

Melting the Fat Away

An Analysis of the Advertising Market for Weight-Loss Products

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Abstract

The rise in the prevalence of overweight and obesity has reached record levels and has gained national attention with respect to public health initiatives. The race to develop a pharmaceutical product that can help individuals lose weight has resulted in the release of several fatal products that have been withdrawn. Meanwhile, the growth of direct to consumer advertising has grown dramatically greatly increasing the autonomy of patients. This paper analyzed the extent to which firms' respond to the market conditions and research regarding drug advertising. A unique dataset of print advertisements collected from 26 popular magazines and 2 medical journals was analyzed to assess the textual and visual cues of weight-loss advertisements. Analyses reveal a concentration of both prescription and over-the-counter advertisements in select magazines varying depending on the target audience. The targeting of certain populations was further displayed through the systematic differences in the use of effectiveness and risk information. This paper provides insight into the textual and visual cues used to increase demand and profits of the pharmaceutical firms marketing weight-loss products

Table of Contents

	Page
1. Introduction	4
2. Background Information	7
3. Market for Weight-loss Products	11
4. Economic Framework	19
5. Literature Review	23
6. Hypothesis	33
7. Data and Methods	39
8. Results	44
9. Discussion	54
References	68
Tables	72
Figures	84
Appendix 1 - Events and Developments Regarding the Advertising of Weight-loss Products	99
Appendix 2 – SCADS Database	100
Appendix 3 - Over-the-Counter Weight-Loss Coding Form	105
Appendix 4 – Prescription Weight-Loss Coding Forms	116
Appendix 5 – Coding Tool Description	127
Appendix 6 - Variable Measurement	133

1. Introduction

The recent growth in the prevalence of overweight and obesity over the past twenty years (Ogden et al., 2006) has created a race to develop a drug (either over-the-counter or prescription) that could safely and effectively help individuals lose weight. This race has led to a rise in the number of over-the-counter products that claim to have miraculous effects. The over-the-counter market has been seen as possible supplement to help individuals lose weight, but reports of adverse event for products containing PPA and ephedra has introduced a stigma to these products. (Allison, Fontaine, Heshka, Mentore, & Heymsfield, 2001). Similarly, the prescription market has faced two withdrawals (Pondimin and Redux) severely hurting its sales and revenue due to the fear of pulmonary hypertension and heart valve issues (Stafford & Radley, 2003). While some of these drugs are considered dangerous and potentially fatal, consumers are still attracted to these products with the notion that the benefits are greater than the risks. To more fully understand the current equilibrium of consumption of these weight-loss agents, this paper will analyze how firms respond to the current market conditions through a systematic analysis of the print advertisements for all weight-loss products.

The pharmaceutical firms producing weight-loss products face economic constraints that restrict their behavior. The two main constraints are: governmental regulations and consumer behavior. Economic theory explains that firms want to maximize profits. These firms will respond to these regulatory policies and market conditions to create advertisements that elicit the most response from consumers. Throughout this paper, the regulatory policies for print and mass media advertisements

will be used to assess how pharmaceutical companies use information about consumer behavior and decision making to develop the most effective advertisement.

In order to assess the marketing strategies of the pharmaceutical firms, a unique dataset of over-the-counter and prescription weight-loss products from twenty-six popular magazines will be analyzed and content coded. The analysis of how over-the-counter advertisements affect consumer behavior is similar to that of regular advertisements. These advertisements work to persuade individuals to purchase a product through convincing or changing the buyer's opinion about the effectiveness of the given product. Consequently, common techniques and methods include use of sexual appeal, product effectiveness, convenience, length of time to seeing result, and emotional happiness. These appeals and claims can be extremely effective within the weight-loss industry because of the emotional and psychological stigmas that overweight and obese individuals face. Furthermore, due to the sheer number of weight-loss products and diets, the potential to use the misalignment of the product and the individual as an excuse for the product's ineffectiveness leads to individuals attempting multiple products before either achieving their weight-loss goals or succumbing to the cycle of failure.

The market for weight-loss products can be divided into two categories based on the regulatory constraints established by the government. The prescription market is a highly regulated market that severely restricts the ability for individuals to consume a prescription product. The two regulatory constraints are 1) Firms must establish the efficacy and safety of a product prior to marketing to the public, and 2) Firms must abide by the FDA's advertising regulations. In the prescription market firms also face the gatekeeper problem where consumers must ask their physicians for a prescription or the

physician must suggest a particular drug for a disease. Furthermore, pharmaceutical marketing over the past ten years (since 1997) has played a critical role in giving patients more information about their drug therapy options through the increased use direct-to-consumer advertising. Though some have claimed that this growth has placed pressure on physicians to tell the patients the reasons for not prescribing a given drug, advertising strategies have been focused primarily on telling patients to ask their doctor about a certain condition or weight-loss medication.

The rise in prevalence of obesity has created a new chronic disease, which pharmaceutical companies have begun to explore. Unfortunately, due to the risks associated with these products, there is a large debate analyzing the potential benefits of these products given the large and sometimes fatal risks. Although the efficacy debate will not be discussed extensively within this paper, the advertising strategies of these firms will be analyzed within the scheme of this debate.

2. Background Information

The rising prevalence of obesity has created a demand for weight-loss products. With the prevalence of overweight or obesity reaching 70.6 percent in 2003-2004 and the prevalence of obesity at 32.2 percent, there is large opportunity for firms to see high profits (Ogden et al., 2006). While the overweight and obesity has substantially increased in the adult population, a new and growing concern is the prevalence of childhood obesity, which rose to 17.6 percent in 2003-2004 and is a risk factor for adult obesity (Ogden et al., 2006). Individuals who are overweight or obese are predisposed to a number of conditions that drive health spending, including diabetes, hypertension, high cholesterol, asthma, arthritis, and poor health status (Mokdad et al., 2003). Each of these conditions is extremely expensive and contributes to poor overall health status. Because of the increase in prevalence of overweight and obesity in the past 30 years, Healthy People 2010 established goals of reducing the prevalence of overweight and obesity to 15 percent for adults and 5 percent in children (United States Department of Health and Human Services, 2000). The potential for weight-loss products to reduce the prevalence of overweight or obesity has yet to be seen due issues of product safety in both the over-the-counter and prescription market.

The rise in prevalence of overweight and obesity is no longer an individual problem, due to the effects on both the economy and the healthcare system. Recent studies have shown that adults who are obese spend on average 36% more on medical expenditures than normal weight individuals (Finkelstein, Fiebelkorn, & Wang, 2003). Finkelstein et al., (2003) finds that nearly one-fourth of the obese population is sixty-five and older and because of the nature of obesity and its co-morbidities this population is

more likely to spend at an even higher rate than stated in the figure above. With such a large population of the overweight and obese on Medicaid or Medicare, the costs are not borne by the individual, but instead passed through to the taxpayers. Finkelstein et al., (2003) reports, in 2002 approximately half of the costs of obesity is financed by Medicaid and Medicare. In an analysis of excess body weight and the prevalence and costs of cardiovascular disease, Wang et al., (2002) found that of the \$181.8 billion spent on treating cardiovascular disease in 2001, an estimated \$31 billion can be attributed to either overweight or obesity. With the cost of health services due to obesity growing, the possibility for weight-loss products to be a solution to this problem has yet to be seen.

While cardiovascular disease is one of the main diseases associated with obesity, some of the others include: type II diabetes, hypertension, gallbladder disease, musculoskeletal disease, and breast, endometrial, and colon cancer (Visscher & Seidell, 2001). While some of these conditions can be treated with proper medications and procedures, if the underlying cause is not treated, these conditions may still pose a problem to the individual. With relatively few effective treatments available for treating obesity, the need to provide effective preventative measures must be considered (Nestle & Jacobson, 2000). Unfortunately, due to the competitiveness of the food industry, advertising of healthy behaviors is limited compared to the advertising of food products, which accounts \$11 billion annually (Nestle & Jacobson, 2000). While this alone poses a large problem, the lack of healthy behaviors and foods advertisements further shifts the balance of advertising in the favor of the food industry. The need to change the behavior of individuals must start at a young age as the prevalence of obesity has also affected children. With weight problems now affecting children (18.2 percent of individuals

between 2 and 19 classified as overweight), the need to educate children and parents of healthy eating behaviors and to promote exercise is becoming essential

The increase in the prevalence of obesity has allowed for the pharmaceutical industry to enter into the market as an effective means of providing individuals with anti-obesity products in both the prescription and over-the-counter markets (Stafford & Radley, 2003). The recent growth in each market is of interest in this paper as in an analysis with specific interest in the advertising of these products. To date there are nine prescription anti-obesity drugs, three of which have been withdrawn from the market due to adverse health effects. Two over-the-counter weight-loss products have had FDA warnings released regarding the safety of the product, one of which has been withdrawn from the market (ibid). Due to recent warnings and recalls of both over-the-counter and prescription products, this industry has seen a roller-coaster effect in the past few years. The apparent safety of these products poses the question: why are people taking these medications given the risks of death associated with some of these products?

Anti-obesity pharmaceutical products are regarded as a complement to diet and exercise. The problem with using solely weight-loss programs is that most individuals fail, or lose weight temporarily. In fact, Polivy (2002) studied the psychology of image change and found that most individuals attempt losing weight five or more times before they manage a six month success, and of those who fail, 60 percent will make another attempt within the next year. Polivy (2002) also notes that the sheer number of weight-loss products and programs gives way to a recurring cycle whereby the individual can shift failure away from herself and to the weight-loss program by saying the diet was the cause of the failure, which leaves the possibility of future successes open. The number of

weight-loss products available in both non-prescription and prescription further reinforces this idea. This recurring cycle is the reason for the need to look at the weight-loss products market and more specifically the pharmacotherapy market. The lack of an effective means of losing weight makes pharmacotherapy available as an option to complement diet and exercise for those who are considered overweight and obese.

3. Market for Weight-Loss Products

In 2000 Meridia (sibutramine hydrochloride) and Xenical (Orlistat) spent a total of \$100.5 million on DTC advertising (\$65.0 million and \$35.5 million respectively) (National Institute for Health Care Management, 2001). Xenical and Meridia are the only on-patent anti-obesity medications in the market. The 1997 withdrawal of Pondimin (Fenfluramine hydrochloride) and Redux (Dexfenfluramine hydrochloride) due to adverse events severely reduced the sales of this therapeutic class of drugs. According to the NIH Care Management (2001), despite spending \$65.0 million dollars, Meridia sales dropped by 8.1 percent and utilization also dropped 11.3 percent (ibid). Xenical spent \$35.5 million and sales rose by 63.8 percent as utilization also rose by 65.1 percent (ibid). Due to Xenical's market entry in April 1999, the cause for the large increase in utilization may be explained by a lack of effectiveness and risk information available for physicians to make fully rational decisions for their patients (Stafford & Radley, 2003).

The market for prescription anti-obesity drugs is rather unique in that, according to the FDA and the National Heart, Lung and Blood Institute, patients must be clinically obese (body mass index ≥ 30 kg/m²) or have a body mass index between 27 and 30 kg/m² with an obesity-related comorbidity (i.e. hyperlipidemia, hypertension, diabetes, or cardiovascular disease) to be considered for pharmacotherapy (Blanck, Khan, & Serdula, 2004a; Blanck, Khan, & Serdula, 2004b; Khan, Serdula, Bowman, & Williamson, 2001). This requirement limits the number of individuals taking these medications unlike the over-the-counter weight-loss products, where there are no usage restrictions.

