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Part One

WHAT IS BONE HEALTH?

This introductory part of the report explores the answer to this question, defining bone health as a public health issue with an emphasis on prevention and early intervention to promote strong bones and prevent fractures and their consequences. The first chapter describes this public health approach along with the rationale for the report and the charge from Congress and from the Surgeon General.

Chapter 2 provides a brief overview of the fundamentals of bone biology, helping the reader to understand why humans have bones, how bones work, how bones change during life, what keeps bones healthy, what causes bone disease, and what is in store in the future. It begins to outline the role of genetic and environmental factors such as nutrition and physical activity in keeping bones healthy, an issue that is addressed in more detail later in the report.

Chapter 3 offers a summary review of the more common diseases, disorders, and conditions that both directly and indirectly affect bone. While much of Chapter 3 focuses on osteoporosis (including other diseases and medications that can cause it), it also covers other related bone diseases, including rickets and osteomalacia, renal osteodystrophy, Paget's disease of bone, developmental skeletal disorders, and acquired skeletal disorders.

Both Chapters 2 and 3 should be considered as important scientific background for the remainder of the report.