

## Drivers of Food Choice

Understanding the link between behavior and food choices can help tackle obesity and other nutrition-related issues which are of extreme public health importance. Individual food choices can be influenced by a number of different drivers including government policy; environmental cues; cultural differences; and communication tools, such as social networking and food marketing. Research is needed to identify the impact of these various drivers and understand how they work alone or together to influence nutrition-related behavior. Research will show how these drivers should be altered to have the highest positive influence on individual behavior and therefore public health. For example, the state of Mississippi recorded a 13% decline in obesity among elementary school students from 2005 to 2011. Multiple changes in the environment occurred, such as the setting of standards for foods sold in school vending machines, setting a requirement for more school exercise time, mandating healthier environments in childcare settings, and establishing programs for encouraging fruit/vegetable consumption. The challenge now is to determine what effect these combined actions will have on obesity-related behaviors in the long run.

## Nutrition and Brain Functioning

Further explorations of the biochemical and behavioral bases for food choices and intake over time are essential. Brain function as it relates to food desire and choice needs to be clarified through research, and the multiple hormones that impact eating require further study as well. Factors such as meal frequency and size, speed of meal consumption, and how these factors are influenced by social cues require objective data which can only be provided by research. Understanding how the marketing of healthy behaviors could help consumers achieve dietary guidance goals should be a priority. As part of this approach, innovative and practical methods for accurately measuring and evaluating food purchases and eating occasions must be developed.



## Imprinting

Additional research is needed to determine if eating and satiety behaviors are imprinted during critical periods of development, and show how food components affect neural biochemistry and brain functioning - and therefore shape behavior. This research will provide us with a better understanding of how and why an individual makes particular food choices. While scientists recently validated the concept that food availability during pregnancy has permanent effects on gene expression in children, human studies are needed to confirm or refute the hypothesis that fetal programming, resulting from maternal obesity, leads to excess weight in children and into adulthood.