In order to analyze the advertising market, the usage of these products is necessary to obtain an overall picture to who these firms are targeting. Cawley and Rizzo

(2005) and Blanck et al., (2004) used data from the Medical Expenditure Panel Survey and the 1998 Behavioral Risk Factor Surveillance System Survey, respectively, to obtain demographic information on the users of prescription weight loss medications. In terms of race, Cawley and Rizzo (2005) find different prevalences of prescription anti-obesity medication usage rates compared to Blanck et al., (2004). Cawley and Rizzo (2005) find Hispanics were 68.6% as likely to use anti-obesity medication as whites whereas Blanck et al.,(2004) found that male Hispanics were 62% more likely and female Hispanics 12% more likely to use anti-obesity medication. Cawley and Rizzo (2005) and Blanck et al., (2004) both found similar results for African American usage, with African American anti-obesity drugs usage 51% and 66% of white anti-obesity usage. Furthermore, Cawley and Rizzo (2005) found females were 192% as likely to use anti-obesity drugs as men, which further supported Blanck et al., (2004). In terms of education, Cawley and Rizzo found that high school graduates were 83.7 percent more likely, those with some college are 97.2 percent more likely, college graduates are 104 percent more likely, and those with graduate school 141 percent more likely to use anti-obesity than high school dropouts. Finally, Cawley and Rizzo (2005) found that use of anti-obesity drugs decreased with rising age. Use of prescription weight-loss products of those older than 65 was 46 percent of those between 18 and 29.

While the growth in the nonprescription weight-loss market has been growing over the past ten years, the demographics of users of nonprescription weight-loss products mirror that of the prescription anti-obesity products. According to Blanck et al., (2001), females were 4.9 times more likely than males to use these products between 1996 and 1998. Furthermore, usage among African Americans and Hispanics was 90

percent of the usage among whites in this sample. The nonprescription market was similar to the prescription market with education level in that individuals with a high school diploma were 50 percent more likely to use nonprescription products than those with less than a high school diploma. Continuing the similarities between the nonprescription and the prescription market individuals with some college or with a college degree or higher were 80 percent and 50 percent more likely to use nonprescription products than those with less than a high school diploma respectively (Blanck, Khan, & Serdula, 2001). The usage of nonprescription weight-loss products is lower for college graduates mainly because these individuals are more likely to see a physician and consequently prescription weight-loss products. In terms of age, individuals between 18 and 34 were 50 percent more likely to use the product than individuals between 35 and 54. Individuals who were 55 and older were 60 percent less likely to use nonprescription weight-loss products than individuals between 35 and 54.

This demographic information about the users of both prescription and nonprescription weight-loss products is vital for advertising of weight-loss products. This information allows the pharmaceutical industry to develop targeted marketing campaigns that will help firms maximize their profits by reaching the population most likely to buy and use these weight-loss products.

Safety Regulation of Weight-Loss Products

The determination of the safety of these pharmaceutical drugs varies depending on its classification as either over-the-counter or prescription. Prescription products undergo a rigorous set of trials before they ever reach the market for sale to the consumer. The firms of over-the-counter products face relatively looser regulations. In

the next two paragraphs, the regulations constraining these firms will be further explained for both the over-the-counter products and prescription products.

The regulations for determining the safety of over-the-counter weight-loss products have changed drastically as a result of the Dietary Supplement Health and Education Act of 1994. This act created two classes of weight-control products. The first class of products requires pre-market approval from the FDA to determine safety and is considered non-dietary supplements. The second class consists of dietary supplements intended for weight control. This class is not subjected to pre-market approval. Because dietary supplements are not subjected to pre-market approval, there has been a dramatic increase in the number of dietary supplement weight loss products. This increase has been paralleled with an increase in the amount of weight-loss product advertising, with over 280 nutritional support statements filed for dietary supplement products with the FDA claiming weight-loss benefits between January 1996 and August 2001 (Cleland, Gross, Koss, & Muoio, 2002).

The process for market approval of prescription products is an extremely costly and time-consuming process that requires three stages of pre-marketing clinical testing before approval by the FDA. Phase 1 trials are generally small trials conducted on healthy individuals in order to assess the safety, metabolism, and response of the new drug. Phase 2 trials analyze the effectiveness of the drug for a particular indication or indications in patients. This phase assesses the efficacy of the drug on a specific disease or condition. Phase III clinical trials are the final pre-marketing phase before drug approval. Phase III trials occur on the largest scale usually involving several hundred to several thousands of subjects. Once all three phases of clinical trial data are conducted,

the pharmaceutical firm must submit a New Drug Application (NDA) with the Center for Drug Evaluation and Research within the FDA. Upon receiving the NDA, the FDA has 60 days to respond, to decide if the information regarding the clinical trial data is sufficient to conduct a review of the drug. Following the review, the FDA can decide whether to approve the product for the market or declare that the agency would approve the drug after further testing regarding effectiveness or safety. The costs of bringing a prescription weight-loss product to market are much larger than for over-the-counter products. As a result, there are fewer prescription products available on the market (Schweitzer, 2007).

Risks associated with weight-loss products

The over-the-counter weight-loss product market is regulated by the FDA for product safety and the FTC for advertising of these products. The FDA has classified the two active ingredients, ephedra and phenylpropolamine (PPA), unsafe. Ephedra and phenylpropolamine have been used historically in most over-the-counter weight-loss products. These two ingredients differ in their classification according to the FDA. Ephedra is not considered an over-the-counter drug like PPA, but is considered a dietary supplement and thus falls under the 1994 Dietary Supplement Health and Education Act (Blanck et al., 2001). Under this act, the manufacturer is responsible for determining whether a product is unsafe rather than the FDA. The FDA proposed restrictions on products containing Ephedrine alkaloids in June 1997 (ibid). The major problem with Ephedra is that it increases the risk of cardiovascular (myocardial infarction) and cerebrovascular (cerebrovascular accidents, seizures, and hemorrhagic stroke) disorders, which accounts for 140 reports of adverse events between June 1997 and March 1999

(Allison et al., 2001; Morgenstern et al., 2003; Shekelle et al., 2003). Between June 1997 and March 1999, 140 reports of adverse events related to ephedra products were filed with the FDA (Blanck et al., 2001). Without adequate medical supervision, the use of ephedra-containing products can cause severe medical problems that can lead to death. The FDA's warning was withdrawn in April 2000 after the General Accounting Office concluded that additional evidence was needed to support these restrictions, but the FDA recommended a labeling statement that instructed users to consult their physician prior to use.

The second product, phenylpropolamine, falls under the classification as an over-the-counter drug and thus faces different regulations compared to ephedra products (Blanck et al., 2001), though PPA is chemically related to ephedra ((Clapham, Arch, & Tadayyon, 2001). PPA was considered a safe weight reduction agent until recently, although reports of adverse cerebrovascular and cardiac events were reported earlier. It was not until a study by Kerman and colleagues (2000) found that PPA increased the risk of hemorrhagic stroke that the danger was recognized. For females, an odds ratio of 16.58 was found for the association between the use of appetite suppressants containing PPA and the risk of a hemorrhagic stroke. For men and women combined the risk of a stroke when using appetite suppressant PPA was 15.92(Kernan et al., 2000). With this in mind, all of the over-the-counter PPA products were voluntarily withdrawn from the market in November 2000 (Blanck et al., 2001)¹.

¹ PPA is also found in other products such as cough and cold remedies. Kerman and colleagues (2000) found an odds ratio of 1.23 (95 percent confidence interval, 0.68 to 2.24), which was not statistically significant. Despite the lower risk of hemorrhagic stroke for the use of cough and cold remedies, the FDA chose to remove all over-the-counter PPA products given the risk of such an event (Blanck et al., 2001).

The safety of these over-the-counter weight-loss medications will constantly be in question, given the current regulations to determine safety for dietary supplements. But even with the FDA's oversight, the risks of adverse events exist with the use of anti-obesity drugs. Of the nine prescription drugs available on the market, three have been withdrawn from the market due to risks of heart valve abnormalities and pulmonary hypertension. Because the risks of heart valve abnormalities was seen as a temporary side effect that had the potential to reverse itself, the use of fenfluramine and dexfenfluramine were seen as temporary medications for the treatment of obesity (Shively, Roldan, Gill, Najarian, & Loar, 1999). According to Gardin and colleagues, the users of dexfenfluramine are older, more obese, more hypertensive, and have more history of cardiovascular disease than the general population. Considering the overall population of the users of these products, the risk of pulmonary hypertension or heart valve abnormalities can be fatal. While fenfluramine and dexfenfluramine are considered potentially fatal products, two drugs have recently been released with some potentially serious side effects since the withdrawal of fenfluramine and dexfenfluramine in September of 1997.

The release of sibutramine (Meridia) and orlistat (Xenical) in November 1997 and April 1999, respectively, has allowed for some minor recovery in sales for the prescription anti-obesity market, but according Staffard and Radley (2003), the usage is still not as large as it was in 1996, the year before the withdrawal of dexfenfluramine and fenfluramine. For the most part sibutramine has relatively mild adverse effects including, headaches, dry mouth, constipation, insomnia, rhinitis, and pharyngitis. Unfortunately, the major adverse effects for patient withdrawal from most clinical studies were due to

hypertension caused by the medication. Sibutramine increases blood pressure by 1-3 mm Hg patients (Halpern & Mancini, 2003). This increase in blood pressure has the potential to be a severe problem especially for patients who have uncontrolled hypertension. Consequently, the use of this drug counteracts the potential benefit of weight-loss by preventing the fall in blood pressure (Bray, 2001). As a result of the potential increase in blood pressure sibutramine is contraindicated for patients with a history of hypertension, coronary artery disease, congestive heart failure, cardiac arrhythmias, or stroke.

Orlistat, on the other hand, has adverse effects on the digestive system and its ability to absorb nutrients. The major side effects are related to the inability to digest triglycerides in the intestines, which also prevents the absorption of fat-soluble vitamins (ibid). The other adverse events included a higher incidence of diarrhea (relative risk, 3.40), flatulence (relative risk, 3.10) and bloating, abdominal pain and dyspepsia (relative risk, 1.48) when compared with control groups.

The risks of using either weight-loss drugs or anti-obesity drugs can be severe, and yet this market still appears to prosper. With the success rate of weight-loss being relatively low, firms view the market for weight-loss products extremely promising. Given the large number of over-the-counter products on the market, the need to advertise these products has become necessary to maximize profits. The methods used by firms to maximize utilization of these products through marketing presents some interesting questions: What elements of persuasion does the pharmaceutical industry use in their marketing campaigns to physicians and patients respectively? How does the pharmaceutical industry react to changes in advertising regulations?

4. Economic Framework

Under traditional economic theory, pharmaceutical firms make decisions based on the conditions of the market in an attempt to maximize profits. Advertising has become an option for firms to increase the recognition of their product in an attempt to increase the consumption of their products and profits.

In this paper, advertising by firms producing over-the-counter weight-loss products will be analyzed by a two-player sequential game. Because the firms are restricted to a set number of products (meaning it is impossible for these firms to change their product within a given period of time), the firms (the first player) must choose an advertisement to maximize their profit. As a result of these advertisements, the consumers (the second player) choose a product, and thus the firms receive profits. In order to maximize profit, the firms must choose the advertisement that compels consumers to purchase their products and thus maximize their profit.

Although the desired goal of maximizing profits is shared by both the prescription and over-the-counter market, the economic framework underlying the advertising of products in the prescription market is more complex. The prescription market can be described as a three player market involving the firm, the consumer, and the physician. In this market, firms must choose advertisements that are effective at compelling physicians to prescribe their product. The firms of prescription products do not have to encourage a potential consumer to purchase the product because the average consumer cannot purchase a prescription product. Instead, the consumer must visit their physician in order to obtain a prescription for the desired product. Consequently, these firms have

to encourage consumers to ask their doctor about the product. Thus, the physician makes the final decision to use a given medication.

Based on the two- and three-player sequential games, the firms are constrained by the market regulations, which limit their ability to advertise freely. The first constraint that exists in this market is the advertising regulations. Under the 1962 amendment to the Food, Drug, and Cosmetic Act, the regulation of advertising prescription products was transferred from the FTC (still regulates the advertising of OTC products) to the FDA, resulting in differing advertising regulations for each market (Calfee, 2002).

