and Buckett2010):

1. It is one thing for the health sector to be interested in trying to solve its problems, but why would other sectors want to work in a joined-up way with Health in an HiAP approach—what's in it for them?
2. Health often makes up the greatest single expenditure of governments, so why should other agencies be asked to spend their funds on health outcomes? Again, what's in it for them?
3. How should the power dynamics and relationships between health and other sectors be managed so that a fruitful relationship can be developed—who leads (and, therefore, who follows)? This is a vital question as relationship-building and partnerships are key aspects of successful across-sector work.
4. How do you develop a common goal given the current institutional arrangements where each sector is striving to achieve its own goals? Without shared goals, at some level HiAP will fail.
5. How do you develop a culture of cooperation given that sectors, and their leaders, are in competition for resources and 'their time in the sun'?
6. What is Health's role in HiAP? How can it be inclusive and not dominant in partnerships given that health issues are generally seen as Health's responsibilities?

Therefore, intersectoral policy-making is difficult because it requires setting common goals, delivering integrated responses and providing increased accountability across government agencies. The Adelaide statement states that "to harness health and well-being, governments need institutionalized processes which value cross-sector problem solving and address power imbalances. This includes providing the leadership, mandate, incentives, budgetary commitment and sustainable mechanisms that support government agencies to work collaboratively on integrated solutions." ***(Adelaide Statement 2010)***

It is not unusual that such a process can create tensions within government as conflicts over values and diverging interests can emerge. These tensions may be managed through relationship-building and collaborative decision-making structures. Over time, HiAP can help build interagency trust and promote

deeper collaboration and robust and systematic stakeholder engagement on high-stakes issues, leading to more efficient and effective governance.

SECTION FIVE: CONCLUSIONS AND RECOMMENDATION

5.1. Conclusions

Health is a precondition for and an outcome and indicator of all three dimensions of sustainable development. Global health challenges cannot be addressed effectively without addressing social, economic and environmental determinants and challenges. Poorly performing health systems can be a barrier to health care and a critical social determinant of health. Therefore, Action on social determinants is urgent for the final push towards the MDGs and post MDGs developmental goals. Without it, we will not meet the targets and the gains of the MDGs will not be sustained thereafter.

SDH including the health system are a powerful influence on health and few governments have explicit policies for tackling socially determined health problems. Interventions aimed at reducing disease and saving lives succeed only when they take the SDH adequately into account . Limitation in progress of MDGs is linked with failure to address the SDH. So, to accelerate the achievements of MDGs and prepare for post-MDGs agenda, we need actions on SDH. Addressing social determinants of health is not solely the responsibility of the health sector: health and development needs an integrated, multisectoral approach through Health in All Policies approach e.g. Agriculture, Education, Housing, Transportation and financing etc. ***Specifically, three broad approaches to addressing SDH and reducing health inequities are based on: (1) targeted programmes for disadvantaged populations; (2) closing health gaps between worse-off and better-off groups; and (3) addressing the social health gradient across the whole population.***

HiAP introduces better health (improved population health outcomes) as a key dimension of wellbeing and defines the closing of the health gap as a shared goal across all parts of government. It addresses complex health challenges through an integrated and dynamic policy response across portfolio boundaries. Health is no longer in the centre but, by incorporating a concern with health impacts into the policy development process ofallsectors and agencies, it raises the importance of health issues. It enables further recognition of the SDH and a pathway for governments to take action in a

more systematic manner so as to make positive changes inthem for improved population health.

HiAP actions and groups can take many forms, but the ultimate goal of this approach is to fundamentally change government so that agencies are aligned around a common vision for a healthy and equitable society, so that health is considered in decision-making across sectors and policy areas. With this vision in mind, opportunities to do this work can emerge nearly anywhere. It can be implemented through creation of a new structure or group, or can be applied to existing processes such as strategic planning and grant-making, or both. Partners, leaders, and focus areas will vary, depending upon political support, community needs, and resources.

By their very nature, HiAP initiatives will give rise to tensions between agencies on specific issues, but these tensions can be managed through relationship-building and collaborative decision-making structures. Over time, it can also help build interagency trust and promote deeper collaboration and robust stakeholder engagement on high-stakes issues, leading to more efficient and effective governance.

5.2. Some key recommendations to accelerate the achievements of the MDGs by addressing SDH and mainstreaming HiAP in Nigeria include:

1. Work across all levels of government, creating synergies and cooperation, supported by structures and mechanisms that enable dialogue, collaboration and alignment, in developing policies, legislation and programmes with an equity focus. A governance structure with the highest political patronage is needed for this.
2. Work across different sectors and levels of government to ensure coherent, integrated, intersectoral interventions and develop national strategies to address health and equity issues; and work on multiple fronts, including involving the private sector through Public Private Partnership. Ensure that all Ministries, Departments, Agencies (MDAs) have health desks and budget line provided for them.
3. Strengthen the health systems towards the provision of equitable universal coverage as a necessary condition for addressing SDH and inequity. The recent Ebola virus disease outbreak show how fragile our health system is.

4. Develop and strengthen financing measures and risk pooling mechanisms to ensure out-of-pocket expenditure at point of service is minimized, and people are prevented from being impoverished when they seek medical treatment including promoting mechanisms for community initiatives. One of the models through which this can be delivered is the community-based health insurance scheme. There are success stories in Obio community in Rivers State (Nigeria Health Watch 2014) and Igboukwu community in Anambra State (Uzochukwu et al. 2009) that can be replicated. However, in doing this we should guide against inequities in catastrophic out-of-pocket health expenditures as has been noted in Southeast Nigeria (Onwujekwe et al. 2012b)
5. Empower the role of communities and strengthen civil society contribution to policy-making and implementation by adopting measures (including financial and educational resources) to enable their effective participation in decision-making (in particular targeted towards vulnerable groups). The Ward development committee concept in Nigeria is a veritable community organ that can be used to do this and the "reaching every ward" (REW) strategy in Nigerian immunization programme (Uzochukwu et al. 2011a) should be used in other sectors.
6. Foster local governance and public accountability to ensure that people, particularly vulnerable and marginalized groups, participate in policy- and decision-making processes. The facility health committee concept is a good local and public accountability structure in Nigeria and should be institutionalized (Allen & Uzochukwu, 2011b)
7. Develop and maintain public health policies and actions that address the social, economic, environmental and behavioural determinants of health; in particular, the principle of quality universal coverage must not be sacrificed as a result of the economic crisis. Poverty and social exclusions should be targeted for intervention programmes

8. Policy coherence, providing equal access to quality education for individuals for example through the Universal Basic Education as in Nigeria.

9. Economic policies aimed at preventing unemployment, sustainable agriculture and food production methods and healthy food cultures and Public transport and road networks should be improved.

10. Improve capacity of the health sector to identify and contribute to addressing social determinants of health through intersectoral action and policies

11. Fundamental determinants of conflicts and insurgence should be addressed holistically, while adhoc measures are put in place. For example the International Rescue Committee, one of the world's largest humanitarian agencies that provide relief, rehabilitation and post-conflict reconstruction support to victims of natural disaster, oppression and violent conflict is currently running a health project for conflict affected communities in Adamawa State. Similar projects could be extended to other States.
12. Re-visit the Nigeria Vision 20-2020 plan and incorporate HiAP in its strategic plan.
13. Strengthen international cooperation in promoting health equity as this is at the centre of the agenda for inclusive and sustainable development. There should also be Aid harmonization and the disconnect in partner support between national and sub-national levels should be addressed by all partners.
14. *In the Post 2015 agenda (Sustainable Development Goals), the social determinants of health and HiAP should be given prominence.*

5.3. End Note

A renewed commitment to intersectoral action is needed to help alleviate SDH and sustain MDG achievements and prepare for post MDGs agenda. According to an African proverb, "***If you want to go fast, go alone; if you want to go far, go together".*** The health sector should take the lead on this by ensuring strong leadership, policy coherence, community participation and intersectoral collaboration.

In 1941,Virchow a German had recommended that to improve the population's health, the city fathers (the owners of the land, water, and property), should redistribute the land, water, and property of Germany. But his recommendation was dismissed as too political. In response to the outraged dismissal, he said ***"Medicine is a social science and politics is nothing more than medicine on a large scale"***(Virchow 1941). What we, as public health workers and other stakeholders in health need to do is to act as agents, including political agents, for change. I hope I have supporters on this in this audience.

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I cannot conclude this cerebral celebration without paying tribute to those that have contributed to what is being celebrated today. First and foremost, I thank the Almighty God for his infinite mercies and loving kindness and for keeping me alive and directing my paths. To Him be all the glory and honour. Amen

It is my pleasure to acknowledge my pretty, loving and lovable wife Adaora for allowing me to be her husband and brother (as people say, we look alike)and for her patience, understanding and great support in my quest for knowledge and academic freedom. I thank my children- Baron, Kennedy, Clinton, Noble and Chioma for allowing me to be their father and friend. They have all resolved to be greater than I, and that is my prayer for them. May the good Lord continue to bless and prosper you all.

To my parents, Late Chief J.M. Uzochukwu (JP), The Ekwueme 1 of Umunze and Dame Patience Uzochukwu (Osodieme),I say a very big thank you for laying a solid foundation for me and my 8 siblings- Anene, Okechukwu, Onyekwere, Uchenna, Ejike, the twins Onyeka & Ngozi and the last but not the least Emeka. We will ever remain grateful. As a child, my parents wanted me to be a medical doctor, although I wanted to be an Aeronautical Engineer (whatever that meant and I guess I was fascinated by the name rather than what it meant). I am so glad I followed the instincts and wisdom of my parents.

