The silent epidemic of non-communicable diseases
A focus on cancer

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Letter from The Editor

We are being faced by a silent epidemic in the Sudan. Not many of our friends or families are suffering from malaria or TB today, but surely in each of our homes we have one or more of our family members infected with diabetes or hypertension.

This growing concern inspired us to dedicate this issue to highlight the “biggest, longest dark shadow” dangling over world public health as described by Dr Margaret Chan.

A national five year strategy to control for NCDs was developed but never activated until its expiry date. However, we now have a national five year cancer control strategy which is in the process of being operationalized. A summary of it is presented here. In the newsletter we also present an argument on why the Sudan also needs to develop a strategy for Long Term Conditions.

To tell us what you think of this issue please email your opinions and queries to the.evidence@phi.edu.sd.

Nazik Nurelhuda, KnowledgePlus Unit

The world’s global health news has been so dominated by infectious diseases -- HIV/AIDS, malaria, tuberculosis, influenza -- that it’s easy to forget just how big a toll conditions like diabetes, cancer and heart and lung disease take. Roughly two out of every three deaths on the planet is now caused by non-communicable disease, and the U.N. estimates that by 2030, 52 million people will die annually from these diseases. That’s five times as many deaths as the estimated death toll for infectious disease.

NCDs are emerging as one of the major health problems in Sudan according to the Sudan Annual Health Statistical Records, Khartoum State STEPS survey, and the recent Sudan Household Health Survey. In a recent study by the cancer registry more than a third respondents smoked cigarettes, one in four used toombak, one in five used shisha and nearly one in seven mentioned drinking alcohol. Half of these were long term users more than 15 years Cancer has become one of the major ten killer diseases in recent years. The patients’ registry at (RICK) which is the oldest and biggest center for managing cancer patients, witnessed more than two folds increase in the number of patients between the year 2000 and the year 2009 (2471 to 5739 respectively). There are two centers for cancer management; the cancer cases from these centers (RICK and NCI) are increasing annually (NCR).

The top ten cancers in 2009 accounted for 59.8% (RICK). These were cancers of the breast, blood, spleen, lymph nodes, prostate, esophagus, cervix, ovary, bladder, liver and nasopharynx. The top five for male were blood, spleen, prostate, lymph node, liver and nasopharynx. For women they were breast, blood, spleen, cervix, ovary and lymph node cancers. Oral cancer is also often quoted as one of the common cancers but does not feature in NCR reports possibly due to underreporting resulting from cancer of the lips, tongue and others being reported separately (rather than one code for oral cancer).

Other data from the National Cancer Registry (NCR) are shown in Figures 5 and 6. One of its first activities was to map the distribution of cancer cases by States using its initial data regarding diagnoses made in 2007.
There is a lot of effort, to control for cancer, by hospitals, clinicians, NGOs and communities but unfortunately they are fragmented and not coordinated. Furthermore, the Cancer Control Plan of 2002-2003 had lapsed without being updated. A lot of challenges are facing cancer control such as low population awareness, inequitable access to services, high cost of therapeutic medication and shortage in professional human resource.

A Sudan Cancer Control Strategy (SCCS) was developed for 2012-2016 to framework an overall direction of work. It set the most important priorities to ensure proper use of the scarce resources.

The strategic objectives of the SCCS were to reduce the incidence of cancer through primary prevention, ensure early detection to reduce cancer morbidity and mortality (including screening), ensure effective diagnosis to reduce cancer morbidity and mortality, improve the quality of life for those with cancer, their family through support, rehabilitation and palliative care, improve the delivery of services across the range of cancer control through effective planning, co-ordination and integration of resources and activity, education activities, monitoring & evaluation and improve the effectiveness of cancer control in Sudan through research and surveillance (and promotion of the role of the National Cancer Registry).

The priority strategies to implement the Sudan Cancer Control Strategy include leadership for NCDs (Health is everyone's responsibility but MoH should lead) and advocacy for cancer and attracting resources encourage support from NGOs and through CBIs (present early & lifestyles). The priority also is for accurate diagnosis-Asymptomatic screening is not recommended at this time, development of the Service model for cancercare, training (undergrad, primary care and specialists), accurate Information for action- assure sustainability of the Registry, evidence based practice: Research and risk mapping.

The SCCS also identified priority research areas such as epidemiology and risk factors of the most common cancers in Sudan (source can be data from registry), priority carcinogens in the environment and risk mapping, health impact assessment of major development projects and other economic sectors, carcinogenicity of aflatoxin, food additives and reuse of cooking oils in the Sudan, priority of HPV vaccine and Hep B for high risk groups in the immunisation programme in Sudan, evidence on the impact of late detection of cancer on patients and the health system (including costs), the scale of misdiagnosis for cancer contributing to late diagnosis, outcomes of investment on tertiary versus secondary and primary care, the economic business case for investment in early detection of cancer in primary health care, the case for screening for cancer in the Sudan (based on the Wilson and Jungner criteria of for screening) and feasibility, cost effectiveness of treatment abroad versus treatment in Sudan, opportunities for use of remote/mobile technology to support States (eg review telepathology project and task shifting to technicians/nurses), audit of service standards across secondary care services for cancer, audit of patient satisfaction, multidisciplinary Audits in tertiary care services for cancer, and feasibility for a cancer survival database in the Registry.

