The Importance of Early Diagnosis
Introduction

Early diagnosis is beneficial both economically and from a healthcare perspective. An earlier diagnosis can reduce the scale and costs of medication and other interventions, as detection of diseases in their later stages tends to require invasive treatments, which generally incurs greater costs. Conversely, earlier diagnosis helps enable less invasive diagnostic evaluation and treatment, and accelerates the timeline for intervention. Early diagnosis may also improve survival chances for patients, or at least delay the onset of symptoms in order to maximise patient quality of life.

To date, governments have successfully focused on the early diagnosis of communicable diseases. It is now important that resources are also focused on addressing the expanding issue of non-communicable diseases (NCDs), which are fast becoming a global epidemic.

Why the Focus on Non-Communicable Diseases

Altogether, NCDs caused 36 million deaths in 2008, accounting for more than three out of five deaths worldwide, and contributing towards half of global disability. A synthesis of the leading causes of death for each country underscores the global burden posed by coronary heart disease and stroke particularly. In 119 out of 165 countries analysed, coronary heart disease features in the top three leading causes of death (72%), and is the principal cause of mortality in 89 (54%) of the countries surveyed. Coronary heart disease and stroke contribute to 82% of the global cardiovascular mortality burden, and approximately 85% of the total NCDs burden.

Lung cancer accounts for the largest percentage of cancer deaths worldwide—exacerbated by the growing “tobacco epidemic.” Whilst these NCDs have emerged “relatively unnoticed” in the developing world, it would be fair to assert these diseases pose the greatest health, economic and social risks globally.

The Case for Prioritisation of Early Diagnosis Health Implications

The high mortality rates associated with NCDs represents the most serious health implication of this group of illnesses. Globally, 60 million people die prematurely each year as a result of NCDs, and 44% of all NCD-related deaths will occur before the age of seventy.

A WHO analysis reveals that 39% of premature NCD-related deaths under the age of seventy are attributable to cardiovascular disease. As such, stroke and coronary heart disease pose a significant risk to the health of the global population. In total, deaths from NCDs will increase by 17% over the next 10 years, representing a huge global health burden. Additionally, the World Economic Forum has recently reported that NCDs account for 48% of healthy life years lost worldwide. Early diagnosis may prevent the progression of NCDs and improve patient prognosis. For example, according to Pastorino, poor survival rates of lung cancer in Europe and the United States are attributable to late diagnosis.

Economic Implications

The economic implications of the core NCDs should not be underestimated. According to the World Economic Forum, NCDs constitute a leading risk to the global economy. Over the next two decades, NCDs will cost in excess of USD$30 trillion, representing 48% of global GDP as calculated in 2010. At the macroeconomic level, the World Bank has reported that a change in health status can result in a 16% gain in hours worked, and a 20% increase in individual income. The burden of NCDs has the potential to severely affect household income, particularly in less developed countries where medical costs tend to be met “out of pocket.” For example, the WHO has estimated that annually, 100 million people are pushed into poverty because they have to pay directly for health services.

The economic implications of NCDs for governments and the commercial sector are equally staggering. It is estimated that 50% of NCD-related deaths are during “productive years,” representing a significant cost to both governments and the commercial sector. The theory underpinning this argument is that healthier individuals can produce more output per hour worked, subsequently leading to increased labour productivity, as healthier people are more efficient in the workplace. A Harvard study has shown that a one-year improvement in a population’s life expectancy contributes towards an increase of output by 4%. Subsequently, economic competitiveness can be negatively affected by NCD prevalence in national workforces. Taking the United States as an example, the avoidable indirect impact of NCDs arising from productivity losses is four times as high as the direct cost of healthcare coverage. The WHO has estimated that Brazil, Russia, India and China currently lose more than 20 million productive life-years annually due to NCDs. This number is anticipated to grow by 65% by 2030. The productivity losses associated with disability, unplanned absences and increased accidents account for as much as 400% more than the cost of treatment.