Advertising of over-the-counter weight-loss drugs and dietary supplements fall under FTC jurisdiction. Under FTC regulations, there are two basic principles of advertising: 1) the advertisement must be truthful and not misleading and 2) prior to releasing the advertisement, the distributing company must have adequate substantiation of all objective product claims. Section 5 of the FTC Act finds unfair or deceptive acts or practices unlawful. Deceptive advertisements pertaining to foods, drugs, devices, or cosmetics is further prohibited in Section 12 of the FTC Act. Under these clauses, deception may be presented with the presence of false or misleading information, or the omission of information that affects the consumer's conduct or decision making ability (FTC Policy Statement on Deception). Along similar lines, the expected level of substantiation of these advertisements also helps reduce deceptive claims. Under the Federal Trade Commission Act (104 F.T.C. 648, 839 (1984)), the advertisement must provide at least a "reasonable basis" for its claims if there is no express or implied reference or evidence indicating consumer expectations. According to the FTC, "reasonable basis" depends on: the type of claim, the product, the consequences of a false

claim, the benefits of a truthful claim, and the cost of developing substantiation for the claim and the amount of substantiation experts in the field believe is reasonable. With such a broad definition for substantiation, the over-the-counter and dietary supplement weight-loss products have, in some ways, very little restrictions in their claims as long as they are able to meet this broad standard of “reasonable basis.”

Prescription drug advertising directed at both physician and consumers is more complex than over-the-counter drug advertising. Currently, there are four main FDA regulations overseeing product claims advertisements. Under these regulations, the product claims for print advertisements: 1) cannot be false or misleading; 2) must present a fair balance between risks and benefits; 3) must present facts that are relevant to the representations made in the advertisement or the consequences of using the product as advertised; and 4) must disclose all the risks in a product’s label (21 U.S.C. 352(n))². Similar to the over-the-counter and dietary supplement advertisements, the direct-to-consumer prescription advertisements must present no false or misleading information and the information must be consistent with the product label. The prescription advertisement regulation differs in the requirement of “fair balance.” The concept of fair balance requires that both risks and benefits be clearly used throughout the advertisement (ibid). The third main requirement of print product claim advertisements is that the facts released in the advertisements are understandable to the public, and that the consequences of use are clearly described. This is important because without clear consequences of the product, false or deceptive advertising becomes potential possibility for regulatory action taken against the firm. The fourth requirement is possibly the most important and costly for these all firms advertising prescription products. The inclusion of all the risks in a

² 21 U.S.C. 352 (n) – FDA Regulatory Policy regarding Advertising of Prescription Product

product's label has resulted in the requirement of an additional page of a "brief summary" of all the risk information that includes contraindications, side effects, and effectiveness.

These regulations alter the behavior of the firms by increasing the cost of advertising for the prescription products relative to OTC products. Firms must decide the length of the advertisements and the information, images, and social themes disseminated to the consumer while still complying with these regulations. The current literature categorically classifies the information and themes in advertisements in order to conceptualize and code the way information is disseminated to the consumer. On the most basic level is the dissemination of effectiveness and side effects of using the product and disease and symptom information (Bell, Kravitz, & Wilkes, 2000; Calfee, Winston, & Stempski, 2002; Gilbody, Wilson, & Watt, 2005; Roth, 2003; Wolfe, 2002; Young & Welch Cline, 2005). Firms can also use motivational claims to further increase the consumption of their products. The literature classifies the motivational claims into two categories: Informational and Transformational. Informational claims are negative and are undesired end-states, whereas transformational claims are positive and are desired end-states. Firms also have the ability to depict social images through the use of models, which varies based on the target audience of the advertisements (Bandura, 2001). Social cues have the ability to change the consumers' perception of a product. The current literature on advertising of drug products uses social cognitive theories to analyze the way individual interpret each of these attributes disseminated within advertisements.

5. Literature Review

Pharmaceutical advertising is identical to all other forms of advertising and thus faces the problem of attracting a consumer base. Two social cognitive theories provide a framework for analyzing the content of advertisement on its ability to change behavior: Petty and Cacioppo's (1983) Central and Peripheral Routes model and the Bandura's (2001) Social Cognitive Theory of Mass Communication. Although these two theories were created as a way to analyze the effectiveness of advertising in general, the nature of pharmaceutical products and the recent increase in direct-to-consumer drug advertising has allowed for a new application of these theories due to the differing nature of these products.

The central and peripheral routes model is a social cognitive theory that relates to the involvement of the individual (the relevance of the product to the individual) and the mechanism that causes an attitude change. Petty and Cacioppo (1981) explain that the individual's involvement when viewing an advertisement is essential to changing an individual's attitude about the product. In the context of weight-loss products, Petty and Cacioppo's theory explains that an individual looking to lose weight will be more likely to respond to an advertisement than an individual who is not looking to lose weight (Petty & Cacioppo, 1981). While involvement is a key determinant of attitude change, the way an individual interprets the advertisement is also important. Petty, Cacioppo, and Schumann (1983) explain in their model that two routes affect attitude change: the central route and the peripheral route. An attitude change that occurs under the central route usually occurs after an individual has considered all the information she feels relevant to, in this case, the use of a weight-loss product. This route in most cases usually requires a

unique interest (high involvement) to the individual because of the amount of effort needed to process all the relevant information. Conversely the peripheral route causes an attitude change, not because the individual has considered the pros and cons of using the product but because something within the advertisements elicits a positive or negative cue (Petty, Cacioppo, & Schumann, 1983). Petty and Cacioppo (1981) provide the example of a person who uses Hertz Rent-a-Cars not because she has diligently considered each aspect of the company, but because she is constantly reminded that O.J. Simpson was in its advertisements. Consequently, based on the social cognitive theory of involvement and central and peripheral routes, the use of imagery in the advertising of weight-loss products may provide a more effective means of providing an attitude change than the use of textual claims (Petty & Cacioppo, 1981).

Bandura (2001) on the other hand describes the effect of social cognitive theory with respect to mass communication and how individuals react to the information. The model explains there are four processes that occur as a result of this form of communication: attentional process; retention processes; production processes; and motivational processes. Each process governs how the individual learns through observation and ultimately, how individuals will change their behaviors as a result of observing the social interactions presented in the advertisements (Bandura, 2001).

The simplest process is the attentional process, which determines what information is taken from an advertisement. Factors like salience, attractiveness, prevalence, and functional value to the individual are usually the main predictors that will affect observational learning. The attentional process is necessary for an individual to transform and restructure the information in order to retain the information as a memory.

Retention involves the ability to structure the conveyed information into memories, usual symbolic memories. This form of cognitive organization allows the individual to recall the information from the advertisement, which is essential for determining the effectiveness of the advertisements. But recalling an advertisement does not always mean that the individual will purchase the product. The production processes occurs when these symbolic memories are translated into appropriate course of action. The behavioral production processes is the ability to transform the symbolic memory into behavior patterns that are called for by the advertisements (Bandura, 2001). With respect to weight-loss products, this process would be to either begin an exercise regimen, diet, or medication in an attempt to lose weight. The behavior does not need to be performed, but the formalization of a “course of action” in response the advertisement must occur.

The final process that Bandura (2001) identified is the motivational processes. Because individuals do not always perform everything that they learn, the motivational processes distinguish between acquisition of information and the performance of an observationally learned behavior. With respect to weight-loss, this motivational processes explains how individual are motivated by the successes of others similar to them, but are discouraged by the adverse consequences of failing (Bandura, 2001; Polivy & Herman, 2002). The effectiveness of advertisements ultimately depends on the firm’s ability to alter the behavior of the individual. In the case of weight-loss products, the firms must differentiate their product from their competitors in order to profits through increasing brand name recognition.

These two social cognitive theories are necessary to fully describe the current literature’s conceptualization of advertisement attributes. Throughout the review of this

literature and the analysis of the data, these social cognitive theories have the ability to begin explaining consumer behavior in response to firm advertising methods.

The most basic but most important aspect of weight-loss product advertising is the disclosure of drug effectiveness and the side effects. With the withdrawals of Redux, Pondimin, and PPA, the disclosure of side effects and adverse events has become an important aspect to consider. Prescription advertisements must present a fair-balance of information in the advertisements (Palumbo & Mullins, 2002; Pines, 1999). The presentation of the drug effectiveness and risks is regulated by the FDA, and according to Roth (2003), Beltramini (2006), and Mehta and Purvis (2003), the effectiveness of this information in changing behavior often times lies in the believability of the information presented. Beltramini (2006) explains that the believability of the information is often times more important than the understanding of the information in determining the desire to use that particular drug. Although the pharmaceutical industry relies on the believability of these advertisements, the FDA looks primarily at the balance of the information of risks and benefits and the truthfulness of the advertisement.

Few studies looked at the balance of information in advertisements, Young and Welch Cline (2004) in their analysis of the textual cues of 994 DTC advertisements found, the ratio of medical rewards to medical punishments to be 4.3 to 1. Young and Welch Cline found that most textual cues were used to promote the product's effectiveness, general claims of effectiveness, and the punishing effect of not using the drug, rather than the negative effect of not using the drug (Young & Welch Cline, 2005). Furthermore, all of the advertisements with exceptions of advertisements for HIV/AIDS drugs, contained information of specific claim effectiveness, whereas only 50.7 percent

of the advertisements contained at least one medical punishment message (side effects and/or risks).

Although Young and Welch Cline (2004) analyzed the claims specific to the promotional claims, the dissemination of side effect information to the consumer via these advertisements has been analyzed in Davis (2000). Davis (2000) experimentally tested the effects of incomplete risk statements. Davis (2000) found that when presented with incomplete side effects the individuals disproportionately chose to purchase the product than when presented with a complete risk statement. The need to analyze the risk and benefit statements in these advertisements is essential for the weight-loss market especially given the risks and side effects of this class of drugs. The benefit information available in these advertisements largely outweighs the risk information in most drug advertisements and must be considered when analyzing the advertising market for weight-loss drugs and analyzing firms' adherence to advertising regulations.

The use of disease information is essential for the targeting of specific populations. Many supporters of DTC advertising claim that advertising both increases the awareness of certain diseases and also the available treatments as individuals highly involved in the management of their health will respond to these advertisements ((Calfee, 2002; Shah, Holmes, & Desselle, 2003; United States. Gen. Accounting Office., 2002; Welch Cline & Young, 2004; Wilkes, Bell, & Kravitz, 2000). Roth (2003) analyzed the effectiveness of print advertisements on consumer awareness and found in his analysis of 208 unique DTC prescription advertisements that the frequency with which DTC advertisements used disease and symptom information was 42.7 and 61.5 percent respectively. Additionally, he also found that advertising awareness was higher when

symptom information was not conveyed ($B = -0.203, p < 0.01$). The inclusion of disease and symptom information did not increase brand awareness but instead decreased it. Petty and Cacioppo (1981) explain that this may be due to the inclusion of too much information in the advertisements resulting in the use of the peripheral route or the use of other visual and textual cues to make their decision rather than a systematic analysis via central route. The disease and symptom information is essential for the proper behavioral modification as described by Bandura (2001), yet in the prescription market, the individuals must still consult their physician before they are prescribed the medication. Consequently, the disease and symptom information may not be essential for DTC advertising, but it appears to be essential for informing physicians of the drug.

The information provided to consumers has been somewhat criticized by physicians and policymakers in that it has been contributing to the rise in healthcare costs. As described by Roth (2003), the presence of disease and symptom information does not increase the recall of the advertisement, but instead decreases recall. As a result many studies have questioned the effectiveness of the DTC advertisements as an educational tool that consumers can use to understand their conditions (Calfee, 2002; Gilbody et al., 2005; Wolfe, 2002). Gilbody et al., (2005) conducted a literature review that analyzed the current studies that have been performed on the impact of direct to consumer advertisements. They found an increased burden on the physician to correct the patients' desires and explain the correct course of action.

The nature of the disease and symptom information presented in the advertisements varies drastically between markets. The information provided in physician-directed is more clinically based and acts as a form of education for the

physicians. According to Fisher (2003), there has been a growing use of advertisements because they are more visually stimulating and more accessible than papers in medical literature (Fisher, 2003). The ability for the pharmaceutical companies to frame the information in the clinical studies plays a large role in the decisions for the prescribing of the drug. The ability for a manufacturer to cite clinical studies in advertisements to physicians has the potential to improve sales.

While the use of textual cues through the inclusion of disease, symptom, benefit, and side effect information is necessary to promote the benefits of usage, the motivational aspects of advertisement is sometimes considered the most important and influential aspect that will determine the consideration of a product. In the literature review, motivational cues come across with a few different definitions. Roth (2003) claims that there are two types of motivations that are presented in advertisements: informational and transformational motivations. Informational motives tend to refer to consumer's experiences of events that tend to be avoided and considered undesirable.