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having attained the position of a Principal Medical Officer as a general practitioner in the Anambra State Ministry of Health and at a time some of my medical school classmates were already consultants. He therefore painstakingly supervised my Part 2 dissertation for the award of the Fellowship of the West African College of Physicians titled *"An evaluation of The Bamako Initiative Programme in Oji River LGA"*. A programme that involved community participation, upgrading and reorganization of health centres, provision of essential drugs, community financing through user-fees, and enhanced management. In deed this was my first academic enquiry into the social determinants of health and together we published my first work on social determinants of health.

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I salute my *Alma Mata*the great Denis Memorial Grammar School (DMGS) Onitsha established on January 25, 1925 (and the only grammar school south of Sahara up till date) for giving me the solid foundation and template for my future career. I have always been guided by the motto of the School- "*LUX FIAT"* meaning show the Light and even more motivated by the Motto of my house, Stanley House which is "*I can and I will".DENGRAM WE SING TO YOULUX FIAT, DENGRAM WE SING TO YOUFAITH UNTOLD, YOU CHALLENGE AND INSPIRE, OUR HOPE IS YOUR DESIRE.WE SING TO YOU*
OUR ALMA MATALUX FIAT.
My immense thanks go to the local organizing committee of my inaugural lecture chaired by my "twin brother" and friend Professor Obinna Onwujekwe. The members are too numerous to mention and they are all here today. God alone can thank you for what you have done for me. To all my friends who were mobilized for this occasion and responded in a special way, I say God bless you.
I am grateful to everyone that has made out time toattend this lecture in spite of your busy schedule.

Final Words
This Inaugural Lecture is dedicated to my wife of 25 years- Adaora Chinelo Uzochukwu whose birthday was yesterday for providing me with the enabling and conducive environment that sustains my endeavours. I say again happy birthday and may the Almighty God continue to bless you.
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REFERENCES

Abdesslam B (2011). Social determinants and health equity in Morocco.World Conference on social determinants of health Draft Background Paper 12.www.who.int/sdhconference. (Accessed 20 July 2014)

Adelaide Statement on Health in All Policies (2010). Adelaide, World Health Organization & the Government of South Australia (http://www.who.int/ social_determinants/hiap_statement_ who_sa_final.pdf. (Accessed 4 July 2014).

Agurto I, Rodriguez L and Zacarías I (2011). Food and vegetable promotion and the 5-a-day programme in Chile for the prevention of chronic non-communicable diseases: across-sector relationships and public–private partnerships. In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

AIDS (2010).United Nations General Assembly Special Session Country Progress Report- Nigeria. Abuja: Federal Government of Nigeria.

Akpala CO, Uzochukwu BSC (2000). Sexual Abuse Among Juvenile Female Street Hawkers in Enugu, Eastern Nigeria. Orient Journal of Medicine 12; (1-4): 9-14

Allen R Uzochukwu BSC (2011). Institutionalisation Road Map for Facility Health Committees. Final Report, PATHS2 Enugu

Altobelli LC, Acosta-Saal C(2011).Local Health Administration Committees (CLAS): opportunity and empowerment for equity in health in Perú. In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

Arora M et al. (2011). Multi-sectoral action for addressing social determinants of Noncommunicable diseases and mainstreaming health promotion in national health programmes in India. Indian Journal of Community Medicine, 36(Suppl. 1):S43–S49.

Asia-Pacific Regional MDG Report (2011). Accelerating Equitable Achievement of the MDGs. Closing Gaps in Health and Nutrition Outcomes.

Benzeval, Judge, & Whitehead (1995).Tackling Inequalities in Health: An Agenda for Action., p.21.

Black RE, Morris SS, Bryce J (2003). Where and why are 10 million children dying every year? Lancet, 361(9376):2226–2234.)

Black RE et al. (2008). Maternal and child undernutrition: global and regional exposures and health consequences. Lancet, 371(9608):243–260.)

Blas E, Sommerfield J & Sivasankara Kurup A (2011).Eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

Braveman, P. and S. Gruskin (2003).Defining equity in health. Journal of Epidemiology and Community Health,57(4): 254-258.

Bonita R, Irwin A, Beaglehole R. Promoting public health in the 21st century: the role of WHO. In Kawachi I and Wamala S, eds. Globalization and health. New York: Oxford UP

Bosma, H., M. G. Marmot, et al. (1997). "Low job control and risk of coronary heart disease in Whitehall II (prospective cohort) study." BMJ314(7080): 55865.

Brennan Ramirez LK, B.E., Metzler M (2008). Promoting Health Equity: A Resource to Help Communities Address Social Determinants of Health, Centers for Disease Control and Prevention, Editor. Department of Health and Human Services,: Atlanta, GA.

California Health in All Policies Task Force (2010).Health in All Policies Task Force Report to the Strategic Growth Council.Retrieved from:

http://sgc.ca.gov/hiap/docs/ publications/HiAP_Task_Force_Report.pdf.(Accessed 10 July 2014).

California Pan-Ethnic Health Network. (2009). *The landscape of opportunity: Cultivating health equity in California*. Oakland, CA: Author. Retrieved from: http://www.cpehn.org/ pdfs/LandscapeOfOpportunity.pdf.(Accessed 3 June 2014).

Centre for AIDS Development, Research and Evaluation (CADRE) (2003).Gender-based violence and HIV/AIDS in South Africa : organizational responses. Developed by the Centre for AIDS Development, Research and Evaluation (CADRE) for the Department of Health, South Africa. Braamfontein, Centre for AIDS Development, Research and Evaluation.

Chang, H. N., & Romero, M. (2008).Present, engaged & accounted for: The critical importance of addressing chronic absence in the early grades. New York: National Center for Children in Poverty

Coburn D. (2000). Income inequality, social cohesion and the health status of populations: the role of neoliberalism. Social Science and Medicine 51: 135-46.

Commission on Social Determinants of Health (2007).Final report of the Knowledge Network on Health Systems of the Commission on Social Determinants of Health.Health Systems Knowledge Network.

Commission on Social Determinant of Health (2008).Closing the gap in a generation: health equity through action on the social determinants of health.Final Report of the Commission on Social Determinants of Health. Geneva, World Health Organization.

Consortium for Health Policy and Systems Analysis in Africa-CHEPSAA (2014). Emerging Leaders Programme: Early successes. The Kenyan Jawabu Afrika programme.

David A et al. (2010). Tobacco use and the social determinants of health. In: Blas E & Sivasankara Kurup A, eds. Equity, social determinants and public health programmes. Geneva, World Health Organization.

Department of Health, Government of South Australia (2010).Implementing Health in All Policies: Adelaid 2010.http://www.who.int/sdhconference/resources/implementinghiapadel-sahealth-100622.pdf. (Accessed 7 April, 2014).

Dike N, Onwujekwe O, Ikeme A, Uzochukwu B and Shu E(2006). Influence of educational and knowledge on perceptions and practices to control malaria in southeast Nigeria.*Social Science and Medicine*. 63(1):103-6.

Djukanovic V, Mach EP (eds). (1975). Alternative Approaches to Meeting Basic Health Needs of Populations in Developing Countries, a Joint UNICEF/WHO Study. Geneva: WHO.

Drager N. Vieira C. (2002). Trade in health services: global, regional and country perspectives. Washington, DC: PAHO.See Kawachi I, Wamala S (eds 2002). Global and Health. New York: Oxford UP.

Epstein D et al.(2009). An economic framework for analysing the social determinants of health and health inequalities. York, Centre for Health Economics, University of York.

Exworthy M, Blane D, Marmot M (2003). Tackling health inequalities in the United Kingdom: the progress and pitfalls of policy. Health Services Research, 38:1905–1921.

Federal Government of Nigeria (2012). The Subsidy Reinvestment and Empowerment
Programme. http://www.sure-p.gov.ng/main/index.php/about-sure-p/sure-p-secretariat/history-and-mandate#. (Accessed 20 July 2014).

FMOH (2012).Joint Annual Review 2011.Federal Ministry of Health Abuja, Nigeria.

FMOH (2013).Full Report of the 56th National Council on Health (NCH).Federal Ministry of Health Abuja, Nigeria.

Galvão LAC, Edwards S, Corvalan C, Fortune K and Akerman M (2009).Climate change and social determinants of health: two interlinked agendas. *Global Health Promotion* 16: 81. DOI: 10.1177/1757975909103761

Ghadirian E, Croll NA, Gyorkos TW (1979). Socio-agricultural factors and parasitic infections in the Caspian littoral region of Iran.Tropical and Geographical Medicine, 31:485–491.).

Grabowsky M et al (2005). Ghana and Zambia: achieving equity in the distribution of insecticide-treated bednets through links with measles vaccination campaigns. In:

Gwatkin DR, Wagstaff A, Yazbeck AS, eds. Reaching the poor with health, nutrition, and population services. Washington, DC, World Bank, 65–80.

Gwatkin DR (2005). How much would poor people gain from faster progress towards the Millennium Development Goals for health? Lancet, 365(9461):813–817.

