People who use food pantries are a vulnerable and often overlooked population in terms of health and nutrition issues. This research examined the relationship between food security and nutrition and health of food pantry participants. “Food security” is a term used to describe having access to food and having enough food. For this study, participants at food pantries were interviewed at different locations in central and northeast Missouri. A total of 928 frequent pantry users were included. Results showed that as household food security decreased, intake of fruits and vegetables decreased. The rate of diabetes, high blood pressure and high blood cholesterol in pantry users exceeded rates for the general Missouri population. Over 40% of the pantry users had high blood pressure. As household food security decreased, the likelihood of having at least one of these health problems increased. Findings from this study show that as the country looks toward improving the health of its people, food pantry users should not be overlooked. Food pantries offer a unique setting in which food and nutrition professionals can make a difference.