Advertisements that present informational motives usually use problem removal or problem avoidance images. Transformational advertisements tend to present positive images and "desired end states" (Roth, 2003). Young and Cline (2005) analyze what Bandura (2001) described as direct and vicarious motivational cues. These two cues recognize the idea of identity and relational goals of the drug. In both cases, with respect to weight-loss products, the advertisements will use images of individuals' with perfect bodies or individuals who seem content with their body image, which can be considered the "desired end state" or "identity and relational goals" for individuals looking to lose weight.

Roth (2003) found that 81% of their sample used informational messages, while 19% contained only transformational messages which were consistent with past research (Pinto, 2000). But Roth (2003) also found that transformational cues were associated with higher brand awareness when compared to informational cues. While informational messages were used 81% of the time, the focus of this study looked at an aggregate of all the direct-to-consumer advertising, rather than just one therapeutic class of drugs. A further analysis of the therapeutic classes analyzed in this study reveals that antihistamine, anti-inflammatory, and asthma and respiratory medications accounted for 27.9 percent of the sample. The advertising of these products differs greatly from the advertising of weight-loss medications, which may result in some differing use of these two types of messages.

Due to the nature of over-the-counter drug advertisements, the way individuals use information is not entirely straightforward. With over-the-counter advertising, the information provided tends to be less scientifically-based and more describing or showing the desired outcomes of the individual using the product. Consequently images of perfect bodies or dramatic weight-loss stories are more prevalent in this class of advertisements. The nature of the over-the-counter drug advertising market significantly differs in the methods of appeal because of the nature of the advertisements. The use of less scientifically-based information and more images of desired end states will motivate certain consumers in unique ways based on their interest levels. According to Petty and Cacioppo's ELM model, the use of scientific information is a highly-involved process for individuals to comprehend and understand and thus the use of scientific information would elicit a response from only the high-interest levels. The ELM model further

explains that the use of images is a less involved process, which means these advertisements would gain a response from a broader audience of viewers.

The overall social depiction within the advertisement is an interesting aspect to analyze. The use of social cues has been one of the most interesting advertisement appeals because of its ability to capture the attention of the consumer. Two models can explain how the use of social cues affect the way a product is remembered. Schooler, Basil, and Altman (1996) analyze the social cues on billboard advertisements of tobacco and alcohol products. The presence of the negative aspect of tobacco and alcohol products have been well substantiated given the surgeon general's warnings as well as public service announcements, but the social cues presented could potentially shift the attention away from these risks and to potential benefits (Schooler, 1996). In addition to the social cues, the consumer's ability to relate with the advertisement improves the effectiveness, which usually results in firms attempting to align the ethnicity, gender and social environment of the models with that of the target audience. Schooler, Basil, and Altman (1996) also note the attractiveness of the models plays an important role. Priester and Petty (2003) contend that the spokesperson or endorser trustworthiness plays a large role on the advertisement's effectiveness as well as the retention of the information presented in the advertisement. The final aspect of social cues is the rewards. Images of romance, friendship, vacationing, active lifestyles, and adventure were used commonly to show that this product could change their life.

The social depiction is essential to most advertisements in this market. Given the potential positive effects of the use of these products on the individuals, in terms of weight loss, the images provided in these advertisements are one of the most important

aspects of these advertisements. In some respect, the presence of the social depiction has the potential to reduce the importance of the side effects and elicit a response based on the positive transforming effects of the product.

While these studies look to analyze a specific attribute of prescription print advertising, this study analyzes the visual and textual cues for both prescription and over-the-counter weight-loss products. With the large number of adverse events reported within this class of drugs, the need to analyze the type of claims in these print advertisements is necessary to understand why people are using these products, with the possible risk of death.

6. Hypotheses

H₁: Firms will choose to place advertisements in magazines targeted toward female readership magazines and thus will portray women more frequently than men. In addition to the gender differences in the target audience, firms will also advertise in magazines with higher white female readerships and will portray more white women than African American or Hispanic women.

The growth of the direct-to-consumer advertising for weight-loss products has come at a time when weight-control practices among U.S. adults is influenced predominantly by women. The media has developed this image of an ideal body size, which has unfortunately become the target of most women. Weiss, Galuska, Khan, and Serdula (2006) found that 47.9 percent of women tried to lose weight during 2001 and 2002 compared to 33.8 percent of men. Meanwhile, the usage rate of weight-loss products predominantly favors white women over every other group. In light of this information, firms will maximize the effectiveness of their advertisement by targeting a specified audience, which has been based largely upon Bandura (2001) and Petty and Cacioppo's (1981) social cognitive theories.

These two social cognitive theories explain how consumers react to advertisements based on the relevance of information provided. Bandura (2001) explains in his social cognitive theory of mass communication that the effectiveness of an advertisement can depend on whether the individual can identify with the advertisement. This model explains that the ability for an advertisement to initially captivate the consumer will determine the effectiveness of the advertisement. Under this model, this ability usually depends on whether the individual can identify with the advertisement.

This model is similar to Petty and Cacioppo's (1981) theory of high and low involvement. Petty and Cacioppo differ in that they analyze consumer based upon involvement or interest levels. The higher a consumer's interest level in a product, the higher the likelihood that the consumer will act upon the advertisement. Knowing that individuals respond based upon their interest level, firms will react by targeting certain populations. In this case, we expect focus of advertisements in magazines with predominantly white female readerships.

H₂: Prescription advertisements will include fewer images of individuals and will use more information when compared to the over-the-counter products due to the differing advertising regulations.

Despite the lack of research comparing the effects of differing advertising regulation, there is a division in the way a product is portrayed based on its classification. The FTC's regulations are less stringent than the FDA prescription regulations and thus portray the transformative power of these advertisements. As Roth (2003), Young and Welch Cline (2004), and Welch Cline and Young (2005) cite the use of "desired end" states are better in improving product recognition. Furthermore, Petty and Cacioppo's (1983) central route and peripheral route processing explain the social cognitive approach to the reasoning for using these types of visual cues. The use of models and before and after pictures would elicit a peripheral route response because consumers would remember the product for its weight-loss effectiveness rather than information disseminated within the claims.

The FDA regulations constrain the prescription market by mandating the disclosure of all the risk and the presence of a fair-balance of information (risks and

benefits must be disclosed in a balanced manner) (21 CFR 202.1). While these regulations have a significant effect on the claims made within the advertisement the target audience also differs based upon the users of the drug. In order to use a prescription weight-loss product, you must have a BMI over $30\text{kg}/\text{m}^2$. This drastically hinders the firms' ability to use individuals because the individuals within the advertisement must be overweight or formerly overweight to be seen .

While in our analysis we do expect to see more individuals within the OTC product advertisements, we are also expecting a substantial difference in the clothing presented within the advertisements. Based on the previous paragraph, the fact that individuals must have a BMI over $30\text{kg}/\text{m}^2$ to be considered as a potential patient for this product, we expect the prescription advertisements to use only athletic clothing, casual clothing, or professional/dress up clothing. The ability use of individuals having a BMI over $30\text{kg}/\text{m}^2$ would not be aesthetically appealing and would not display the true effectiveness or intent of the product. Conversely, because there are no constraints on the individuals taking the OTC products, these firms would use more individuals wearing bathing suits or athletic clothing to show the "desired end" state of using the product. While the use of bathing suits and athletic clothing to some degree show a "desired end state," they do reveal differing cues to the public. The bathing suits tell the consumer that she will feel comfortable with her body image through taking this product, whereas the athletic clothing motivates the consumer to become more active. Ultimately through using images of relatively fit and good-looking individuals, consumers will remember the advertisements not for the claims it makes, but more for the potential effectiveness of the product.

While the use of attractive individuals tells us what type of visual messages the firms are sending to the advertisements, the nature of the advertisement appeal will provide us with the most influential appeal of the advertisement. The regulations for the advertisements of prescription products will constrain the firms' behavior and result in a smaller variance of advertisements focused around dissemination of risk and benefits. Conversely, the OTC product advertisements will have a wider variation of claims ranging from sexual appeal to anecdotal claims because of the differing advertising regulations.

H₃: Advertisements directed toward physicians will contain more clinical trial data than the consumer directed advertisements. Furthermore with regards to the dissemination of risks, physician advertisements will contain more risks within the body of the advertisement than the consumer advertisements.

We hypothesize that because physicians are more knowledgeable and rely more on scientific data, the physician directed advertisements will contain more clinical trial data and actual effectiveness statistics than direct-to-consumer advertisements. Conversely, because the consumers are generally less scientifically informed about their conditions, we expect consumer-directed advertisements to use personal anecdotes and general effectiveness summaries as opposed to effectiveness statistics. Based on Petty and Cacioppo's theory, the use of too much information has a negative effect on memory, unless the individual is comfortable with the information. This means that an advertisement with too much or too complex information will cause an individual to become confused and forget the advertisement. Roth (2003) confirms this notion when he finds that as a firm decides to include more disease and symptom information an

advertisement, the consumer is less likely to recognize or recall the advertisement or product name. Consequently, as the amount of information increases the consumer will use the central processes up until the point where the consumer becomes confused or disinterested and then the peripheral processes takes over. The individual will remember an advertisement with too much information for its images and headlines rather than the actual details of the product.

The presentation of risk information will be different throughout the advertisements. Firms acknowledge the behavior expected of their targeted audience and consequently present the risks differently. For physicians, we expect the firms to present the risks in a manner that promotes the safety of the product. While for consumers, the firms will only disseminate the major contraindications and side effects within the main text of the advertisement. Firms realize physicians sometimes rely on these advertisements for information, and consequently we expect more risks disseminated in the main pages of the advertisement in physician advertisements compared to direct to consumer. All of the risks are expected to be found in the advertisement in the directives page if they are not stated in the main text of the advertisements.

H₄: Advertisements for over-the-counter drugs will present more benefit information and less risk information than DTC advertisements of prescription drugs.

Because of a lack of fair-balance clause (meaning the advertisement can not just present the benefits) in the FTC regulations, we expect to see over the counter firms to promote only their products' benefits and fail to inform the consumer of the risks associated with using the weight-loss product. While the FTC and the FDA agree that

advertisements must present products in a non-deceptive or non-misleading way, the FDA's regulation requiring a "fair balance" of information in the advertisement and the mandatory inclusion of a brief summary page imposes a restriction on the firms thus leading to longer advertisements containing more risk and benefit information. We expect firms to include both benefits and risk information in the DTC advertisements of prescription weight-loss products.

H₅: After the withdrawal of weight-loss products the pharmaceutical companies will try to advertise the benefits of their remaining over-the-counter products in comparison to those that were withdrawn from the market due to adverse side effects (or subjects of warnings).

Due to the withdrawal of PPA in the over-the-counter market, we expect each market will react by advertising or differentiating their product from these withdrawn products to gain market share. For the over-the-counter market, we expect to see drugs marketed saying they do not contain PPA. A similar marketing campaign may be seen for ephedra given the safety warnings released in 1997 saying ephedra was linked to some heart conditions and even death. Because Redux and Pondimin affect heart valves, we expect claims from Meridia and Xenical that their products do not affect heart valves.

7. Data and Methods

This paper uses the SCADS database for direct-to-consumer advertisements and physician directed advertisements of over-the-counter and prescription weight-loss products from January 1997 to July 2002 systematically collected from 19 of the most popular magazines in the market (See Appendix 2 for a description of the SCADS database and the magazines) and two medical journals. The physician directed advertisements were taken from the two most popular medical journals, the Journal of American Medical Association and the New England Journal of Medicine from the years 1997 to 2002. Unfortunately, the collection of advertisements taken from the Journal of American Medical Association are incomplete because the libraries bound the copies of the Journal of American Medical Association were missing the “Demographic and “Mini” inserts an/or ROB ad pages.” However, the occurrences and length of each advertisement were within the same time frame of publication and length to the advertisements occurring in the New England Journal of Medicine, so we are under the assumption that they are the same advertisements.

While each advertisement appearance was recorded, unique advertisements were used as the primary unit of analysis for this study. A unique advertisement is an advertisement that is used multiple times in different magazines at different time periods with the same pictures, illustrations, themes, or information. Unique advertisements are fairly important because they may have a different target audience depending on the message of the advertisement for that product in that specific magazine or season. Table 1 displays the number occurrences of weight-loss advertisements and also the number of unique advertisements the industry decided to create.