Hargreaves J, Hatcher A, Busza J, Strange V, Phetla G, Kim J, Watts C, Morison L, Porter J, Pronyk P and Bonell C (2011).What happens after a trial? Replicating a cross-sectoral intervention addressing the social determinants of health: the case of the Intervention with Microfinance for AIDS and Gender Equity (IMAGE) in South Africa. In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

Harris P, Ritchie J, Tabi G and Lower T. (2011). Addressing the social determinants of alcohol use and abuse with adolescents in a Pacific Island country (Vanuatu).In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to

public health: from concept to practice. Geneva, World Health Organization

Ichoku, Ementa Hyacinth and Nwosu, Emmanuel O (2011).Social Determinants and Dynamics of Health Inequality in Nigeria.Central Bank of Nigeria Economic and Financial Review, Vol. 49 No.3 pp.47-70. Available at SSRN: http://ssrn.com/abstract=2324358

IRTAD (2012).Road Safety Annual Report 2011, Paris: OECD/International Transport Forum. Available at: http://www.stop100.ca/roadsafetyreport.pdf (Accessed December 20, 2013).

Jackson, S. L., Vann, W. F., Kotch, J. B., Pahel, B. T., & Lee, J. Y. (2011). Impact of poor oral health on children's school attendance and performance.*American Journal of Public Health*, *101*(10), 1900–1906.

Javanparast S. (2011). Child malnutrition—engaging health and other sectors : the case of Iran. In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

Johnston HB, Schurmann A, Oliveras E and Akhter HH. (2011). Scaled up and marginalized: a review of Bangladesh's menstrual regulation programme and its impact. In: Blas E, Sommerfield J &Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

Jouve J-L, Aagaard-Hansen J, Aidara-Kane A (2010). Food safety: equity and social determinants. In: Blas E, Sivasankara Kurup A, eds. Equity, social determinants and public health programmes. Geneva, World Health Organization, 95–114.

Kawachi I, Adler NE, Dow WH (2010). Money, schooling, and health: mechanisms and causal evidence. Ann N Y Acad Sci 1186: 56–68.

Khan KS and Agha A. (2011).Women's empowerment and its challenges: review of a multi-partner national project to reduce malnutrition in rural girls in Pakistan. In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

Kickbusch, I. (2010). Health in All Policies: The evolution of the concept of horizontal governance. In: Kickbusch, I., & Buckett, K. (Eds.). Implementing Health in All Policies,

Kickbusch I and Buckett K. (2010). Health in All Policies: the evolution. In: Kickbusch I and Buckett K eds. Implementing Healthin All Policies:Adelaide 2010

Koot J, Mtung'e R and Miller J. (2011).Insecticide-treated nets in Tanzania mainland: challenges in reaching the most vulnerable, most exposed and poorest groups. In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

Lawless AP et al. (2012). Health in All Policies: evaluating the SouthAustralian approach to intersectoral action for health. *Canadian Journal ofPublic Health*, 103(Suppl 1):S15–S19.

Lee JH, Sadana R (2011). Improving equity in health by addressing social determinants. Geneva: World Health Organization.

Lee JW. (2005). Interventions aimed at reducing disease and saving lives. The Lancet, vol.365, 19

Leppo K, Ollila E, Peña S, Wismar M, Cook S (2013).Health in All Policies: Seizing opportunities, implementing policies. Ministry of Social Affairs and Health, Department for Promotion of Welfare and Health, Finland.

Mackenbach JP, Meerding WJ, Kunst AE (2007). Economic implications of socioeconomic
inequalities in health in the European Union. Luxembourg, European Commission.

Marmot Review (2010). Fair society, healthy lives: strategic review of health inequalities in England post 2010. London: Marmot Review.

McKeown T. (1976). The Modern Rise of Population. New York: Academic Press.

Melkas T (2013). Health in all policies as a priority in Finnish healthpolicy: a case study on national health policy development. *ScandinavianJournal of Public Health,* 41(11 Suppl):3–28.

Moon, Ban Ki (2009). Statement to the World Health Assembly, Geneva, May 2009,
http://www.un.org/apps/news/infocus/sgspeeches/search_full.asp?statID=494. (Accessed 10 October, 2013)

Mukhopadhyay A (2011). Effective social determinants of health approach in India through community mobilization. World Conference on social determinants of health Draft Background Paper 9.www.who.int/sdhconference. (Accessed 20 July 2014).
National Bureau of Statistics (2013).Multiple Indicator Cluster Survey 2011 Main Report. Abuja: Federal Government of Nigeria

National Emergency Management Agency (2014). Health services totally collapse in Borno State Because Of Boko Haram http://www.naij.com/65225.html. (Accessed 30 July 2014)

National Population Commission. Nigeria Demographic and Health Survey (2008).National Population Commission Abuja, Nigeria. Measure DHS,ICF International, Calverton, Maryland, USA; 2008.

National Population Commission.Nigeria Demographic and Health Survey (2013).
Preliminary Report.National Population Commission Abuja, Nigeria. Measure DHS,

ICF International, Calverton, Maryland, USA; 2013.

National Primary Health Care Development Agency (NPHCDA) (2012). Subsidy Reinvestment and Empowerment Programme (SURE-P), Programme implementation manual. Abuja, Nigeria

Newell K. (1975). Health by the People. Geneva: WHO.

Nichter M, Greaves L, Block M, Paglia M, Scarinci 1, Tolosa JE, Novotry TE (2010). Tobacco use and secondhand smoke exposure during pregnancy in low- and middle – income countries. The need for social and cultural research Acta Obstet Gynecol Scand.; 89 (4): 465-77.

Nigeria Health Watch (2014).Visiting the Obio Community Health Insurance Scheme.www.nigeriahealthwatch.com. (Accessed 6 August, 2014).

Noh KM, Safurah Jaafar S (2011).Health in All Policies: The Primary Health Care Approach in Malaysia 50-years experience in addressing social determinants of health through Intersectoral Action for Health. World Conference on social determinanats of health Draft Background Paper 7.www.who.int/sdhconference. (Accessed 20 July 2014)

Noor AM et al (2007). Increasing coverage and decreasing inequity in insecticide treated bednet use among rural Kenyan children. PLoS Medicine, 4(8):1341–1348.

Obiora CC, Dim CC, Uzochukwu BSC, Ezugwu FO (2014). Cigarette smoking and the perception ofits advertisement among ANC attendees in referral Health Facilities in Enugu, Nigeria. Journal of Clinical Practice

Olshansky, S. J., Antonucci, T., Berkman, L., Binstock, R. H., Boersch-Supan, A., Cacioppo, J. T, Rowe, J. (2012). Differences in life expectancy due to race and educational differences are widening, and many may not catch up. *Health Affairs, 31*(8), 1803–1813.

Onwujekwe Oand Uzochukwu BSC (2005). Socio-economic and geographic differentials in costs and payment strategies for primary health care services in Southeast Nigeria.*Health Policy* 71(3): 383-397

Onwujekwe O, Dike N, Chukwuka C, Uzochukwu B, Onyedum C, Onoka C, Ichoku H (2009)Examining catastrophic costs and benefit incidence

of subsidized antiretroviral treatment (ART) programme in south-east Nigeria. Health Policy May;90(2-3):223-9.

Onwujekwe O, Hanson K, Uzochukwu B (2012). Are the poor differentially benefiting from provision of priority public health services? A benefit incidence analysis in Nigeria.Int J Equity Health. Nov 16;11:70. doi: 10.1186/1475-9276-11-70.

Onwujekwe O, Uzochukwu BSC and Kirigia J (2012b). Basis for effective community-based Health Insurance schemes: investigating inequities in catastrophic out-of-pocket health expenditures, affordability and altruism. African Journal of Health Economics; 1 (1): 9-20.

Pan American Health Organization (2007).Health in the Americas volume. Washington, DC: PAHO Scientific and Technical Publication

Pan American Health Organization(2013). Summary of the Experiences of the Americas.In The 8th Global Conference on Health Promotion. Helsinki: PAHO.

Phoolcharoen W, Sukkumnoed D, Kessomboon P (2003). Developmentof health impact assessment in Thailand: recent experiences and challenges.*Bulletin of the World Health Organization*, 81(6):465–467.

Public Health Agency of Canada (2007). Crossing sectors: Experiences in intersectoral
action, public policy and health. Ottawa.

Ranjan A et al (2005). Risk factors for Indian kala-azar.American Journal of Tropical Medicine and Hygiene, 73(1):74–78.;

Sachs J, McArthur JW (2005). The Millennium Project: a plan for meeting the Millennium Development Goals. Lancet, 365(9456):347-53.

Sihto, M., Ollila, E., & Koivusalo, M. (2006).Principles and challenges of Health in All Policies. In: T. Ståhl, M. Wismar, E. Ollila, E. Lahtinen, & K. Leppo (Eds.), Health in All Policies: Prospects and potentials (pp.3-20). Finland: Ministry of Social Affairs and Health, Finland, &

European Observatory on Health Systems and Policies. Retrieved from: http://www.euro.who.int/__data/assets/pdf_file/0003/109146/E89260.pdf

Sinclair S, Meawasige A and Kinew KA. (2011). Youth for Youth—a model for youth suicide prevention: case study of the Assembly of Manitoba Chiefs Youth Council and Secretariat, Canada.). In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

Siswanto S and Sopacua E. (2011).Reviving health posts as an entry point for community development: a case study of the Gerbangmas movement in Lumajang district, Indonesia. In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

Skeen S et al. (2010). The Mental Health And Poverty Research Programme Consortium.

Mental health is everybody's business: roles for an intersectoral approach in South Africa.
International Review of Psychiatry, 22:611–623.

Skoufias E, Davis B, de la Vega S (2001).Targeting the poor in Mexico: an evaluation of the selection of households into PROGRESA.World Development, 29(10):1769–1784.Health and nutrition of children: equity and social determinants 75).