Implementation of this strategy will require a major government and nongovernment commitment to cancer services in the coming years, strong collaboration between different partners and involving all stakeholders.

Estimation of prevalence and risk factors and assessment of guidelines for action against non-communicable diseases (Mozmin)

Dr. Abdelmoniem Mukhtar
PhD, MPH, BDS
Head of Research Dept -Public Health Institute

Background and objectives: available evidence suggests that Sudan, like many other developing countries, is undergoing an epidemiological transition to non-communicable diseases (NCDs). However, data on prevalence, risk factors and burden of NCDs in Sudan “is scarce and deficient” (1). We are preparing for a decision-informing research project that (i) estimates the prevalence, risk factors and burden of different NCDs from various data sources (ii) compares available national guidelines for the management of NCDs with high quality regional and international guidelines with respect to strengths and barriers to dissemination and implementation and (iii) develops evidence-and consensus-based action plans against NCDs.

Methods and materials: For the estimation of disease-specific prevalence, risk factors and burden we will search the following sources: Medline, World Health Organization- Eastern Mediterranean Region (WHO-EMRO), Sudan Household Survey (2006), Khartoum STEPS Non-communicable Disease Risk Factors Survey 2005-2006 (2008), Risk Behavior Survey (2011), Sudan Households Health Expenditure and Utilization Survey in Northern States (2008), Annual Health Statistical Reports of the federal and state’s ministries of health, studies of the directorates of NCD at the federal and state levels and records of private specialized healthcare centers. For the assessment of national guidelines we will compare the national guidelines and clinical pathways for the management of hypertension, diabetes mellitus (2011), ischemic heart disease, rheumatic heart disease, valvular disease (2012) as well as for the prevention of breast, cervical and oral cancers and management of breast and prostate cancers (2011) with the respective
Levels of Care for long term conditions (a service model from public health)

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Terms: The terms Long term Conditions (LTCs) and Non-communicable diseases (NCDs) are used interchangeably; as adopted by the UK National Health Service and Sudan Ministry of Health respectively. While the scope of chronic disease management excludes cancers and injuries, LTCs and NCDs do include these important domains.

Background:

This article was developed as a summation of experience by the author as Consultant in Public Health Medicine in Sheffield, and lead for LTCs and Older People over two years. Sheffield is a district in South Yorkshire with over 500,000 people. NHS Sheffield’s five year strategy prioritized long term conditions to improve health, services and financial balance (1). During this time, the long term conditions approach for the PCT was developed and work streams were initiated in partnership with primary care and secondary care clinicians to reduce variation in universal (Level 1) care across the range of long term conditions (LTCs). Enhanced (Level 2) services were set up for diabetes and Chronic Obstructive Pulmonary Disease (COPD), with ‘invest to save’ initiatives based on financial business cases to deliver care closer to home and reduce costs of emergency and outpatient care. For cardiovascular disease, the same approach was taken with heart failure clinics and expansion in Active Programmes (pulmonary and cardiac rehabilitation). Stroke awareness and prevention work was initiated with a potential to reduce strokes by up to a quarter.

The relevance to Sudan of a long term conditions strategy is highlighted in the strategy for non-communicable diseases (NCDs) in Sudan (2), where the situation analysis highlights the hidden epidemic of chronic diseases, the continued emphasis given to communicable disease programmes, and a service gap in primary health care. While the UK as a developed country has recognised the significant economic impact of LTCs, the Sudan has yet to undertake a health and economic impact assessment, their cost to services and business arguments to develop primary health care services.

Why should public health be involved in developing a LTC Strategy?

The Faculty describes public health as having three domains:

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<th>Health Improvement</th>
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<th>Improving services</th>
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<td>• Inequalities</td>
<td>• Infectious diseases</td>
<td>• Clinical effectiveness</td>
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<td>• Education</td>
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| • Lifestyles       | • • Equity         | • 

Public health therefore is concerned with wellbeing of all individuals a large portion of whom are living with a long term condition – based on UK figures one in three people are living with a LTC. The majority of these are elderly people, and public health aspects of the elderly are dominated with the large portion living with multiple long term conditions. Public health is also concerned with primary, secondary and tertiary prevention – these aspects apply particularly to long term conditions. While the third domain of public health is around improving services and health care - the majority of patients in hospital have a long term condition incidentally or as a complicating factor in their admission or as the main cause of the admission. Palliative and end of life care which used historically to be the domain of cancers is now expanded to include LTCs.