Each advertisement was coded using a content coding tool accounting for all of the variation within the advertisement (Appendix 3 and 4). The over-the-counter weight-loss product advertisements was coded differently from the prescription weight-loss product advertisements due to the regulations regarding the prescription drug advertising. Each advertisement was coded for the length of the advertisement, the type of advertisement, the length of the directive page(s), and the visual cues within the advertisement. The advertisements were also coded for the race gender and clothing of people and the social environment; the directives and contraindications; the claims about effectiveness; mechanism for losing weight and the lack of certain side effects; and superiority claims (Appendix 5 explains the general criteria for evaluating these advertisements). Appendix 6 is a variable measurement section which displays the way the variables from the content coding tool were used throughout the analyses.

From this information, frequency and correlations of the techniques used in each class of products (over-the-counter or prescription) will be used to analyze the hypotheses. More specifically, these two classes of visual and textual cues will be used to analyze each advertisement: medical effectiveness and side effects, and identity rewards.

A qualitative analysis of these advertisements will occur using these content coding tools. Given the nature of this dataset, a quantitative study is not feasible. Consequently, the conclusions drawn from this dataset will be suggestive rather than conclusive. However, given the lack of work in this area analyzing the content of over-the-counter and prescription weight-loss advertisements, suggestive evidence will be valuable for future research and for better understanding of this area of study.

Testing Hypothesis 1

Using every recorded occurrence of the unique advertisements, the frequency of individuals depicted in the advertisements will be analyzed and compared against the readership data for each magazine. In order to test whether the firms were considering the concept of high and low involvement, Pearson correlation analyses will be performed comparing the race and gender of the individuals presented within the advertisement against the readership of the magazines.

Testing Hypothesis 2

Differences in firms' advertising behavior will be analyzed by looking at each unique advertisement as the firms' final decision regarding visual cues. The frequency of before and after pictures, social depiction, potential consequences of using the product (i.e. amount of weight lost), and clothing of the individuals within these advertisements will be analyzed and interpreted based on the theoretical framework regarding how firms use the knowledge of the psychology of advertising. In addition to the visual cues, the frequency of each nature of the advertisement appeal will be compared among the three markets to discover trends in marketing techniques. Because the firms chose to use each advertisement appeal, every nature of appeal in the advertisement is necessary to analyze. The firms' decision to use every nature of appeal is strategic in nature, so it is important to take note of each appeal.

Testing Hypothesis 3

The risk information disseminated in prescription advertisements is necessary by the FDA, but is not required formally by the FTC in over-the-counter advertisements. In

order to test hypothesis 3, the frequency of directives and side effects in each unique advertisement will be analyzed and compared among the three different markets. In this analysis, Side effects were determined by identifying any expected effect not associated with any therapeutic benefit. The directives were classified as any textual cue that told the patient to perform some action prior to taking the medication. An example would be “contact your physician,” “Medication must be taken with diet and exercise,” or “See your doctor if you are taking cyclosporine”. A composite score of the occurrence of risk information will be divided into directives and potential side effects.

Testing Hypothesis 4

The differences in advertising regulations between over-the-counter and prescription drugs are fairly large and costly to the firms. In order to measure the effect of these regulations, and specifically the fair-balanced clause within the FDA guidelines, the frequency of risks and benefits in each advertisement will be analyzed. Risks were classified as any side effect or adverse event associated with taking the product. Some directives were also included as a risk because of the possible detrimental effects to the body. Benefits were classified as any claims of losing weight, boosting energy, and losing inches on a certain part of the body. Other claims included were positive clinical information data and claims of raising self esteem. The data collected was used to create a composite score for each advertisement, which was analyzed and compared among the direct-to-consumer prescription and over the counter advertisements and the physician directed advertisements. In order to maintain consistency across all markets, the directives page for the prescription drugs was not analyzed because the over-the-counter products are not required to disseminate this information.

Testing Hypothesis 5

Due to the withdrawal of some weight-loss products because of safety considerations, we will analyze the unique advertisements for the use of safety claims within their advertisements. Claims like “no increased incidence of valvular heart syndrome”, “unlike anything that came before”, “unlike any other weight-loss medication”, “does not contain PPA or ephedra”, “fen-phen results without the side effects,” or “safe” will be used to assess whether the pharmaceutical companies are trying to advertise the benefits of their products compared to recently withdrawn products. This is useful in product differentiation and the ability to improve the image of the product through claims of safety. Consequently, any safety claim found within the advertisement has been noted and will be analyzed in each respective market.

8. Results

Descriptive results

The database of 65 unique over-the-counter, 11 prescription direct to consumer, and 16 prescription direct to physician print advertisements contains elaborate information about the firms' advertising decisions given the economic constraints they face. Figure 1 and 2 represents the firms' decision to advertise in certain magazines and the frequency an advertisement was found in that particular magazine. Table 2 describes the average readership of the magazines that firms decided to place advertisements. The average readers of these magazines tend to be white women, between the ages of 25-65.

Readership information is displayed in Table 2. The occurrence of advertisements within each magazine differs based on its classification as over-the-counter or prescription products. For over-the-counter products, the magazine readership is on average more female than that of the magazine readership in which prescription DTC advertisements were identified. Furthermore, the concentration of advertisements differs drastically as seen in Table 2 and Figure 1 and 2. The majority of the over-the-counter advertisement appearances occurred in two magazines *Glamour* and *Women's Day* (See figure 1 and 2). The prescription DTC advertisements appeared in more magazines and at lower frequencies. The two magazines with the most prescription DTC advertisements (*People* and *US News*) accounted for 28 percent of the advertisements compared to 86.91 percent of the advertisements found in *Glamour* and *Women's Day*. The over-the-counter products are concentrated in fairly female oriented magazines, whereas the prescription products are evenly distributed across a wide range of magazines.

Upon further analysis of the over-the-counter market, firms shifted the magazines in which they chose to place advertisements between 1994 and 1995. Figure 5 shows the magazines with the most over-the-counter weight-loss advertisements between 1985 and 2002. Based on this histogram, there appears to be a shift in firms' advertising preference in magazines. In 1995, there appears to be a change in the number of advertisements presented in *Cosmopolitan* and *Glamour*. *Glamour* assumes the role of the largest supplier of weight-loss advertisements to the consumer after 1995. In the broadest sense *Cosmopolitan* and *Glamour* can be seen as substitutes, due to their similar readership and content (See Table 6). Although variation does occur between years, the general readership of the magazines generally remains constant in the long-run. The only variation in the readership data is the gender data. In 1995, females consisted of only 66% of the readership for *Cosmopolitan* and 74% for *Glamour*. While the female readership for both these magazines increased over the next few years, this slightly larger readership may explain the switch. Unfortunately, readership data before 1995 is unavailable.

The shift in firms' decision to use *Glamour* after 1994 is also accompanied by a substantial decrease in the length of the advertisements. Figures 13a and 13b describe the nature of this shift. The firms who presented their advertisements in *Cosmopolitan* used at least one page advertisements 87.07 percent of the time, while the firms who advertised in *Glamour* with used at least one page advertisements 26.67 percent of the time. With shorter advertisements, firms save money while also reducing the amount of information revealed to the consumer.

Given the constraints on the over-the-counter firms, the DTC over-the-counter advertisements were shorter with 41 of the 65 unique advertisements under 1 page with an average size of 12.92 in² (Table 4). Twenty-four of the unique advertisements were 1 page and none were longer than one page. There were no directive pages, but there was a wide range of product types being advertised, ranging from bars and shakes to creams that claim to reduce cellulite.

The economic constraints on prescription firms differ from over-the-counter firms. The advertisements for prescription weight-loss products are longer with most advertisements being 2 to 3 pages not including the directive pages (Table 4). While these advertisements are longer, they tend to use on average less visual stimuli. All of the prescription advertisements used text to make their claims.

Hypothesis 1 Results

H₁: Firms will choose to place advertisements in magazines targeted toward female readership magazines and thus will portray women more frequently than men. In addition to the gender differences in the target audience, firms will also advertise in magazines with higher white female readerships and will portray more white women than African American or Hispanic women.

Pearson correlations reveal that within the over-the-counter DTC advertisements the occurrence of white individuals was positively correlated with white readership ($\rho = 0.26464$, $p = 0.0150$). This positive relationship explains that firms' decisions to create advertisements with the presence of white individuals varies (in the same direction) with the placement of those advertisements in magazines with white readership. Correlations with readership data of other races (Table 2) show statistically significant negative relationships ($p < 0.05$) with the occurrence of white individuals found within the advertisement with the exception of Asian readerships ($\rho = -0.13807$, $p = 0.2104$). This relationship is the opposite of the usage of white individuals in magazines with white

readerships. The presence of a negative correlation occurring in the presence of white individuals in these advertisements and the placement in magazines with readerships higher in other ethnicities displays the selective nature of the advertising of weight-loss products.

The correlations for prescription DTC advertisements were similar but were seen with a higher confidence level. The relationship between the presentation of white individuals within the advertisement and the percentage of the readers being white was $\rho = 0.51364$, ($p < 0.0001$). The higher confidence level and the larger value of rho indicate that the firms' decisions to place white individuals in advertisements vary (in the same direction) with the percentage of white readers of that particular magazine. The presentation of a white individual within the advertisement was negatively correlated with readership data of other races with a significance level of $p < 0.015$ (Table 2).

The relationship between the appearance of males and females within the advertisements and readership of the magazines displays the firm's ability to advertise to a specific audience. Pearson correlation results show a positive ρ for the appearance of females within the over-the-counter advertisements and a female readership within the magazines ($\rho = 0.23659$, $p = 0.0303$). The appearance of a male individual within an over-the-counter advertisement is negatively correlated with a male readership ($\rho = -0.20106$, $p = 0.0667$). The prescription DTC advertisements show a similar relationship with the correlation of $\rho = 0.30763$ ($p = 0.0073$) for the appearance of a female in an advertisement and the magazine having a predominantly large female readership. The correlation for the appearance of a male in an advertisement and a male readership was $\rho = 0.30763$ ($p = 0.0073$).

While these correlation coefficients are significant to a $p < 0.05$, the coefficients were not large enough to make any significant conclusions. These results simply reveal that the relationships were as predicted, but the values of rho were not nearly as large to establish causality or a trend.

Hypothesis 2 Results

H₂: Prescription advertisements will include fewer images of individuals and will use more information when compared to the over-the-counter products due to the differing advertising regulations.

The presentation of individuals within advertisements is extremely important and plays a large role in the transformative power of the advertisement. Bandura (2001) and Roth (2003) both exhibit the importance of social cues within advertisements. Table 5 displays the frequency of how individuals were portrayed within each advertisement. There are systematic differences between the advertisements' presentation of individuals. For example, the use of individuals wearing bathing suits in over-the-counter advertisements was 0.4154 per advertisements or occurred 27 times whereas the firms of prescription products chose not to use any individuals wearing bathing suits. The absence of the use of bathing suit in prescription advertisements displays a lack of use of exhibiting the "desired end state" of the product which can be attributed to the "fair-balance act" within the FDA regulations. While the use of bathing suits provides images of "desired end states," the use of athletic clothes provides images of motivation. Within the physician advertisement, the frequency of individuals wearing athletic clothes was approximately equal to that of the over-the-counter advertisements. This begins to reveal the messages that these prescription advertisements are trying to convey, which is that there must also be lifestyle changes in order for the product to be fully effective.

The occurrence of individuals in general was more prevalent in the over-the-counter and the direct to physician prescription advertisements. In terms of social depiction and demeanor, most individuals were depicted as happy or smiling within the advertisement. Less than half the time were they shown with no particular expression on their face and rarely were they ever shown as sad or stern (Table 5). The use of happy and smiling people shows the potential transformational effects of the product. Essentially through using happy and smiling people, the advertisement tells the consumer that they will be happier if they take this product. The use of the social depiction revealed over-the-counter and prescription direct to physician advertisements were more likely to depict individuals alone where as the prescription DTC advertisements were more likely to show individuals with other people.

