Studies have shown that the effectiveness of flu vaccinations is delayed in individuals who are sleep deprived.

Cytokines, chemicals our immune systems use to help fight an infection, also are powerful sleep-inducers. This suggests that sleep may help the body conserve energy and other resources it needs to mount an immune response and fight disease.

Cardiovascular disease
Evidence shows a relationship between long- and short-term sleep loss and cardiovascular disease, including increased blood pressure and increased risk of stroke in addition to other long-term health consequences.

Sleep deprivation has been associated with a rise in blood pressure during the night that lasts through the following day. Evidence suggests an association between too much or too little sleep and an increased risk of coronary heart disease in women.

There is a high prevalence of sleep apnea among people with cardiovascular problems. People with this sleep disorder are at increased risk of high blood pressure, as well as sudden death from cardiac causes during the night.

Source: National Sleep Foundation

Sleep, cognitive performance and mood
Getting less than 7 hours of sleep a night for 7 consecutive nights can significantly impair alertness and motor performance.

Researchers have found that people with mild to moderate sleep apnea, a health condition in which breathing stops periodically during sleep and disrupts sleep, did as badly or worse on reaction-time tests as those who would be considered to be drunk in most states.

Sleep loss can also adversely affect mood. Medical evidence links inadequate sleep with anger, anxiety and sadness.

Obesity and diabetes
Studies have found a connection between inadequate sleep and insufficient levels of the hormone leptin, which regulates carbohydrate metabolism. Low levels of leptin cause the body to crave carbohydrates regardless of the amount of calories consumed.

Obesity also is linked to diabetes. One study found that a sleep debt accumulated over days can impair sugar metabolism and disrupt hormone levels.

Immune system
We often automatically retreat to bed when we have a cold or sore throat, instinctively perceiving that sleep helps us heal. Evidence suggests this is not mere wishful thinking but scientific fact.