Ståhl, T., Wismar, M., Ollila, E., Lahtinen, E., & Leppo, K. (Eds.). (2006). Health in All Policies: Prospects and potentials. Finland: Ministry of Social Affairs and Health, Finland, & European Observatory on Health Systems and Policies. Retrieved from:

http://www.euro.who.int/__data/assets/pdf_file/0003/109146/E89260.pdf

Thammatach-aree J (2011). Health systems, public health programs, andsocial determinants of health in Thailand.World Conference on social determinanats of health Draft Background Paper 10.www.who.int/sdhconference. Accessed 20 July 2014

Tozan Y, Negin J and Wariero JO. (2011). The Millennium Villages Project: improving health and eliminating extreme poverty in rural African communities. In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization.

Tsai Ch, Huang JH, Hwang BF, Less YL (2010). Household environmental tobacco smoke and risks of asthma, wheeze and bronchitic symptoms among children in Taiwan.Respir Res. 29; 11:11.

Tulloch J (1999). Integrated approach to child health in developing countries. Lancet, 354(Suppl. 2):SII16–20.

Uguru NP, Onwujekwe OE, Tasie NJ, Uzochukwu BSC, Ezeoke UE (2010). Do consumers' preferences for improved provision of malaria treatment services differ by their socio-economic status and geographic location? A study in southeast Nigeria. BMC Public Health 10:7. http://www.biomedcentral.com/1471-2458/10/7

Uguru NP, Onwujekwe OE, Uzochukwu BS, Igiliegbe GC, Eze SB (2009). Inequities in incidence, morbidity and expenditures on prevention and treatment of malaria in southeast Nigeria.BMC Int Health Hum Rights. Sep 5;9:21.

UNAIDS. (2002). "Report on the Global HIV/AIDS Epidemic 2002." Geneva: UNAIDS.

United Nations Development Programme (2010). Nigeria Millennium Development Goals Report 2010. Abuja: Federal Government of Nigeria.

United Nations Development Programme (2010). Nigeria Millennium Development Goals Countdown Strategy 2010-2015. Abuja: Federal Government of Nigeria.

United Nations Development Programme (2014).Legal and policy review consultant.
http://jobs.undp.org/cj_view_job.cfm?cur_job_id=48809. (Accessed 15 August, 2014).

United Nations (1948).Universal Declaration of Human Rights.Geneva, United Nations.

United Nations (2009).The Millennium Development Goals Report. New York: United Nations 2009.

U.S. Census Bureau. (2011). *Income, poverty, and health insurance coverage in the United States: 2010*. (Report P60-239, Table B-2). Retrieved from: www.census.gov/prod/2011pubs/ p60-239.pdf

Uwaezuoke AIO, Uzochukwu BSC,Nwagbo DFE and Onwujekwe OE (2004). Teenage pregnancy in rural communities of south-east Nigeria: A neglected tragedy. *Journal of College of Medicine*, 9(1): 28-33.

Uzochukwu BSC and Onwujekwe OE(2003). Inequity in utilisation of maternal health services: Implications for reducing maternal mortality. *Nigerian Journal of Community Medicine and Primary Health Care,* 15: 10 – 16.

Uzochukwu BSC and Onwujekwe OE (2004).Socio-economic differences and health seeking behaviour for the diagnosis and treatment of malaria: a case study of four local government areas operating the Bamako initiative programme in south-east Nigeria. *International Journal for Equity in Health*, 3:6 doi:10.1186/1475-9276-3-6

Uzochukwu BSC, Onwujekwe OE and Erikson B (2004b). Inequity in Bamako initiative: Implications for malaria control in southeast

Nigeria. *International Journal of Health Planning and Management*19 Suppl 1:S107-16

Uzochukwu BSC, Akpala CO and Onwujekwe OE. (2004c). How do health workers and community members perceive and practice community participation in the Bamako Initiative programme in Nigeria? A case study of Oji River Local government area.*Social Science and Medicine*, 59(1):157-162.

Uzochukwu B, Onwujekwe O, Nwobi E, Ndu A and Onoka C (2007). Households' perceptions and prioritization of tropical endemic diseases in Nigeria: Implications forpriority- setting. World Health and Population.***http://www.jhpdc.unc.edu***. September.

Uzochukwu BSC, Akunna AC, Nzewi IJ, Ajuba M and Chukwuogo OI (2008). Climate change and Health and methods of Environmental assessment: A review of literature. Medikka 3, (1): 5-13

Uzochukwu BSC, Onwujekwe OE, Onoka AC, Okoli C, Uguru NP and Chukwuogo OI (2009).Determinants of non-adherence to subsidized anti-retroviral treatment in southeast Nigeria. Health Policy and Planning, 1–8 doi:10.1093/heapol/czp006

Uzochukwu BSC,Onwujekwe OE, Eze Soludo, Ezuma Nkoli, Obikeze EN and Onoka CA(2009). Community Based Health Insurance Scheme in Anambra State, Nigeria: an analysis of policy development, implementation and equity effects. Consortium for Research on Equitable Health System.www.crehs.lshtm.ac.uk

Uzochukwu BSC, Onwujekwe OE, Umeobieri AK, Ossai EN, Ibiok NC, Ezeoke U, Ajuba MN (2010a). Prevalence and Risk Factors for Schistosomiasis in a rural community of south-east Nigeria. Journal of College of Medicine, 15 (1): 56-65

Uzochukwu BSC, Ossai EN (2010b). The Economics of Climate Change and Health: A review. Journal of Community Medicine & Primary Health Care, 22(1/2): 76-89

Uzochukwu BSC, Ajuba M, Onwujekwe OE, Ezuma Nkoli (2010c). Examining the linkbetween accountability, trust and performance in health service delivery in Orumba SouthLocal Government Area, South East Nigeria.www.crehs.lshtm.ac.uk

Uzochukwu BSC, Onwujekwe OE, Uguru NP, Ughasoro MD, Ezeoke OP (2010d). Willingness to pay for rapid diagnostic tests for the diagnosis and treatment of malaria in southeast Nigeria: ex post and ex ante. International Journal for Equity in Health, 9:1 http://www.equityhealthj.com/content/9/1/1

Uzochukwu Benjamin, Benjamin Onwughalu, Erik Blas, Obinna Onwujekwe, Daniel Umehand Uche Ezeoke.(2011a). Immunization programme in Anambra State, Nigeria: an analysis of policy development and implementation of the reaching every ward strategy. In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

Uzochukwu BSC (ed) (2012). The Midwives Service Scheme (MSS) Impact Evaluation Baseline Survey Report. National Primary Health Care Development Agency, Abuja, Nigeria.

Uzochukwu BSC (ed). (2013). Oversight and Validation South East zonal Report of the SURE-P MCH programme.

Uzochukwu, Benjamin, Okwuosa Chinenye, Ezeoke Ogochukwu, Onwujekwe Obinna (2014). Free maternal and child health services in Enugu State, South East Nigeria: Experiences of the community members and Health care providers. International Journal of Medical and Health Sciences Research. (In Press)

Virchow, R. (1941). Die medizinische Reform: In Sigerist HE. Medicine and Human Welfare, 93.

Waghorn G, Lloyd C (2005). The employment of people with mental illness.Australiane-Journal for the Advancement of Mental Health, 4:1–43.

Wagstaff A et al. (2006). Millennium Development Goals for health: what will it take to accelerate progress? In: Jamison DT et al., eds. Disease control priorities in developing countries. Washington, DC, World Bank/Oxford University Press,181–194.).

Watts S, Siddiqi S, Shukrullah A, Karim K, Serag H (2007): *Social Determinants of Health in Countries in Conflict and Crises:The Eastern Mediterranean Perspective. Geneva, World Health Organization*

Werner D, Sanders D. (1997).Questioning the solution: the politics of primary health care and child survival. Palo Alto, CA: Healthwrights.

West Ed, Philip R. Lee Institute for Health Policy Studies, and University of California, San Francisco. (2009). *The critical connection between student health and academic achievement: How schools and policymakers can achieve a positive impact*. Retrieved from: http://www.calendow.org/uploadedFiles/Publications/By_Topic/Access/General/Critical%20 Connection%20between%20Student.pdf

Whitelegg, J. & Haq, G (2006). Vision Zero: Adopting a Target of Zero for Road Traffic Fatalities and Serious Injuries.

WHO/UNICEF.(1978). Declaration of Alma-Ata.http://www.who.int/hpr/NPH/docs/declaration_almaata. Pdf

WHO (1946).Constitution of the World Health Organization.New York, World Health Organization, 1946.

World Health Organization and Rockefeller Foundation (1986).Intersectoral action for health: the way ahead. Report of the WHO/Rockefeller

Foundation meeting on Intersectoral action for health,.3-6 March 1986, Bellagio, Italy. New York, Rockefeller Foundation.

World Health Organization.(1988). Adelaide recommendations on healthy public policy.Adopted at the Second International Conference on Health Promotion, Adelaide, South Australia. Retrieved from: http://www.who.int/healthpromotion/conferences/previous/adelaide/en/index1.html

WHO.(2002). Gender glossary. Appendix to Integrating gender perspectives in the work of WHO: WHO gender policy. Geneva, World Health Organization.

World Health Organization (2008). Protecting health from climate change: report for World Health Day.Geneva: WHO.

World Health Organization (2010). Action on the social determinants of health: learning from previous experiences. (Discussion Paper Series on Social Determinants of Health) 1.

World Health Organization (2011a). Education: shared interests in well-being and development. Geneva, World Health Organization.