The overall nature of appeal showed very little variation between the three classes of advertisements. Because each advertisement could potentially have more than one advertisement appeal, the following data represents the aggregate data regarding nature of advertisement appeal. For both direct to consumer and physician, 81.1 percent used a nature of appeal of informative/statistics & studies to inform the consumer or physician of their product. However, the over-the-counter firms used informative/statistics & studies to persuade the consumer 57.8 percent of the time. The firms of prescription weight-loss products used primarily safety, health, and nutrition and informative, statistics, and studies as their dominant advertisement appeals. The firms of the over-the-counter weight-loss products used a greater variety of nature of advertisement appeals as seen in Figure 6.

Hypothesis 3 Results

Advertisements directed toward physicians will contain more clinical trial data than the consumer directed advertisements. Furthermore with regards to the dissemination of risks, physician advertisements will contain more risks within the body of the advertisement than the consumer advertisements.

The use of effectiveness information in the form of clinical and anecdotal studies is a valuable tool for these firms. Figure 7 shows the frequency of which these firms use clinical and anecdotal studies to convey effectiveness information. Physician-direct advertisements of prescription weight-loss products in this sample used mainly clinical study data to show its effectiveness. Although these firms did use anecdotal studies to promote their product to physicians, the use of anecdotal data was a method used by firms selling over-the-counter weight-loss products. Ironically, the firms did not use these clinical studies to promote their product to consumers.

Figure 8 more specifically reveals the number of claims of effectiveness information disseminated within the advertisement. On average the prescription direct to physician advertisements presented 2.375 clinical study claims per advertisement. With regard to these claims, all of them cited that over 50% of the patients had at least a 5% weight-loss reduction in one year. The claims for mean weight-loss varied from 13.4 to 26 lbs in one year.

The use of anecdotal data within prescription direct to physician advertisements was found in two of the sixteen unique advertisements. Within these two advertisements, one cited a blood pressure drop from 160/80, which is considered hypertensive to 110/80 as well as a weight loss of 46 lbs. The other advertisement cited anecdotal evidence of an individual who lost 27 lbs.

The frequency of drug mechanism claims directed at both over-the-counter and prescription consumers are relatively the equal (Figure 9). However, the frequency of these claims is considerably higher for advertisements directed at physicians.

Risk information is very important when assessing the efficacy of a drug. Figure 10 displays the frequency of risk information per advertisement. On average the prescription products have more directives and side effects claims than the over-the-counter products. However within the prescription products, the consumer advertisements have more directive and side effect claims than the physician advertisements. Within consumer advertisements for prescription products, there is little variation regarding the frequency of risk information within the advertisements. The physician directed advertisements display more variation regarding the amount of disseminated risk information.

Hypothesis 4 Results

H₄: Based on the difference in regulations between prescription and over-the-counter drugs, advertisements for over-the-counter drugs will present more benefit information and less risk information than DTC advertisements of prescription drugs.

While the presentation of risk information is extremely important, the amount of benefit information disseminated is important to display the effectiveness of the weight-loss products. Figure 11 shows the occurrence of the risks and benefits per advertisements. The use of risk information is significantly greater for the prescription advertisements. Conversely, the claims of benefits per advertisement is 2.65 and 2.15 for physician directed advertisements and over-the-counter consumer advertisements respectively. The dissemination of benefit claims occurs 1.167 times per advertisement. From these frequencies the benefit risk ratio was determine. While the benefit/risk ratio

remains below 1 for prescription products, this ratio is 8.67 for the over-the-counter advertisements.

Hypothesis 5 Results

H₅: After the withdrawal of weight-loss products the pharmaceutical companies will try to advertise the benefits of their remaining over-the-counter products in comparison to those that were withdrawn from the market due to adverse side effects (or subjects to FDA warnings).

The number of safety claims and product differentiation claims are very important within this market given the potential for adverse events (Figure1). The withdrawal of Pondimin, Redux, and PPA brought a lot of attention to the weight-loss market. The use of safety claims reassures the patient that these products can factor due to the number of products that were recalled within this therapeutic class. The over-the-counter advertisements use 0.538 times per advertisements compared to the 0.1875 times per advertisement that are seen in prescription physician directed advertisements. There were no safety claims within the prescription DTC advertisements.

Although the safety claims provide a sense of reassurance, the presence of product differentiation has become an effective tool for advertising. In fact, the prescription DTC advertisements use this technique five times or 0.455 per advertisement. Claims include “And it’s unlike anything that came before” or “Unlike all other prescription weight-loss medications, which work on the central nervous system...” The prescription physician advertisements claim lower or no incidence of pulmonary hypertension or heart valve issues. The frequency of this type of claims occurred in three out of the 16 unique advertisements or 0.188 times per advertisements. Within over-the-counter advertisements, claims of the product having non-addictive chemicals or stimulants or containing chemicals other than PPA and Ephedra were seen as product

differentiation claims. The frequency per advertisement for over-the-counter products was 0.138, which means this technique was used in nine of the 65 unique advertisements.

9. Discussion

Firms act rationally to maximize their profits through maximizing the sales of their weight-loss products. In their advertising of weight-loss products, these firms are constrained by the way consumers react and the advertising regulations set by the FDA and the FTC. The purpose of this research was to assess the mechanisms used by firms to increase consumers' awareness of their product. Essentially when deciding to advertise, firms must decide the target audience and the visual and textual cues prior to placing an advertisement in a magazine.

Magazine placement has shown to be critical in efficiently targeting a specific audience. The target audience of these advertisements and the occurrence of these advertisements reveal a lot about the market for weight-loss products and firm behavior. The concentration of over-the-counter advertisement in *Glamour* and *Women's Day*, two magazines with predominantly female readership, further supports the idea that women are more concerned with their weight. Given the market for over-the-counter weight-loss products, these firms appear to be targeting female audiences because of their increased propensity to use weight-loss products. According Blanck et al. (2001), females are 4.9 times more likely to use weight-loss products than males. While the firms of over-the-counter advertising chose a select niche of magazines to advertise in, the prescription direct to consumer firms for weight-loss advertising appears to have a broader focus in terms of advertising to a specific group. These firms chose *People* and *US News and World Report* to advertise strongly in, which has a much larger male readership compared to the *Glamour* and *Woman's Day*. This trend toward advertising to a broader

audience follows the general market for prescription weight-loss products as discussed by Cawley and Rizzo (2005) and Blanck et al. (2004).

Although, this trend is not fully supported through the testing of hypothesis one, the direction of the relationships were as expected, but the strength of the correlation was not high enough to establish any trends. The correlations of pictures of individuals within the advertisements and the race of the readership population begin to show the relationship between the appeal of the advertisement and the target audience of the advertisements. The over-the-counter advertisements were fairly skewed in their presentation of individuals. In fact, of the 84 appearances of over-the-counter advertisements, 47 females and 9 males were shown. Of these individuals, 50 were white (6 could not be identified due to the quality of the scanned advertisement on file). The lack of variation introduces an inability to determine whether these advertisements would change if they were to be placed in other magazines. Furthermore, the absence of advertisement in selected magazines, like Jet and Ebony reveal the firms' decision to advertise to certain population. Given the evidence of the individuals within the advertisement, the target audience for these over-the-counter products is primarily white female women.

Similar to the OTC correlation results, the correlation for prescription DTC advertisements between the presentation of white individuals within the advertisement and the readership being white was not as high enough to have confidence for any conclusions to be made about firms' decisions. The firms' decisions to use images of people were very selective and were limited usually to female patients. This is mainly due to relatively few prescription advertisements that chose to use images of people.

Furthermore, a few advertisements for Xenical used infants within their advertisements who in some ways play a role in eliciting a response from females. The other reason is that in the one unique advertisement that appeared three times, a female patient was presented with a male physician. Consequently to say that this individual is part of a marketing technique that is aimed at male readers is hard to believe. In fact this advertisement is aimed largely at females because in addition to the image of the interaction between the female patient and the male physician, there is an image of a baby with the tagline, “In the beginning, your weight was in the capable hands of your doctor. It still should be.” The target audience of this advertisement is middle-aged women, but the theme is to ask your physician about this prescription product.

Overall, there was a trend of firms attempting to target a population, but there appears to be a visual or textual cue exogenous of the individuals within the advertisements. While these correlations results reveal general trends, the firms appear to be selectively choosing their magazines according to readerships. An analysis of the occurrence of advertisements in select magazines between 1985 and 2002 revealed the shift between 1994 and 1995 from *Cosmopolitan* to *Glamour* that is not fully explained by a change in target audience. In 1994, the Dietary Supplement Health and Education Act moved the burden of proving the safety of the dietary supplements to the firm rather than the FDA (P.L. 103-417 §8)³. The effect of this change has caused an increase in the number of dietary supplements claiming weight-loss effects and about a 10-20% annual increase in the number of products marketed as a weight-loss product between 1997 and 2001 (Cleland et al., 2002).

³ P.L. 103-417 §8 – Dietary Supplement Health and Education Act of 1994

Coinciding this shift in magazine placement, the advertisements also became shorter after 1994. According to Cleland et al. (2002), the number of actions taken by the FTC for deceptive advertising increased from nine in the 1980s to 81 in the 1990s. This increase begins to explain the FTC regulatory power in its ability to alter firm advertising behavior and may also explain the rise in advertisement under one page. The use of advertisements less than one page may be a reaction to the FTC's action against the industry. With a shorter advertisement, the amount of information disseminated decreases along with the claims, which may begin to reduce the false or misleading claims. Unfortunately, this does not fully explain the shortening of the advertisements because the absence of pertinent product information can also be considered false or misleading. Consequently, the firms' decisions to shorten advertisements are not fully explained by the market conditions.

The differences in the regulations of advertising have led to prescription product advertisements to be significantly longer. As discussed previously, the dissemination of all risks indirectly requires that all advertisements be at least two pages, one page for the actual advertisement and then a second page of fine print disclosing all the risks (Table 3). The FDA regulations establish rules, which attempt to protect consumers from false and misleading advertising, but at the same time increase the firms' advertising costs. This appears to result in little variation among the prescription advertisements. For example, of the three Meridia DTC advertisements, all three show slightly different images of plates half full, but the main text of the advertisement is essentially the same for each advertisement, despite changes in the images of the products. Similarly, five unique advertisements for Xenical are virtually identical with the exception of the

number of pages of the advertisement and some minor changes which includes “Do not take if you are taking cyclosporine” to “See your physician if you are taking cyclosporine.” The regulatory environment surrounding prescriptions products limits the number of unique advertisements in this market, which can be seen by the minor alterations of these advertisements. The costs for firms to create new unique advertisements are relatively large given the need to comply with all of the FDA regulations for print advertising.

The systematic differences in length of advertisements, not only affect the costs to the firm, but also reveal the amount of information presented to the consumer. Table 3 displays the use of textual and visual cues across the three classes of advertisements, but this reveals little about the advertising mechanisms revealed. Hypothesis 2 and 3 assess to see whether these regulations have an affect on whether or not these regulations have an effect on the information disseminated to the consumer. Hypothesis 2 was supported due to the absence of bathing suits in the prescription advertisements. Clothing on an individual in these advertisements has the ability to show the potential effectiveness of the product by showing “desired end states”(Roth, 2003; Welch Cline & Young, 2004). The use of bathing suits and/or athletic and workout clothes shows the transformative power of the product, meaning this product has the ability to make me look like her. While the use of athletic clothes displays that the consumer will be motivated or have the energy to be like her if this product were taken. The use of transformative messages appear follow the course of the peripheral route according to Petty and Cacioppo (1983) which in their analysis appeared to be more effective in eliciting a response from individuals. It is hard to determine whether this is an effect of the regulations or a

voluntary choice by the prescription firms, but the use of bathing suits appears to be an important aspect to consider when assessing these advertisements.

Social depiction as well as the demeanor of the individual is also extremely important. Social depiction is very powerful in its ability to improve brand awareness through transformative cues (M.S. Roth 2003). The use of social cues and social depiction is further supported in research from Schooler et al. (1996) regarding the use of social depiction on billboard advertisements for alcohol and smoking products.

