



# Foundations of Public Health

## Part II: Biological Foundations for Public Health

### HEART HEALTH

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#### Introduction

People often think of atherosclerotic disease as a problem that primarily afflicts developed Western countries, but it is a global health problem. It is estimated that 80% of deaths from cardiovascular disease worldwide occur in low-income and middle-income countries. Cardiovascular disease is the number one cause of death worldwide, and it has become the leading cause of death in many developing countries. Cardiovascular disease in developing countries currently claims an estimated 12 billion lives annually, and the toll that it takes continues to climb. The high mortality is partly due to lack of access to care in many areas, but the problem will not be solved by better medical care. In the United States, cardiovascular disease continues to claim about 800,000 deaths per year, despite the widespread use of statins to lower cholesterol and angioplasty to open blocked blood vessel.

#### Learning Outcomes

After completing this module, the student will be able to:

- Define atherosclerosis and describe the basic mechanism by which it develops, including the response to injury theory.
- Compare and contrast the terms ischemia and infarction.
- Explain the mechanisms by which poorly controlled diabetes and poorly controlled hypertension contribute to heart disease.
- Discuss the risk factors for atherosclerotic cardiovascular disease.
- Discuss evidence-based strategies for prevention of atherosclerosis, diabetes, and hypertension.