These figures emphasise the point that healthcare is an investment, and not just a cost. By investing in an infrastructure to support early diagnosis, a country would generally have a healthier workforce and economy. Furthermore, investing in early diagnosis of NCDs will entail a return on output. According to Beaglehole et al., for every one dollar invested in NCDs, one can expect three dollars in return. The WHO reports that a reduction in the mortality rate of coronary heart disease and stroke by a mere 10% will provide a reduction in economic losses in low- and middle-income countries by approximately USD$25 billion each year. Given that 80% of

15. The Oxford Health Alliance, Chronic Disease: An Economic Perspective London 2006 24
incidents of stroke and heart disease are preventable, and a third of cancer cases can be mitigated by addressing known risk factors, it is clear that concerted action to confront the challenge of NCDs “makes economic sense.”

Policy Developments

In 2010, the WHO reported that 92% of countries have developed at least one policy or strategy to address NCDs and/or their risk factors. However this does not necessarily mean that policies are implemented or adequately funded. For example, only 53% of countries have government-approved national guidelines or protocols, and a mere 17% of those countries actually implement guidelines. It is also imperative that governments recognise the risks posed by coronary heart disease. Although it remains the leading global killer, only 45% of countries have specific policies or strategies in place to address cardiovascular diseases.

Recommendations

The following recommendations are suggested to progress efforts to effectively address this global crisis:

• **Proactive steps should be taken by all governments to implement a monitoring framework** in order to obtain data, which can be utilised in the global effort to address NCD prevalence. When conducting research for this white paper, the absence of available data (particularly in relation to coronary heart disease) was evident. Subsequently, another recommendation is that clinical guidelines and public policy that address the current gaps in the field of coronary heart disease and stroke should be developed.

• **Prevention strategies and implementation of early diagnosis and treatment should be prioritised.** This recommendation is supported by considering that 80% of stroke and coronary heart disease developments, and one third of cancer cases, are preventable. Such measures could include subsidies to promote healthy foods consumption, taxation on healthy foods, and comprehensive bans on tobacco advertising.

• **Active promotion of educational and public health awareness of the modified risks associated with NCDs.** The significant correlation identified between risk factors, such as obesity and incidence of NCDs is too substantial to be ignored. Furthermore, evidence from a study conducted by Beaglehole et al indicates that lowering the prevalence of modified risk factors and targeting treatments at individuals perceived to be at high risk of cardiovascular disease, constitutes the most effective intervention.

• In light of the link between NCDs, poverty and progression towards the Millennium Development Goals, the **provision of universal health coverage should be the global norm.** This is pertinent when considering that individuals in low- and middle-income countries, and particularly rural areas, are denied basic access to healthcare. The provision of universal coverage would make a significant contribution towards the suppression of NCDs.

• **Development of clinical guidelines and public policies to address current gaps in the control and management of diseases, such as coronary heart disease and stroke are required.**

• **Increase investment for primary care infrastructure.** Diagnosis is an integral part of clinical guidelines and public health policy; it is therefore crucial to invest in a comprehensive primary care infrastructure to support the implementation of early diagnosis and treatment across all diseases.

• **“Invest to save” would save more lives and improve health outcomes.**

---

22. Karen Taylor, Saving costs, saving lives, improving healthcare in the UK – the economic case for early diagnosis 2011

23. World Health Organization, Global Status on noncommunicable diseases 2010 Geneva 2011 74, 76

24. World Health Organization, Global Status on noncommunicable diseases 2010 Geneva 2011 86


---

About GE Healthcare

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE (NYSE: GE) works on things that matter—great people and technologies taking on tough challenges. From medical imaging, software and IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improved solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

For more information about GE Healthcare perspectives on health policy issues, please contact: Ms. Gisela Abbam, Global Executive Director of Healthcare Government Affairs and Policy, GE, at Gisela.Abbam@ge.com.

www.gehealthcare.com

GE Healthcare
Pollards Wood
Nightingales Lane
Chalfont St Giles
Buckinghamshire
HP8 4SP
UK

---