According to Bandura's (2001) theory of observational learning, the potential for social depiction to elicit a response by a consumer to either purchase a product or to ask their physician makes the social depiction within an advertisement very important. If the advertisement happens to make a connection with an individual by providing an image of her "desired end state" and if the consumer can identify with the advertisement or the individuals within the advertisement, the effectiveness of the increases substantially as the probably the consumer will move to acting on the advertisement increases. Because of this evidence, it is also not surprising to find that not one person within the advertisements were seen as sad/stern (only examining the after image of a before and after image). The only occurrence of a sad/stern face was in the before image of a before and after picture. This example classically shows the firms decisions to promote the transformative power of their product.

All of the claims within these advertisements result in an overall nature of ad appeal. The presence of these appeals provides an excellent summary of the advertisement claims and the manner in which the firms are attempting to elicit a response. Prescription advertisements tended to use the "safety, health, and nutrition"

and the “informative, statistics, and studies nature of ad appeals” because of the constraints imposed by the FDA regulations. Overall, the prescription firms are limited by the FDA regulations. Conversely, the freedom that over-the-counter products face reveals the possible potential for improving profits. The ability to use sex appeal and celebrity appeal are two major themes that have the potential to drastically change the over-the-counter market. As noted previously, Priester and Petty (2003) found that the use of a spokesman has the potential to improve brand awareness as well as increase retention of information. Though some other classes of prescription products have begun to use spokesmen, like athletes and celebrities, the weight-loss product market has rarely used these marketing strategies.

The use of transformative cues has been shown to be the most effective in improving consumer awareness, but the regulations require some textual cues regarding effectiveness and risks claims. In fact, the use of effectiveness information is especially important in maximizing profits. Although the presentation of this information may not be conducive or effective within advertising, firms are required to include this information and consequently attempt to differentiate their product through their effectiveness claims. Clinical study information is the most effective way prescription products show their effectiveness, yet due to the medical information that must be known to interpret these results, only the firms advertising to physicians choose to use this information. Within physician-directed advertisements, the use of clinical studies as a source of evidence occurred on average 2.375 times (Figure 8). The prevalence of this type of information aligns with Petty and Cacioppo’s theory of high involvement and central processes. An individual more specifically a physician will be more likely to

understand and rationally consider this information than a normal consumer because the physician has been trained to understand this type of information. In order to maximize the effectiveness of the dissemination of clinical study information, firms respond by targeting those populations who are highly involved and aware of the potential benefits, in this case physicians. While advertisements are not the only source of information for physicians, advertisements can improve product and manufacturer recognition.

The anecdotal evidence used within over-the-counter weight-loss products is sometimes the only information that the consumer receives. Compared to clinical study evidence, anecdotal data requires low involvement to understand and use for decision making. The use of this type of information targeted toward the less informed consumer (compared to physicians on average) is supported by Petty and Cacioppo (1981) in their description of the peripheral processes. The use of the type of information will attract individuals who are not willing to weigh the true costs and benefits of the product, but will base their decision on other factors like the individuals or the anecdotal data in the advertisement.

While the use of effectiveness information is largely important for a firm's decision, the use of mechanism information is prevalent in all three markets. Figure 9 show the variation between physician-directed advertising and direct-to-consumer advertising. The use of mechanism images to depict the location of action was seen in 76.7% of the physician-directed advertisements. For Meridia, this usually included images of neurotransmitters and the way sibutramine blocks the reuptake of norepinephrine and serotonin or an image of the brain pointing to the location of the appetite control center. For Xenical, the mechanism images were of triglyceride

molecules with the drug Orlistat binding to these molecules and preventing them from being absorbed in the intestines. The presentation of these images within the physician advertisements displays the firms' use of different marketing strategies based on aspects other than race and gender, in this case education level.

The presentation of risk information in these advertisements is very important in warning both the consumer and physician of the potential hazards of using the product. Due to regulation differences, there is a large difference between the dissemination of risk information for over-the-counter and prescription weight-loss products. According to the FTC, as long as the advertisement presents truthful information in a non-deceptive or misleading way then it complies with their regulation. However, any omitted information that results in a misleading claim is seen in violation of the FTC regulations. Based on this information, these regulations allow for more freedom in the presentation of information, specifically risk information, which can be seen in Figure 10.

Prescription advertising faces a much different regulatory authority. The FDA regulations state that all risks within the drugs label must be presented in a manner that displays "fair-balance." The difference in the presentation of risk information between the consumer directed and the physician directed advertisements lies mainly in the number of directives that must be disclosed to the consumer. These include major contraindications, "use in conjunction with diet and exercise," "tell your doctor if you have ____ condition," "this product is not intended for everyone," and "see your doctor for more information about this product." These directives increase the cost of advertising by essentially requiring the length of the advertisement to be longer to accommodate these directives. While the direct-to-consumer advertisements use these

directives to ensure proper usage of the products, the direct-to-physician advertisement acknowledge that the physicians are the providers of care for the consumers and essentially act as a gatekeeper – determining appropriate use for the product. Consequently, fewer, but more specified and technical directive information is provided to physicians.

While the number of directives presented in the consumer advertisements is substantially larger, the variation in the number of side effects is larger for physician advertisements. Upon further analysis of these advertisements, the use of clinical data was used to present the occurrence of side effects. While the dissemination of these side effects is considered risk information, the manner in which they were presented makes them more of a benefit. Using the comparison to the placebo trials, the firms were able to use the requirement of the stating the risks of the product label to promote some of the benefits of their product, in this case the low occurrence of side effects. Consequently, much of the risk information presented within physician advertising could be considered benefit information because they were claiming a low-incidence of side effects.

The dissemination of side effects is essential to maintain a market that depends on information. While this information may reduce the effectiveness of the advertisements, the firms are required to provide this information under the “fair-balanced” clause of the FDA guidelines. The frequency table shows that the risk information is nearly double the frequency of benefit information per advertisement for prescription products (Figure 11). Given the FDA regulatory policy, and the relative nature of these products, these firms may have more room to advertise the benefits of their product, given the fact that their benefit-risk ratio is well below 1. In fact, the prescription DTC advertisements only

claim that the product will help you lose weight and keep weight off. In all 11 unique advertisements, neither of the firms chose to advertise their clinical studies. Yet due to the nature of this market and the recent withdrawals of Redux and Pondimin, these two firms may be waiting for more phase IV clinical trials to improve their claims and more efficiently promote their product.

With the withdrawals of Redux and Pondimin from the prescription market and PPA from the over-the-counter market, the overall market for weight-loss products has seen a dramatic decrease in sales and prescriptions written. In addition to these withdrawals, the warnings about ephedra further exacerbate the market conditions for weight-loss products. As a result of these withdrawals and warnings, some firms have responded by providing safety claims and/or product differentiation claims. With respect to prescription DTC advertisements, the firms appeared to have responded to these market conditions by differentiating their product from the withdrawn products. Consequently, Xenical used the statement “Unlike all other prescription weight-loss medications, which work on the central nervous system...” and Meridia stated “And it’s unlike anything that came before.” Within physician directed advertisements, the lack of clinical diseases like pulmonary hypertenstion or heart valve disease associated with Redux and Pondimin were cited as evidence for increased safety and for product differentiation. Meridia also claims (within its physician directed advertisements) that it is well-tolerated by 4600 patients in 1998 and 1 million patients in 1999. Firms attempt to separate their product from the withdrawn product to recoup the market share lost during the recalls in 1997.

The over-the-counter firms mainly use: claims of non-addictive, contains no stimulant, or does not disrupt metabolism to present an image of a safe product. While these safety claims are evident in this market (Figure 12), the use of product differentiation claims is not absent. The inclusion of ingredient names is the major way these products attempt to differentiate from ephedra and PPA. Consequently, firms claim their products have the GAFA complex, Chromium Picolinate, Pyruvate, or L-Camatine in order to show that their products are different from PPA and ephedra.

The withdrawal of Redux, Pondimin and PPA has severely damaged the market for weight-loss products. The use of product differentiation is a means to regain the market share lost due to these withdrawals.

The rise in obesity poses a large problem for the United States. With most attempts to lose weight failing, the need to find an effective therapy is becoming necessary to curb the costs of obesity and its co-morbid conditions. The use of weight-loss products provides a potential solution to this growing problem. This analysis of the marketing techniques for weight-loss products sheds some light into the ways these firms choose to increase their sales. The potential benefit of these products to reduce the prevalence of obesity exists to an extent, but some of these products have debilitating and fatal effects, yet individuals still chose to take these products. The potential risks associated with these products are important to consider when analyzing these advertisements.

The information taken from this research reveals vital information to the way firms respond to the market. From this information, it is clear that firms of prescription products are at a severe disadvantage when compared to firms producing OTC

advertisements. The techniques that Roth (2003) explained to increase consumer responsiveness are absent in this class of drugs. Furthermore, the use of visual and textual cues that elicit peripheral route cognitive processes (Petty et al., 1983) are absent in the prescription market. Furthermore, Roth (2003) also found that disease, symptom, and risk information was ineffective in recall, though the main mechanisms used in the advertising of prescription weight loss products was predominantly, risk and side effect information.

As we compare these OTC and prescription market, we see that the OTC market is not constrained as heavily by the FTC regulations. The lack of specificity in the FTC regulation allows for a broader interpretation and thus allows for a larger variety of advertisements. The firms' use of more attractive individuals and anecdotal information display their rational decision to show "desired end" states, which plays a significant role in influencing consumers. While the OTC products are not required to disclose all the risks and side effects, they do have the responsibility to include some statement regarding the potential risks because a failing to disclose vital information can be considered a form of deceptive advertising. Future research should begin to look at the advertising behavior of firms whose products have gone from prescription to OTC to analyze the difference in claims based on regulation. With Xenical now available in the OTC form, research in this specific market may be feasible within the next few years.

This research begins to reveal the main messages these firms are attempting to convey to the consumer. Unfortunately, due to the qualitative nature of this research, all conclusions are suggestive, though this research introduces the marketing methods used by these firms to persuade consumers to purchase their product. Given the safety of these

products, there is a need to consider the potential implications of using these products.

The growth of advertising has increased the amount of information available to consumers, which has both positive and negative effects. Calfee (2002) states that DTC advertising has improved the consumers' awareness of products related to their diseases, which has placed the burden of the decision on the physician. Furthermore, the growth of the OTC market has removed the physician from some of the decision process as individuals may move from prescription products to over-the-counter products.

With the rise in prevalence of obesity, the potential for individuals to begin pursuing these products rises. With the risks associated with some of the products, the potential for adverse events rises as individuals are attracted to the OTC products that do not require physician supervision. As this market continues to grow, especially with products like Xenical moving into the OTC market, the advertising of weight-loss products may begin to serve as a benefit if the physician is included as a safety mechanism to reduce the potential risks of these products.

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Table 1. Occurrence of Advertisements within SCADS Archive

	OTC DTC	Prescription DTC	Prescription DTP
Advertisement Appearances (1985-2003)	392	84	95
Advertisement Appearances (1997-2003)	75	84	95
Unique Advertisement (1985-2003)	177	11	16
Unique Advertisements (1997-2003)	65	11	16

Table 2. Overall Readership Data for Direct to Consumer Advertising of Weight-Loss Products

		Over-the-Counter DTC	Prescription DTC
Gender	Female	81.81%	65.35%
	Male	18.19%	34.65%
Race	Asian	2.44%	2.96%
	Black	11.62%	10.44%
	Hispanic	11.29%	10.20%
	Other	3.93%	3.62%
	White	73.16%	75.73%
Age	18-24	18.15%	11.44%
	25-39	35.85%	29.52%
	40-64	35.30%	42.27%
	65+	10.70%	16.76%
Education	Less than HS	13.35%	12.38%
	HS Graduate	33.17%	32.70%
	Some College	31.31%	28.73%
	College Graduate or higher	22.18%	26.19%

Table 2 was developed using the average readership of a magazine in which a weight-loss advertisement was placed in. The average number of readers that fell into each readership characteristic was found and divided by the average number of readers across all magazines to find the percentage.

