

# Cardiovascular Disease: Genes and Public Health

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## Abstract

**Introduction:** *The advances in molecular biology hold great promise for complex conditions such as cardiovascular disease. Early accurate diagnosis and new preventive and treatment strategies are among the potential benefits of genetic understanding. Many genes and mutations have been discovered that contribute to rare Mendelian forms of cardiovascular disease. However, there has been little tangible success in defining specific mutations that explain the more common forms of cardiovascular disease. Of the numerous genes tested, inconsistent results are a recurring theme.* **Methods:** *This review addresses broader issues that touch on the clinical and epidemiological context in which the genetics of cardiovascular disease might develop. How do genes and environment interact in cardiovascular disease? What characteristics of a marker might make it useful? How will genetic understanding be used? What is the place of physiology in molecular biology? Is the future of genetics in patient management or public health?* **Results:** *It is concluded that individuals and communities are unlikely to accept widespread DNA screening, and less likely to tolerate genetic manipulation. Genetic complexity will make the identification of specific mutations an expensive and potentially thankless task.* **Conclusions:** *Genetics may reveal new pathophysiological mechanisms against which simple, safe and effective public health measures can bring benefit to the greatest number.*

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**Key words:** *Physiology, Polymorphism, Populations, Prevention, Privacy, Public health*

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