World Health Organization (2011b).*Rio Political Declaration on Social Determinants ofHealth* (http://www.who.int/sdhconference/declaration/Rio_political_declaration.pdf, accessed 25 July 2014):1–3.

World Health Organization (2012).United for health across sectors: urbanization and healthfact sheet.Geneva.

World Health Organization (2013). WHO Working Definition prepared for the 8th Global Conference on Health Promotion,Helsinki, 10–14 June 2013.

World Health Organization (2013b).Parties to the WHO Framework Convention on Tobacco Control.*WHO FCTC*. Available at:

http://www.who.int/fctc/signatories_parties/en/index.html [Accessed July 28, 2014].

Wright C (2014). Nigeria will not be able to attain the MDGs. THIS DAY 14 Jun 2014

Xu S, Cheng J, Zhuang C, Zhan S and Blas E (2011). Dedicated delivery centre for migrants in Minhang District, Shanghai: intervention on the social determinants of health and equity in pregnancy outcome for internal migrants in Shanghai, China.In: Blas E, Sommerfield J & Sivasankara Kurup A, eds. Social determinants approaches to public health: from concept to practice. Geneva, World Health Organization

LIST OF PUBLICATIONS BY PROF BSC UZOCHUKWU:

1. Uzochukwu BSC, Onwujekwe OE, Okwuosa C, Ibe OP (2014) Patent Medicine Dealers and Irrational Use of Medicines in Children: The Economic Cost and Implications for Reducing Childhood Mortality in Southeast Nigeria. PLoS ONE 9(3): e91667. doi:10.1371/journal.pone.0091667
2. Uzochukwu BSC, Ajuba MO, Okwuosa CC, Onwujekwe OE (2014). How do different socio-economic groups cope with payments and household functions when affected by tropical endemic diseases in Nigeria? African Journal of Epidemiology, (1): 7 - 15
3. Obiora CC, Dim CC, Uzochukwu BSC, Ezugwu FO (2014). Cigarette smoking and the perception of its advertisement among ANC attendees in referral Health Facilities in Enugu, Nigeria. Journal of Clinical Practice (Accepted for publication).
4. Ughasoro MD, Udem ND, Chukwudi NK, Korie FC, Uzochukwu B, Onwujekwe EO (2014). Caregivers' willingness-to-pay for a topical anesthetic cream for minor medical procedures in children. Niger J

Clin Pract,17:506-10.

5. Uzochukwu, Benjamin, Okwuosa Chinenye, Ezeoke Ogochukwu, Onwujekwe Obinna (2014). Free maternal and child health services in Enugu State, South East Nigeria: Experiences of the community members and Health care providers. International Journal of Medical and Health Sciences Research.(Accepted for Publication)

6. Uzochukwu BSC, Chukwuogo O, Onwujekwe OE (2014). Financing Immunization for results in Nigeria: Who funds, who disburses, who utilizes, who accounts? Financing bottlenecks and accountability challenges. African Journal of Health Economics (Accepted for publication).

7. Obinna Onwujekwe, Enyi Etiaba, Nkoli Uguru, Benjamin Uzochukwu and Alex Adjagba (2014). Towards making efficient use of household resources for appropriate prevention of malaria: investigating households' ownership, use and expenditures on ITNs and other preventive tools in Southeast Nigeria. *BMC Public Health*, 14:315 doi:10.1186/1471-2458-14-315

8. Emmanuel O. Ugwu; Cyril C. Dim; Benjamin S. Uzochukwu; Emeka I. Iloghalu; Angela O. Ugwu (2014). Malaria and anaemia in pregnancy: a cross-sectional study of pregnant women in rural communities of South Eastern Nigeria. International Health; doi: 10.1093/inthealth/ihu009

9. Umeano-Enemuoh J.C., Onwujekwe O.E.,Uzochukwu B.S.C., Ezeoke O.P.(2014). Patients' Satisfaction and Quality of Care in a Tertiary Institution in Southeast Nigeria. Int.Res.J. Basic Clin. Stud. 2(2):14-19

10. Obinna Onwujekwe, Chinwe Ogbonna, Chinelo Enemuoh and Benjamin Uzochukwu. (2014). Are people really using modern contraceptives and how much do they pay for them? African Journal of Health Economics, 2 (1): 1-12

11. Eric Obikeze, Obinna Onwujekwe, Benjamin Uzochukwu, Ogoamaka Chukwuogo, Eloka Uchegbu, Eze Soludo, Nkoli Uguru. (2014). Benefit Incidence of National Health Insurance Scheme in Enugu State, Southeast Nigeria. African Journal of Health Economics, 2 (1): 13-29

12. Emma-Ukaegbu UC, Nwokeukwu HI, Uzochukwu BSC (2013). An Assessment Of Birth Preparedness And Complication Readiness In Antenatal Women In Umuahia North Local Government Area, Abia State, Nigeria. *IOSR Journal of Dental and Medical Sciences (IOSR-*

JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 13, Issue 1 Ver. X. (Feb. 2014), PP 90-94 www.iosrjournals.org

13. Onwujekwe O, Uguru N, Etiaba E, Chikezie I, Uzochukwu B, et al. (2013). The Economic Burden of Malaria on Households and the Health System in Enugu State Southeast Nigeria. *PLoS ONE* 8(11): e78362. doi:10.1371/journal.pone.0078362

14. Onoka C, Onwujekwe O, Uzochukwu B and Ezumah N (2013). Promoting universal financial protection: constraints and enabling factors to scaling-up coverage with social health insurance in Nigeria. *Health Research Policy and Systems.* 13;11(1):20

15. Onwujekwe O,Ogbonna C, Ibe O, Uzochukwu B (2013). Willingness to pay and benefit-cost analysis of modern contraceptives in Nigeria: an equity analysis. *International Journal of Obstetrics and Gynaecology*. 122(2): 94 – 98.

16. Maduka D Ughasoro, Chinedu C Okoli and Benjamin SC Uzochukwu (2013). Qualitative study of presumptive treatment of childhood malaria in third tier tertiary hospitals in southeast Nigeria: a focus group and in-depth study. Malaria Journal, 12:436 http://www.malariajournal.com/content/12/1/436

17. Tolib Mirzoev, Gillian Le, Andrew Green, Marsha Orgill, Adalgot Komba, Reuben Esena,Linet Nyapada, Benjamin Uzochukwu, Woldekidan Kifle Made, Nonhlanhla Nxumalo and Lucy Gilson (2013). Assessment of capacity for Health Policy and Systems Research and Analysis in seven African universities: results from the CHEPSAA project. Health Policy and Planning;1–12, doi:10.1093/heapol/czt065

18. Mbachu CO, Uzochukwu BS, Onwujekwe OE, Ilika AL, Oranuba J (2013). How do health workers perceive and practice monitoring and evaluation of malaria control interventions in South-east Nigeria? BMC Health Serv Res. 13:81. doi: 10.1186/1472-6963-13-81.

19. Onwujekwe O, Hanson K, Ichoku H, Uzochukwu B (2013). Financing incidence analysis of household out-of-pocket spending for healthcare: getting more health for money in Nigeria?Int J Health Plann Manage. Feb 7. doi: 10.1002/hpm.2166

20. Onwujekwe OE, Enemuoh JC, Ogbonna C, Mbachu C, Uzochukwu BS, Lawson A, Ndyanabangi B (2013). Are modern contraceptives

acceptable to people and where do they source them from across Nigeria? BMC Int Health Hum Rights. Jan 23;13(1):7.

21. Onwujekwe O, Hanson K, Uzochukwu B (2012). Are the poor differentially benefiting from provision of priority public health services? A benefit incidence analysis in Nigeria. Int J Equity Health. Nov 16;11:70. doi: 10.1186/1475-9276-11-70.

22. Ezeoke OP, Ezumah NN, Chandler CC, Mangham-Jefferies LJ, Onwujekwe OE, Wiseman V, Uzochukwu BS (2012). Exploring health providers' and community perceptions and experiences with malaria tests in South-East Nigeria: a critical step towards appropriate treatment. Malar J. Nov 6;11:368. doi: 10.1186/1475-2875-11-368.

23. Obinna Onwujekwe, Saidou Barry, Sameen Siddiqi, Joses Kirigia, Soludo Eze, Benjamin Uzochukwu (2012). An application of the World Health Organization Health System Governance Framework to assess six levels of the Nigerian Health System. In Olanrewaju Olaniyan, Akanii Olayinka Lawanson, Olalekan Olubajo (Ed.) Economics of Health System Governance and Finanace in Nigeria. Ibadan University Press Publishing House, Ibadan.

24. Chima A Onoka, Obinna E Onwujekwe, Kara Hanson and Benjamin S Uzochukwu (2012). Sub-optimal delivery of intermittent preventive treatment for malaria in pregnancy in Nigeria: influence of provider factors. *Malaria Journal*, 11:317

25. Onwujekwe O, Uzochukwu BSC and Kirigia J (2012). Basis for effective community-based Health Insurance schemes: investigating inequities in catastrophic out-of-pocket health expenditures, affordability and altruism. African Journal of Health Economics; 1 (1): 9-20.

26. Onoka CA, Uzochukwu BS, Onwujekwe OE, Chukwuka C, Ilozumba J, Onyedum C, Nwobi EA, Onwasigwe C (2012). Retention and loss to follow-up in antiretroviral treatment programmes in southeast Nigeria. Pathog Glob Health. Mar;106(1):46-54.

