

# Chapter 8

## Nutrition Games

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### ABSTRACT

*The purpose of this chapter on Nutrition Games is to highlight the need for nutrition game development, review current nutrition games and research, and direct attention to applicable resources on this topic. There is a dire need for nutrition education assistance and help to alleviate nutrition problems in the world, ranging from undernutrition to overnutrition. Gaming strategies have been successful with a multitude of health issues, such as smoking and exercise, but little has been done on the topic of nutrition. Much need and opportunity exists in this complex area of game development that embraces art and science.*

### INTRODUCTION

Nutrition is an important component of public health in developed, developing, and underdeveloped countries of the world. Given the huge range of global nutrition problems to solve, and the slow progress of their resolution thus far, game strategies are increasingly being looked to, even by previous skeptics, as a bright ray of hope. This has not been an easy task, as quality research is slow, and innovative game PhDs have only recently begun to understand the lure of serious games and how game dynamics affect behavior.

As research results emerge, it is clear that nutrition games really need to be given a full chance to prove their worth, and health professionals need to be educated about their benefits.

A professional team approach to creating serious games on a wide range of multifaceted nutrition topics is vital. People around the world then need to learn of their availability and how to access nutrition games on various platforms.

Chapter objectives include:

- Discuss need for nutrition games
- Review nutrition game history
- Highlight nutrition game research
- Where to find nutrition games
- Identify professional development team members
- Recommended nutrition game development standards
- Specify nutrition game resources
- Evaluate strengths, weaknesses, opportunities and threats for nutrition games

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## BACKGROUND

### The Case for Nutrition Games

Hippocrates is often referred to as the “Father of Medicine.” Even in Ancient Greek times, he posited that health depended more on food, than on medicine (The Quotations Page, 2011). Years of contemporary nutrition science research have proven this connection. Modern science now links nutrition with many health problems, such as heart disease, obesity, diabetes, asthma, food allergies, cancer, hypertension, stroke, vitamin deficiencies, vitamin excesses, bone disease, liver and gallbladder disease, infertility, headaches, and chronic renal failure (WebMD, 2011). The CDC periodically posts the leading causes of death in America. For 2009, six of the thirteen top causes of death include diet and nutrition related causes (Kochanek, 2011). Many are a result of soaring obesity rates for children and adults.

US 2009 Leading Causes of Death (Kochanek, 2011)

Nutrition related causes are asterisked \*.

1. \*Heart Diseases
2. \*Malignant neoplasms
3. Chronic lower respiratory diseases
4. \*Cerebrovascular diseases
5. Accidents
6. Alzheimer’s disease
7. \*Diabetes mellitus
8. Influenza and pneumonia
9. Nephritis, nephrotic syndrome and nephrosis
10. Intentional self-harm
11. Septicemia
12. \*Chronic liver disease and cirrhosis
13. \*Essential hypertension and hypertensive renal disease

Before the 1980s in the United States and much of the developed world, population lifestyles were much more physically active and calorie control was more in balance. Calories consumed in food

were nearly equal to calories spent for energy. Obesity was not a big problem, and there were many reasons for this. Television programming was not as prolific as the hundreds of channels available today. Children played freely in their neighborhoods, and most schools offered physical education. Farms or family gardens, and home cooked meals were the norm. Families often shared a single car, and personal computers were not common. Video games only made it to market in the mid 1970s (Bellis, 2011).

Flash forward to the twenty-first century’s depressed economy and shrinking job market where tight family, town, state, and school budgets, and technological advances are having a strong, negative influence on calorie expenditure and quality of food intake. In 2003, only about 56% of American high school students had physical education (PE). Slightly more than a quarter averaged a PE class daily (Centers for Disease Control, 2004).

Children are bombarded with junk food media. A 2009 study by ChildrenNow.org of television food ads aimed at children showed that about 55% are considered “Whoa” foods, 20% “Slow” foods, and only 1% “Go” foods (Children Now, 2009). The International Association for the Study of Obesity (IASO) hosts an interactive world map of child food and beverage marketing policies by country. (International Association for the Study of Obesity, 2011a) They also have developed a set of international child marketing guidelines via their StanMark project. (International Association for the Study of Obesity, 2011b) Concerns about advergames were espoused at the 2010 Games for Health nutrition section program by Foodplay.com manager, Melinda Beasi (2011), and also in an article in The Telegraph (2011). Such games typically entice children to play games about making desserts, for example, or engage them with food product characters.

Food manufacturers and thousands of fast food restaurants make a wide variety of high fat, high calorie, high sodium, high sugar, readily accessible, processed foods that have long shelf lives

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