



## Biomarkers of Non-Communicable Chronic Diseases

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### DESCRIPTION

Chronic diseases are a major serious global problem, wreaking havoc on healthcare systems, economies, and quality of life. Chronic illnesses encompass a wide range of diseases, both communicable and non-communicable. Chronic diseases are frequently associated with changes in normal physiological levels of various sample matrix routinely evaluated in serum and other bodily fluids, as well as pathological findings like systemic inflammation, oxidative stress, and mitochondrial dysfunction. Identification of at-risk populations, early diagnosis, and prognosis prediction all play crucial roles in preventing or lowering the burden of long-term diseases. Biomarkers are tools that healthcare providers use to aid in the diagnosis and management of chronic diseases. Biomarkers have the ability to be useful for diagnosis, predictive, or prognostic. Several person or group biochemical markers have been successfully used in the diagnosis and forecasting of certain chronic illnesses; however, it is widely acknowledged that a more advanced approach to linking and interpreting various biological markers implicated in chronic disease is required to improve our existing practices. Cardiovascular diseases (such as heart attacks and stroke), cancers, chronic lung diseases (such as chronic obstructive pulmonary disease and asthma), and diabetes are the most common types of NCD. NCDs disproportionately impact low and middle-income countries, which account for more than three-quarters of global NCD deaths (31.4 million). NCDs affect people of all ages, from all regions and countries. Although these conditions are frequently associated with older age groups, evidence suggests that 17 million NCD deaths happen before the age of 70. It is estimated that 86% of these premature deaths occur in low and moderate-income countries. Children, adults, and the elderly are all susceptible to the risk factors that contribute to NCDs, whether they are unhealthy diets, lack of exercise, tobacco smoke exposure, or the environment. These diseases are being driven by forces such as rapid urban sprawl, globalization of unhealthy lifestyles, and population ageing. Unhealthy diets and a lack of physical activity can result in high blood pressure, high blood glucose, high blood lipids, and obesity. These

are known as metabolic risk factors, and they can lead to cardiovascular disease, the going to lead NCD in terms of early deaths. Tobacco use, physical inactivity, an unhealthy diet, and the harmful use of alcohol are all modifiable patterns of behaviour that increase the risk of NCDs. Every year, tobacco kills over 8 million people (including from the effects of exposure to second-hand smoke) Excess sodium chloride consumption is responsible for 1.8 million premature deaths each year. NCDs, including cancer, account for more than half of the 3 million annual deaths attributable to alcohol use. Inadequate physical activity is accountable for 8,30,000 deaths each year. Four key metabolic modifications that raise the likelihood of NCDs are caused by metabolic risk factors hypertension, morbidly, obese hyperglycaemia (high blood glucose levels) and hyperlipidaemia (high levels of fat in the blood). In terms of incidence and mortality, elevated blood pressure is the leading metabolic risk factor globally (accounting for 19% of deaths worldwide) followed by elevated blood glucose and overweight and obesity. In terms of incidence and mortality, high blood pressure is the leading metabolic risk factor worldwide (accounting for 19% of all deaths), followed by high blood glucose, overweight, and obesity. Poverty is strongly linked to NCDs. The dramatic growth in NCDs is expected to stymie poverty reduction efforts in low-income countries, particularly by increasing household health-care costs.

### CONCLUSION

Vulnerable and socially underprivileged groups are sicker and die younger than people in higher social positions, owing to increased exposure to harmful products such as cigarettes or unhealthy dietary practises, as well as limited access to health services.

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### CONFLICT OF INTEREST

The author's declared that they have no conflict of interest.

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