27. Onwujekwe OC, Soremekun RO, Uzochukwu B, Shu E, Onwujekwe O (2012). Patterns of case management and chemoprevention for malaria-in-pregnancy by public and private sector health providers in Enugu state, Nigeria. BMC Res Notes. May 2;5(1):211

28. Jönsson, K. Nyström, M. Uzochukwu, B.S.C. Okeyo, S. Tomson, G. (2012). Consortium for Health Policy and Systems Analysis in Africa: Strategy document for strengthening networking & capacity building for Getting Research into Policy & Practice (GRIPP). CHEPSAA report. Stockholm. Consortium for Health Policy & Systems Analysis in Africa

29. Uzochukwu, B.S.C. Onwujekwe, O.E. Mbachu, C.O. Ezeoke, O.P. Okwuosa, C. Uguru, N. Nwala, E. Ajuba, M. (2012). Health Policy and Systems Research and Analysis: Capacity Needs Assessment of the College of Medicine, University of Nigeria (Enugu campus), Nigeria. CHEPSAA report. Enugu, Consortium for Health Policy & Systems Analysis in Africa.

30. Mbachu CO, Onwujekwe OE, Uzochukwu BS, Uchegbu E, Oranuba J, Ilika AL (2012). Examining equity in access to long-lasting insecticide nets and artemisinin-based combination therapy in Anambra state, Nigeria.BMC Public Health. May 22;12:315.

31. Ezeoke OP, Onwujekwe OE, Uzochukwu BS (2012). Towards universal coverage: examining costs of illness, payment, and coping strategies to different population groups in southeast Nigeria.Am J Trop Med Hyg. Jan;86(1):52-7.

32. Uzochukwu BSC (2011). A review of the role of Epidemiology in Health Management. Nigerian Journal of Epidemiology, 1: 34-41.

33. Onwujekwe O, Onoka C, Uzochukwu B, Hanson K (2011). Constraints to universal coverage: inequities in health service use and expenditures for different health conditions and providers.Int J Equity Health. Nov 13;10(1):50.

34. Onwujekwe O, Onoka C, Uguru N, Tasie N, Uzochukwu B, Kirigia I Petu A (2011). Socio-economic and geographic differences in acceptability of community-based health insurance. Public Health (2011), doi:10.1016/j.puhe.2011.09.006

35. Benjamin Uzochukwu, Benjamin Onwughalu, Erik Blas, Obinna Onwujekwe, Daniel Umeh and Uche Ezeoke (2011). Immunization programme in Anambra State, Nigeria: an analysis of policy development and implementation of the reaching every ward strategy. In: Erik Blas, Johannes Sommerfeld, & Anand Sivasankara Kurup (eds). *Social determinants approaches to public health: from concept to practice*. World Health Organization, Geneva.

36. Ezeoke O, Onwujekwe O, Uzochukwu B. (2011). Towards universal coverage: examining costs of illness, payment and coping strategies to different population groups in southeast Nigeria. American Journal Of Tropical Medicine and Hygiene. (doi:10.4269/ajtmh.2011.11-0090)

37. Uzochukwu BSC, Onwujekwe E, Ezuma NN, Ezeoke OP, Ajuba MO Sibeudu FT (2011). Improving Rational Treatment of Malaria: Perceptions and Influence of RDTs on Prescribing Behaviour of Health Workers in Southeast Nigeria. PLoS ONE, 6(1): e14627. doi:10.1371/journal.pone.0014627

38. Onoka CA, Onwujekwe OE, Hanson K, Uzochukwu BS (2011). Examining catastrophic health expenditures at variable thresholds using household consumption expenditure diaries. Trop Med Int Health. Jul 14. doi: 10.1111/j.1365-3156.2011.02836.

39. Onwujekwe O, Hanson K, Uzochukwu B (2011). Do poor people use poor quality providers? Evidence from the treatment of presumptive malaria in Nigeria. Trop Med Int Health. Sep;16 (9):1087-98. doi: 10.1111/j.1365-3156.2011.02821.

40. Lindsay J Mangham1, Bonnie Cundill, Ogochukwu Ezeoke, Emmanuel Nwala, Benjamin SC Uzochukwu, Virginia Wiseman, Obinna Onwujekwe (2011). Treatment of uncomplicated malaria at public health facilities and medicine retailers in south-eastern Nigeria. *Malaria Journal*, 10:155doi:10.1186/1475-2875-10-155

41. Benjamin SC Uzochukwu, Lausdels O Chiegboka, Chibuike Enwereuzo, Usonwanne Nwosu, David Okorafor,Obinna E Onwujekwe,Nkoli P Uguru, Florence T Sibeudu and Ogochukwu P Ezeoke (2010). Examining appropriate diagnosis and treatment of malaria: availability and use of rapid diagnostic tests and artemisinin-

based combination therapy in public and private health facilities in south east Nigeria. BMC Public Health, 10:486

42. Benjamin Uzochukwu, Nkolika Uguru, Uche Ezeoke, Obinna Onwujekwe and Tochi Sibeudu (2010). Voluntary counseling and testing (VCT) for HIV/AIDS: A study of the knowledge, awareness and willingness to pay for VCT among students in tertiary institutions in Enugu State Nigeria. doi:10.1016/j.healthpol.2010.11.007

43. Benjamin SC Uzochukwu, Obinna E Onwujekwe, Nkoli P Uguru, Maduka D Ughasoro, Ogochukwu P Ezeoke (2010). Willingness to pay for rapid diagnostic tests for the diagnosis and treatment of malaria in southeast Nigeria: ex post and ex ante International Journal for Equity in Health, 9:1 http://www.equityhealthj.com/content/9/1/1

44. Uzochukwu B, Ezeoke O, Uloaku Emma-Ukaegbu, Onwujekwe O, Sibeudu FT. (2010). Malaria Treatment Services in Nigeria: A review. Nigerian Medical Journal, 51 (3): 114-119.

45. Obinna Onwujekwe, Eric Obikeze, Benjamin Uzochukwu, Ijeoma Okoronkwo, Ogochukwu C Onwujekwe (2010). Improving quality of malaria treatment services: assessing inequities in consumers' perceptions and providers' behaviour in Nigeria. *International Journal for Equity in Health*, 9:22 doi:10.1186/1475-9276-9-22

46. Onwujekwe, O., Okereke, E., Onoka, C., Uzochukwu, B., Kirigia, J. & Petu, A. (2010) Willingness to pay for community-based health insurance in Nigeria: do economic status and place of residence matter? *Health Policy Plan,* 25, 155-61

47. Uzochukwu BSC, Onwujekwe OE, Ezeoke OP, Uguru NP, Ezeoke U, Ajuba MN (2010). Health Sector Reform Processes in Nigeria: A review of factors that have enabled or constrained policy implementation in Enugu and Anambra states of Nigeria. Journal of College of Medicine , 15 (1): 3-14

48. Obinna E Onwujekwe, Benjamin SC Uzochukwu, Eric N Obikeze, Ijeoma Okoronkwo, Ogbonnia G Ochonma, Chima A Onoka, Grace Madubuko, Chijioke Okoli (2010). Investigating determinants of out-of-pocket spending and strategies for coping with payments for healthcare in southeast Nigeria. *BMC Health Services Research*, 10:67 doi:10.1186/1472-6963-10-67

49. Obinna Onwujekwea, Kara Hanson, Benjamin Uzochukwu, Ogochukwu Ezeoke, Soludo Eze, Nkem Dike (2010). Geographic inequities in provision and utilization of malaria treatment services in southeast Nigeria: Diagnosis, providers and drugs. Health Policy 94;144–149

50. Uzochukwu BSC, Onwujekwe OE, Umeobieri AK, Ossai EN, Ibiok NC, Ezeoke U, Ajuba MN (2010). Prevalence and Risk Factors for Schistosomiasis in a rural community of south-east Nigeria. Journal of College of Medicine, 15 (1): 56-65

51. Nkoli P Uguru, Obinna E Onwujekwe, Nnenna G Tasie, Benjamin S Uzochukwu, Uche E Ezeoke (2010). Do consumers' preferences for improved provision of malaria treatment services differ by their socio-economic status and geographic location? A study in southeast Nigeria. BMC Public Health, 10:7. http://www.biomedcentral.com/1471-2458/10/7

52. Obinna Onwujekwe, Kara Hanson, Benjamin Uzochukwu, Hyacinth Ichoku, Edith Ike and Benjamin Onwughalu (2010). Are malaria treatment expenditures catastrophic to different socio-economic and geographic groups and how do they cope with payment? A study in southeast Nigeria. Tropical Medicine and International Health, volume 15 no 1 pp 18–25.

53. Uzochukwu BSC, Ossai EN (2010). The Economics of Climate Change and Health: A review. Journal of Community Medicine & Primary Health Care, 22(1/2): 76-89

54. Onwujekwe O, Onoka C, Uguru N, Nnenna T, Uzochukwu B, Eze S, Kirigia J, Petu A (2010). Preferences for benefit packages for community-based health insurance: an exploratory study in Nigeria. BMC Health Serv Res. 10:162.

55. Uzochukwu BSC, Ajuba M, Onwujekwe OE, Ezuma Nkoli (2010). Examining the links between accountability, trust and performance in health service delivery in Orumba South Local Government Area, South East Nigeria. www.crehs.lshtm.ac.uk

56. Ndu A, Uzochukwu BSC, Aguwa EN (2009). The pattern of surgical admission in University of Nigeria Teaching Hospital Enugu, Nigeria: 1997 – 1999. Journal College of Medicine, December, (14) 2, 49 -54.