Essential public health elements to optimise care across all levels;
Figure 1. The LTC framework to improve care and outcomes for people living with long term conditions (1)

### Prevention:

1. Universal prevention services (awareness raising, mass media campaigns, school based interventions) plus
2. Targeted prevention services based on segmentation by risk, behaviour and outcomes eg social marketing for patients at higher risk or demonstrably lower access, targeting smoking cessation services.
3. Screening programmes/services to manage predisposing conditions/patients at higher risk eg obesity, hypertension, apparently healthy individuals with a family history, carers
4. Secondary prevention eg screening programmes for complications eg diabetic foot and eye screening

### Level 1 services:

5. Universal disease management services in primary care (HbA1c, BP control) plus
6. Targeted services based on segmentation by risk, behaviour and outcomes eg campaigns for housewives/ taxi drivers/factory workers, other patients at higher risk or demonstrably lower access.
7. Establish disease management registers in primary care and use this for performance monitoring, and individual patient care/ risk stratification
8. Reduce unwarranted variation in universal services as evidenced by disease management registers across primary care. Clarify role of private sector in primary care

9. Expand patient education programmes to enable self care and support care planning with patients eg DESMOND programmes

### Level 2 services

11. Staff training and specialist support to take on more complex cases in the community (enhanced care in the community). This is essential in light of the growing prevalence and potentially ageing populations; or else demand for hospital care will outstrip existing resources as is happening in developed countries.

12. Appropriate use of assistive technology to support and enable independent living and to deliver efficiencies in delivering specialist care to more patients.

13. Active Programmes of Rehabilitation after an acute episode

### Level 3 services

14. Specialist and complex care in hospital, with monitoring of inpatient care outcomes and development of complications in hospital

15. Enhance provision of palliative and end of life care, in conjunction with carers

Carers support and emphasis on self-care cuts across all three levels of care.

### Key principles

**Prevention is better than cure**

Targeted services are needed whenever there is a universal service to ensure equity for disadvantaged groups and to guard against the inverse care law.

Planning for enhanced services in the community (akin to task shifting) is necessary to mitigate the financial burden of LTCs in terms of hospital care costs

Self care and carer support are needed to mitigate the burden of LTCs on health care, and to empower patients and their families and carers to ‘live’ with an LTC. This includes Active programmes of rehabilitation (exercise and lifestyle behaviour modification).

All patients have a right to palliative care

### Bibliography:

1. NHS Sheffield LTCs Strategy 2008

Generic Choice Model for LTCs, Department of Health, December 2007
PHI received a number of visits during 2012 from several overseas consultants and institutions:

- Dr. Alien Ultham from PUM International who conducted a number of workshops both in Khartoum and Gezira states, namely:
  - Mentoring: A Leadership Skill
  - Teaching and Learning
  - Tutoring, Counseling and Career Guidance

- Dr. Ghaith Mohd Ahmed, Asst. Prof. in Biostatistics visiting from King Fahad University, KSA conducted a one day workshop on “An Introduction to Ethical Issues in Public Health”.

- Prof. Annette Bool from KIT visited the PHI and conducted 2 workshops: “Learning by Doing”, and “Student Assessment for Teachers”

- EMRO visited the Epidemiology dept. and agreed on mutual collaboration as well as provision of assistance through courses, books and other material, as well as the proposal to make the PHI the regional collaborating centre.

- A second visit from EMRO in mid-June where HR experiences from participating countries were shared
Workshops conducted:

• The University of Liverpool conducted the second Epidemiology in Action Course starting in February and which spanned over a period of 3 months. It was composed of 4 modules and had 26 participants, 2 of which were from PHI.

• The Leadership course started in March in collaboration with the University of Washington and continued until June.

• The Research Priority Setting workshop was conducted on 1st of June, and was led by the principle investigators in all 5 themes currently under study in the country.

Students News:
The first batch of MDM underwent their theses defense beginning of June 2012.

Scientific Conferences:

• The director of PHI represented the PHI in the 13th World Congress on Public Health in April in Addis Ababa.

• Public Health Institute and Sudan Health Consultancy - United Kingdom presented a seminar on “Advocacy for NCDs - Increasing Trend of NCDs, Health Protection, Health Improvement and Improving Services.” The Speakers were Dr. Huda Mohamed Hassan- Director of West Midlands East Health Protection Unit, DrRida Y Elkheir- Consultant in Public Health Medicine, Derby City Primary Care Trust and DrMoneimElhassan- Psychiatrist, Plymouth NHS Trust.

• A paper was prepared by Dr Muna I Abdel Aziz and Dr Nazik Nurelhuda from PHI, and John Soady and Sally Soady from NHS Sheffield UK for the GSMA mobile health summit in Cape Town, entitled “Encouraging adoption of mHealth solutions by public health authorities”. To listen to the talk please follow the following link http://www.mobilehealthlive.org/videos/mhs-2012-strengthening-health-systems-public-health-institute-sudan/25154.