57. Uzochukwu BSC, Ajuba M, Onwujekwe OE, Ezuma Nkoli (2010). Examining the links between accountability, trust and performance in health service delivery in Orumba South Local Government Area, South East Nigeria. www.crehs.lshtm.ac.uk

58. Obinna Onwujekwe, Nkem Dike, Benjamin Uzochukwu, Ogochukwu Ezeoke (2010). Informal payments for healthcare: Differences in expenditures from consumers and providers perspective for treatment of malaria in Nigeria. Health policy doi:10.1016/j.healthpol.2009.12.014

59. Uzochukwu BS, Obikeze EN, Onwujekwe OE, Onoka CA, Griffiths UK (2009). Cost-effectiveness analysis of rapid diagnostic test, microscopy and syndromic approach in the diagnosis of malaria in Nigeria: implications for scaling-up deployment of ACT. Malar J. Nov 23;8(1):265.

60. Uzochukwu BSC,Onwujekwe OE, Eze Soludo, Ezuma Nkoli, Obikeze EN and Onoka CA(2009). Community Based Health Insurance Scheme in Anambra State, Nigeria: an analysis of policy development, implementation and equity effects. Consortium for Research on Equitable Health System. www.crehs.lshtm.ac.uk

61. Uzochukwu BSC, Onwujekwe OE, Eze Soludo, Ezuma Nkoli, Obikeze EN and Onoka CA(2009). The District Health System in Enugu state, Nigeria: an analysis of policy development and implementation. www.crehs.lshtm.ac.uk

62. Okeke TA, Uzochukwu BS (2009). Improving childhood malaria treatment and referral practices by training patent medicine vendors in rural south-east Nigeria.Malar J. Nov 20;8(1):260.

63. UE Ezeoke, BSC Uzochukwu, OC Ekwueme, EA Nwobi, M Ajuba (2009). Mothers' perception of incidence of Measles in a Nigerian Rural community. Journal College of Medicine, 14, 49-52

64. Obinna Onwujekwe, Benjamin Uzochukwu, Nkem Dike, Nkoli Uguru, Emmanuel Nwobi and Elvis Shu (2009). Malaria treatment perceptions, practices and influences on provider behaviour:

comparing hospitals and non-hospitals in south-east Nigeria. *Malaria Journal*, 8:246 doi:10.1186/1475-2875-8-246

65. Uguru NP, Onwujekwe OE, Uzochukwu BS, Igiliegbe GC, Eze SB (2009). Inequities in incidence, morbidity and expenditures on prevention and treatment of malaria in southeast Nigeria. BMC Int Health Hum Rights, 5;9:21.

66. Onwujekwe O, Onoka C, Uzochukwu B, Okoli C, Obikeze E, Eze S (2009). Is community-based health insurance an equitable strategy for paying for healthcare? Experiences from southeast Nigeria. Health Policy. 2009 Apr 4

67. B S C Uzochukwu, O E Onwujekwe, A C Onoka, C Okoli, N P Uguru and O I Chukwuogo (2009). Determinants of non-adherence to subsidized anti-retroviral treatment in southeast Nigeria. Health Policy and Planning, 1–8 doi:10.1093/heapol/czp006

68. Onwujekwe O, Kaur H, Dike N, Shu E, Uzochukwu B, Hanson K, Okoye V, Okonkwo P (2009). Quality of anti-malarial drugs provided by public and private healthcare providers in south-east Nigeria. Malar J.Feb 10;8(1):22

69. Obinna Onwujekwe, Chima Onoka, Benjamin Uzochukwu, Eric Obikeze, Nkoli Ezumah. (2009). Issues in equitable health financing in South Eastern Nigeria: Socio-economic and geographic differences in households' illness expenditures and policy makers' views on the financial protection of the poor. Journal of International Development. Published Online: 28 Jan 2009, 10.1002/jid.1547

70. Uzochukwu BSC,Onwujekwe OE, Eze Soludo, Ezuma Nkoli, Obikeze EN and Onoka CA(2009). Community Based Health Insurance Scheme in Anambra State, Nigeria: an analysis of policy development, implementation and equity effects. Consortium for Research on Equitable Health System. www.crehs.lshtm.ac.uk

71. Uzochukwu BSC, Onwujekwe OE, Eze Soludo, Ezuma Nkoli, Obikeze EN and Onoka CA(2009). The District Health System in Enugu state, Nigeria: an analysis of policy development and implementation. www.crehs.lshtm.ac.uk

72. Madubuko G, Onwujekwe O, Obikeze E, Uzochukwu B, Okoronkwo I, Ochonma O. (2009). Burden of endemic disease and health seeking behavior in Ebonyi state, Nigeria: socio-economic status and geographical differences. Africa Journal of Nursing and Midwifery 11 (2), 98-112

73. Onwujekwe O, Dike N, Chukwuka C, Uzochukwu B, Onyedum C, Onoka C, Ichoku H (2009). Examining catastrophic costs and benefit incidence of subsidized antiretroviral treatment (ART) programme in south-east Nigeria. Health Policy, 90(2-3):223-9. Epub Nov 25.

74. Madubuko Grace, Onwujekwe Obinna, Eze Soludo, Uzochukwu Benjamin (2008). Who pays for the health of the poor? Enhancing equity in paying for healthcare in public facilities in Enugu and Ebonyi state of southeast Nigeria: Existence of discretional fees. Proceedings of International conference on Research and Development, 1 (12): 57-66

75. Uzochukwu BSC, Onwujekwe EO, Onoka CA, Ughasoro MD (2008) Rural-Urban Differences in Maternal Responses to Childhood Fever in South East Nigeria. PLoS ONE 3(3): e1788. doi:10.1371/journal.pone.0001788

76. Obinna Onwjekwe, Benjamin Uzochukwu, Soludo Eze, Eric Obikeze, Chijioke Okoli, Ogbonnia Ochonma (2008). Improving equity in malaria treatment. Relationship of socio-economic status with health-seeking as well as with perceptions of case of using the services of different providers for the treatment of malaria in Nigeria. Malaria Journal 2008, 7:5.

77. UzochukwuBS,Onwujekwe OE, Ezeilo EA, Nwobi E, Ndu AC, Onoka C. (2008). Integrated Management of Childhood Illness (IMCI) in Nigeria: Integrated management of childhood illness in Nigeria: Does short-term training of health workers improve their performance? Public Health (2008) 122, 367–370.

78. Uzochukwu BSC. (2008). Financing Primary Health Care in Nigeria (Chapter 5): A Review: In HERFON (eds), Nigeria Health Review 2007, Primary Health Care in Nigeria. A Health Reform Foundation Publication, Abuja, Nigeria

79. Uzochukwu BSC, Akunna AC, Nzewi IJ, Ajuba M and Chukwuogo OI (2008). Climate change and Health and methods of Environmental assessment: A review of literature. Medikka 3, (1): 5-13

80. Onwujekwe O, Ojukwu J, Shu E and Uzochukwu B (2007). Inequities in valuation of benefits, choice of drugs and mode of payment for malaria treatment services provided by community health workers in Nigeria. *American Journal of Tropical Medicine and Hygiene*, 77(1): 16-21

81. Uzochukwu B, Onwujekwe O, Nwobi E, Ndu A and Onoka C (2007). Households' perceptions and prioritization of tropical endemic diseases in Nigeria: Implications for priority- setting. *World Health and Population*. September.

82. Obinna Onwujekwe, Chima Onoka, Juliana Ojukwu, Benjamin Uzochukwu, Eric Obikeze and Nkoli Ezuma (2007). Issues in equitable health financing: socio-economic and geographic differences in illness cost-burden on households and policy makers' views on the protection of the poor. London: CREHS Exchange Newsletter. June 2007

83. UzochukwuBSC.(2007). Writing the Methods Section. Proceedings of the Directorate of Research and Publications, College of Medicine, University of Nigeria, Enugu-campus, volume 1, June 2007

84. Onwujekwe Obinna, Uzochukwu Benjamin, Ojukwu Juliana, Dike Nkem, Shu Elvis (2007). Feasibility of community health worker strategy for providing near and appropriate treatment of malaria in Nigeria: an analysis of activities, costs and outcomes. Acta Tropica 101: 95-105.

85. Obinna Onwujekwe, Nkem Dike, Juliana Ojukwu, Benjamin Uzochukwu, Nkoli Ezumah, Elvis Shu and Paul Okonkwo (2006). Consumer stated and revealed preferences for community health workers and other strategies for the provision of timely and appropriate treatment of malaria in southeast Nigeria. Malaria Journal 5: 117 (December 1, 2006).

86. Okeke, TA, Uzochukwu BS and Okafor HU (2006). An in-depth study of patent medicine sellers' perspectives on malaria in a rural Nigerian community. *Malaria Journal*, 5:97

87. Uzochukwu BSC and Onwujekwe OE (2006). Exemption policies and community preferences for exemption for tropical endemic diseases in the Bamako Initiative programme in Nigeria. *Tropical Doctor;* 36(3):132-6.

88. Onwujekwe OE, Ojukwu J, Ezumah N, Uzochukwu B, Dike Nand Eze S (2006). Socio-economic differences in preferences and willingness to pay for different providers of malaria treatment in southeast Nigeria. *American Journal of Tropical Medicine and Hygiene* 75(3): 421-429

89. Okeke TA, Okafor AU, Uzochukwu BS. (2006). Traditional Healers in Nigeria: Perceptions of causes, treatment and referral practices for severe Malaria. J Biosoc Sci. 38(4): 491-500

90. Dike N, Onwujekwe O, Ikeme A, Uzochukwu B and Shu E(2006). Influence of educational and knowledge on perceptions and practices to control malaria in southeast Nigeria. *Social Science and Medicine*. 63(1):103-6.

91. Onwujekwe O, Uzochukwu B, Ezumah N, Shu E (2005). Increasing coverage of insecticide-treated nets in rural Nigeria: Implications of consumer knowledge, preferences and expenditures for malaria prevention. Malaria Journal 18: 4(1) 29.

92. Onwujekwe O, Ojukwu J, Uzochukwu B, Dike N, Ikeme A and Shu E (2005). Where do people from different socio-economic groups receive diagnosis and treatment for malaria in southeast Nigeria. Annals of Tropical Medicine and Parasitology 99 (5): 473-481.

93. Onwujekwe OE, Nkem Dike and Benjamin Uzochukwu (2005). Issues in measuring and improving the treatment of malaria in sub-Saharan Africa. *Tropical Doctor*; 35(4):224-5.

94. Uzochukwu Band Onwujekwe O (2005). Healthcare reform involving the introduction of user fees and Drug Revolving Funds: Influence on health workers' behavior in South east Nigeria. *Health Policy*, 75(1):1-8.

95. Onwujekwe O and Uzochukwu BSC (2005). Socio-economic and geographic differentials in costs and payment strategies for primary health care services in Southeast Nigeria. *Health Policy* 71(3): 383-397

96. Dike NM, Onwujekwe OE, Eke UK, Eze SB, Obikeze EN, Uzochukwu BSC, Shu EN, and Igiliegbe GC (2004). Where do people mostly go for treatment of malaria? Market share of different treatment sources before and after implementation of a community-based health worker system in rural Nigeria. Journal of Medical Research and Technology 1 (1); 24-33.

97. Uzochukwu BSC, Onwujekwe OE. (2004). Socio-economic differences and health seeking behaviour for the diagnosis and treatment of malaria: a case study of four local government areas operating the Bamako initiative programme in south-east Nigeria. International Journal of Equity in Health. 2004, 3-6 dol:10.1186/1475-9276-3-6

98. Uwaezuoke AIO, Uzochukwu BSC,Nwagbo DFE and Onwujekwe OE (2004). Teenage pregnancy in rural communities of south-east Nigeria: A neglected tragedy. *Journal of College of Medicine*, 9(1): 28-33.

99. Uzochukwu BSC,Nwagbo DFE, Onwujekwe OE and Nwosu NA(2004). Patterns and Determinants of Utilization of Maternal Health Services: Implications for Reducing Maternal Mortality and Morbidity in South-east, Nigeria. *Journal of College of Medicine*, 9(1): 20-24.

100. Uzochukwu BSC, Onwujekwe OE and Erikson B (2004). Inequity in Bamako initiative: Implications for malaria control in southeast Nigeria. *International Journal of Health Planning and Management*19 Suppl 1:S107-16.

101. Uzochukwu BSC, Onwujekwe OE, Akpala CO (2004). Community satisfaction with the quality of maternal and child health services and willingness to pay for primary healthcare services: The case of the Bamako Initiative programme in Southeast Nigeria. *East African Medical Journal*, 81 (6): 293-299.

102. Onwujekwe O, Benjamin Uzochukwu, Elvis Shu, Christian Ibeh and Paul Okonkwo (2004). Is combination therapy for malaria based on user-fees worthwhile and equitable to consumers? Assessment of costs and willingness to pay in southeast Nigeria. Acta Tropica 91 (2): 101-115

103. Onwujekwe O and Uzochukwu BSC (2004). Stated and actual altruistic willingness to pay for insecticide-treated nets in Nigeria: Validity of open-ended and binary with follow-up questions. *Health Economics*, 13(5): 477-492.

104. Uzochukwu BSC, Akpala CO and Onwujekwe OE. (2004). How do health workers and community members perceive and practice community participation in the Bamako Initiative programme in Nigeria? A case study of Oji River Local government area. *Social Science and Medicine*, 59(1):157-162

105. Uzochukwu BSC, Onwujekwe OE, Akpala CO (2004). Did the Bamako initiative improve the utilization of maternal and child healthcare services in Nigeria? A case study of Oji River Local Government Area in Southeast Nigeria. *Journal of Health and Population in Developing Countries*, http://www.jhpdc.unc.edu. February 9.

106. Onwujekwe O and Uzochukwu BSC, Nwobi E and Ochonma G (2004). Inequalities in household expenditures to prevent and treat endemic tropical diseases in Southeast Nigeria: harnessing the information to improve equity in primary health care. *Journal of Medical Research and Technology, 2* (2):

107. Onwujekwe O, Douglas Nwagbo, Elvis Shu, Samuel Ghasi, Benjamin Uzochukwu, Angus Onyido, and Obiora Onwamaeze (2003). Assessing payment and community-based distribution issues in establishing demand-responsive systems for community-based distribution of insecticide-treated nets in south east Nigeria. Journal of College of Medicine 8 (2): 36-39.

108. Uzochukwu BSC and Onwujekwe OE (2003). Altruistic willingness to pay for family planning services: a study in Southeast Nigeria. *Nigerian Journal of Community Medicine and Primary Health Care*, 15 (2): 47-55

109. Uzochukwu BSC and Onwujekwe OE (2003). Inequity in utilisation of maternal health services: Implications for reducing maternal mortality. *Nigerian Journal of Community Medicine and Primary Health Care,* 15: 10 - 16.

110. Onwujekwe OE, Akahara C, Uzochukwu BSC and Shu EN (2003). Should we really be promoting home or community -based malaria treatment? Insights from a study in Southeast Nigeria on the treatment of childhood malaria. Journal of College of Medicine 8 (1): 20-22.

111. Uzochukwu BSC, Onwujekwe OE and Akpala CO (2002). Effect of the Bamako-Initiative drug revolving fund on availability and rational use of essential drugs in primary health care facilities in Southeast Nigeria. *Health Policy and Planning;* 17(4):378-383

112. Onwuzurike B. K, Uzochukwu B. S. C. (2001). Knowledge, Attitude and Practice of Family Planning Amongst Women in a High Density Low Income Urban Area of Enugu, Nigeria. African Journal of Reproductive Health 5 (2) : 83-89

113. Akpala CO., Uzochukwu B. S. C. (2000). Sexual Abuse Among Juvenile Female Street Hawkers in Enugu, Eastern Nigeria. Orient Journal of Medicine 12; (1-4): 9-14

INAUGURAL LECTURES
OF THE UNIVERSITY OF NIGERIA, NSUKKA

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   Title: the Crisis in the Social Sciences: The Nigerian Situation

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   Title: Economic Science, Imperialism and Nigerian Development.

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   Title:

4. **Prof. D. I. Nwoga – 1977**
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5. **Prof. J. A. Umeh – 1977**

Title: Land Policies and Compulsory Acquisition of Private Land for Public Purposes in Nigeria.

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Title: Mechanization of cassava production and processing: A Decade of Design and Development.

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Title: Discovering what Learners have attained in Mathematics.

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Title: Brain surgery: A luxury in a Developing Country like Nigeria.

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Title: Lipids: Your Friend or Foe.

12. **Prof. V. E. Harbor-Peters – 2001**
Title: Unmasking some Aversive Aspects of Schools Mathematics and Strategies for averting them.

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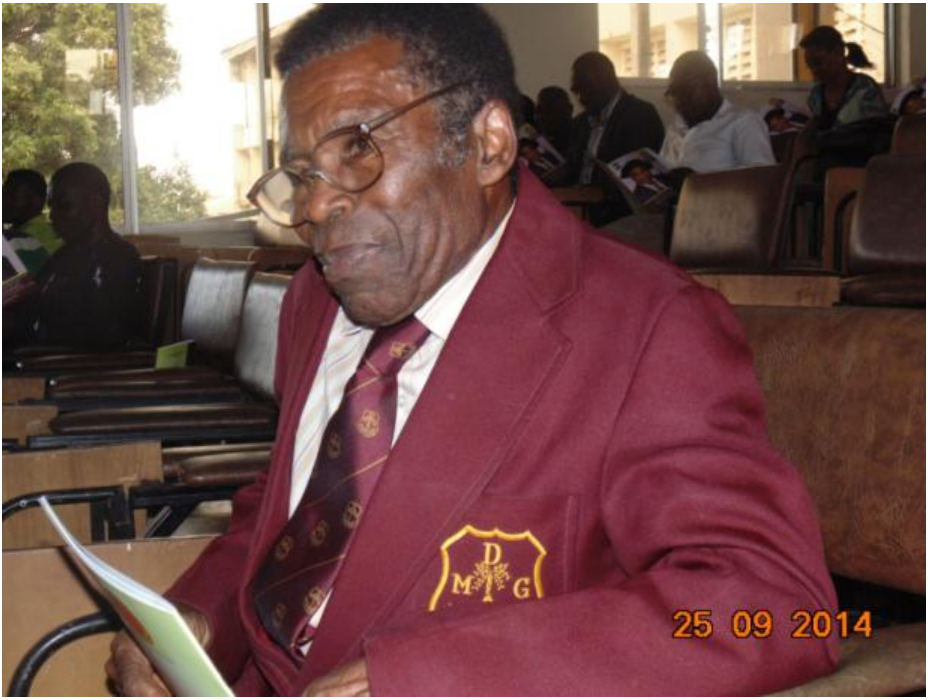
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