Table 3. Characteristics of Advertisements by class of weight loss product and target audience

	OTC DTC	Prescription DTC	Prescription DTC
Advertisement Lengths (Frequency)			
>1 Page	41	0	0
Width (average (in))	3.80	0	0
Length (average (in))	3.41	0	0
1 page	24	4	5
2 page	0	6	2
3 Page	0	1	7
4 Page	0	0	0
> 4 Pages	0	0	2
Directive Page Lengths (Frequency)			
1 Page	0	10	16
2 Page	0	0	0
3 Page	0	1	0
Product Types (Occurrence per advertisement)			
PRODUCT NOT SPECIFIED	0.21	0.00	0.00
CAPSULE	0.22	1.00	1.00
TABLET	0.02	0.00	0.00
CREAM	0.06	0.00	0.00
SHAKE	0.14	0.00	0.00
BAR	0.08	0.00	0.00
CAPLET	0.10	0.00	0.00
PILL UNSPECIFIED	0.37	0.00	0.00
Ad Visuals (Occurrence per advertisement)			
PICTURE	0.81	0.73	0.81
PRODUCT	0.90	0.73	0.44
TEXT	0.94	1	1
CHART	0.04	0	0.31
TESTIMONIAL	0.05	0	0.13
CUTOUT	0.04	0	0

Table 3. (Continued)

Individuals with the Advertisements

**# Before and After Images
(Number of Occurrences)**

Gender			
Male	7	0	0
Female	4	0	0
Race			
White	11	0	0
Cannot be identified	0	0	0
Age			
Adult	11	0	0

Other individuals (Not before and after images)

(Number of occurrences)

Gender			
Male	5	1	6
Female	36	1	7
Cannot be identified	1	2	0
Race			
White	35	2	12
Black	0	0	1
Cannot be identified	7	0	0
Age			
Adult	42	2	13
Infant/Child	1	2	0
Cannot be identified	1		0
Demeanor			
Sad/Stern			
No Particular			
Expression			
Happy/Smiling		4	12
Clothing			
Athletic/Workout		0	1
Bathing Suit		0	0
Casual		2	11
Dress Up		0	1
Social Depiction			
Alone		2	10
With Other People		2	3

* Note: All frequencies are taken from the unique advertisements because we are measuring the firms' overall decisions. Their decisions to place each advertisement in a particular magazine is measured in hypothesis 1 and any analysis pertaining to readership data.

Table 4. Correlation of Readership by Individuals depicted within Advertisements

	White	Black	Asian	Other	Hispanic
Over-the-Counter (White Individuals Presented within Advertisements)	0.264 0.015	-0.313 0.004	-0.139 0.210	-0.242 0.027	-0.183 0.095
Prescription DTC (White Individuals Presented within Advertisements)	0.514 <0.0001	-0.45690 <0.0001	-0.445 <0.0001	-0.47701 <0.0001	-0.281 <0.0145

Note: The table above represents Pearson correlation statistics where rho is the top value and the p-value is indicated as the lower value. Correlations were conducted for only white individuals presented within advertisements because only white individuals were found in these advertisements. Only in the direct to physician advertising were individuals of races other than Caucasian used.

Table 5. Individual Attributes (Average Frequency per Advertisement)

	Over the Counter		
	DTC	Prescription DTC	Prescription DTP
Sad/Stern	0.00	0.00	0.000
No Particular Expression	0.277	0.364	0.063
Happy/Smiling	0.539	0.000	0.063
Athletic/Workout Clothes	0.139	0.000	0.333
Bathing Suit	0.415	0.000	0.000
Casual	0.169	0.182	0.688
Dress Up	0.092	0.000	0.063
Alone	0.646	0.000	0.182
With Other People	0.169	0.000	0.182

Table 6 – Readership Data

Note: The data provided below is readership data for each magazine in which firms placed advertisements in. This data is aggregate data

Year	Magazine	Female	Black	Asian	Other	Hispanic	White
1997							
	Glamour	78.82%	13.60%	2.37%	6.15%	11.65%	68.60%
	Woman’s Day	82.51%	9.88%	0.56%	2.43%	6.70%	80.99%
1998							
	Glamour	84.45%	13.41%	3.79%	4.68%	14.83%	67.08%
	McCall’s-Rosie	84.95%	11.95%	1.59%	2.12%	8.52%	77.41%
	Woman’s Day	85.66%	9.91%	1.55%	2.10%	6.65%	81.35%
1999							
	Better Homes and Garden	78.62%	11.07%	2.57%	3.24%	7.95%	77.74%
	Cosmopolitan	80.78%	11.20%	2.88%	3.98%	15.63%	69.18%
	Family Circle	90.29%	8.04%	1.16%	1.83%	7.35%	82.77%
	Glamour	87.28%	12.99%	3.25%	4.43%	14.84%	67.73%
	McCall’s-Rosie	88.44%	10.97%	1.61%	2.37%	9.48%	77.18%
	Newsweek	46.94%	10.30%	4.35%	5.13%	9.10%	75.47%
	People	66.48%	9.96%	2.75%	3.44%	10.94%	75.64%
	Reader’s Digest	61.68%	9.45%	2.49%	3.21%	7.74%	79.60%
	Sports Illustrated	23.63%	12.99%	2.29%	3.05%	11.78%	72.17%
	Time	49.17%	12.15%	4.66%	5.45%	10.74%	75.35%
	TV Guide	56.32%	15.24%	2.32%	3.05%	10.96%	71.67%
	US News and World Report	40.41%	9.70%	3.95%	4.58%	8.66%	70.75%
	Vogue	80.68%	17.62%	5.42%	6.39%	15.23%	77.07%
	Woman’s Day	93.07%	8.97%	1.40%	2.06%	7.55%	60.75%
2000							

Year	Magazine	Female	Black	Asian	Other	Hispanic	White
2000							
(Cont)							
	Better Homes and Gardens	79.69%	10.54%	2.55%	3.21%	9.94%	76.30%
	Cosmopolitan	82.23%	10.59%	3.49%	4.14%	16.79%	68.49%
	Family Circle	89.28%	8.01%	1.55%	2.19%	8.09%	81.70%
	Glamour	87.19%	11.58%	4.16%	4.84%	14.72%	68.86%
	Good Housekeeping	87.36%	10.69%	1.84%	2.44%	8.77%	78.10%
	McCall's-Rosie	89.37%	13.50%	1.95%	2.44%	8.79%	75.27%
	Newsweek	46.15%	10.35%	4.57%	5.24%	10.27%	74.14%
	People	67.36%	9.65%	3.50%	4.13%	11.66%	74.56%
	Time	48.79%	10.80%	4.92%	5.79%	11.38%	72.03%
	TV Guide	57.69%	13.77%	2.95%	3.66%	11.46%	71.11%
	US News and World Report	38.79%	11.32%	4.54%	5.32%	11.48%	71.88%
	Woman's Day	92.24%	9.81%	1.70%	2.27%	8.87%	79.05%
2001							
	Cosmopolitan	83.80%	14.16%	3.77%	4.45%	15.36%	66.03%
	Family Circle	91.67%	7.14%	1.37%	1.71%	8.58%	82.57%
	Good Housekeeping	88.53%	10.01%	1.60%	2.21%	8.01%	79.77%
	People	68.12%	8.43%	2.67%	3.08%	10.73%	77.75%
	Rolling Stones	46.73%	9.77%	2.94%	3.65%	14.11%	72.47%
	Sports Illustrated	22.57%	12.50%	2.43%	2.88%	10.64%	73.98%
	Woman's Day	94.15%	9.47%	1.80%	2.46%	7.55%	80.52%
2002							
	People	69.98%	8.82%	3.16%	3.68%	10.31%	77.20%
	Vogue	80.85%	17.98%	6.73%	7.53%	16.75%	57.74%
	Woman's Day	93.12%	8.06%	1.43%	1.97%	10.48%	79.49%

Table 6

YEAR	MAGAZINE	FEMALE	BLACK	ASIAN	OTHER	HISPANIC	WHITE	LESS THAN HS GRAD	HIGH SCHOOL GRAD	SOME COLLEGE	AT LEAST COLLEGE GRADUATE
1995											
	Cosmopolitan	0.66	0.13	0.03	0.05	0.11	0.71	0.12	0.31	0.35	0.22
	Glamour	0.74	0.15	0.03	0.05	0.11	0.69	0.14	0.33	0.32	0.21
1996											
	Cosmopolitan	0.68	0.13	0.03	0.05	0.11	0.71	0.12	0.31	0.35	0.22
	Glamour	0.77	0.16	0.03	0.05	0.10	0.69	0.12	0.33	0.33	0.22
1997											
	Cosmopolitan	0.72	0.13	0.02	0.06	0.12	0.70	0.12	0.30	0.34	0.24
	Glamour	0.79	0.14	0.02	0.06	0.12	0.69	0.13	0.31	0.33	0.24
1998											
	Cosmopolitan	0.78	0.11	0.04	0.05	0.15	0.69	0.13	0.30	0.34	0.23
	Glamour	0.84	0.13	0.04	0.05	0.15	0.67	0.13	0.31	0.33	0.23
1999											
	Cosmopolitan	0.81	0.11	0.03	0.04	0.16	0.69	0.11	0.31	0.34	0.23
	Glamour	0.87	0.13	0.03	0.04	0.15	0.68	0.12	0.30	0.34	0.24
2000											
	Cosmopolitan	0.82	0.11	0.03	0.04	0.17	0.68	0.13	0.32	0.33	0.23
	Glamour	0.87	0.12	0.04	0.05	0.15	0.69	0.13	0.31	0.32	0.24
2001											
	Cosmopolitan	0.84	0.14	0.04	0.04	0.15	0.66	0.12	0.28	0.37	0.23

YEAR	MAGAZINE	FEMALE	BLACK	ASIAN	OTHER	HISPANIC	WHITE	LESS THAN HS GRAD	HIGH SCHOOL GRAD	SOME COLLEGE	AT LEAST COLLEGE GRADUATE
2002											
	Glamour	0.89	0.13	0.03	0.04	0.12	0.70	0.12	0.30	0.35	0.24
	Cosmopolitan	0.82	0.10	0.03	0.04	0.15	0.70	0.10	0.33	0.33	0.24
	Glamour	0.88	0.13	0.04	0.04	0.15	0.67	0.09	0.31	0.34	0.26
2003											
	Cosmopolitan	0.81	0.10	0.05	0.06	0.13	0.70	0.12	0.29	0.34	0.25
	Glamour	0.87	0.12	0.05	0.06	0.12	0.70	0.10	0.31	0.35	0.25
2004											
	Cosmopolitan	0.84	0.09	0.05	0.07	0.12	0.72	0.08	0.27	0.37	0.27
	Glamour	0.89	0.16	0.06	0.08	0.12	0.64	0.10	0.28	0.34	0.28

Table 6 (Continued)

YEAR	MAGAZINE	Income Quintile 1	Income Quintile 2	Income Quintile 3	Income Quintile 4	Income Quintile 5	AGE 18-24	AGE 25-39	AGE 40-64	AGE 65+
1995										
	Cosmopolitan	0.21	0.13	0.19	0.17	0.30	0.20	0.42	0.31	0.07
	Glamour	0.23	0.14	0.17	0.16	0.30	0.25	0.43	0.28	0.04
1996										
	Cosmopolitan	0.22	0.14	0.18	0.16	0.30	0.22	0.42	0.28	0.08
	Glamour	0.23	0.13	0.18	0.15	0.31	0.25	0.43	0.27	0.04
1997										
	Cosmopolitan	0.21	0.15	0.21	0.15	0.28	0.24	0.40	0.29	0.07
	Glamour	0.22	0.15	0.20	0.14	0.28	0.25	0.42	0.27	0.06
1998										
	Cosmopolitan	0.22	0.21	0.17	0.17	0.23	0.23	0.39	0.31	0.06
	Glamour	0.22	0.24	0.16	0.16	0.22	0.25	0.42	0.28	0.05
1999										
	Cosmopolitan	0.27	0.17	0.14	0.25	0.17	0.26	0.39	0.29	0.06
	Glamour	0.26	0.17	0.14	0.24	0.19	0.27	0.41	0.26	0.05
2000										
	Cosmopolitan	0.23	0.20	0.10	0.26	0.21	0.28	0.38	0.28	0.06
	Glamour	0.22	0.20	0.08	0.27	0.22	0.28	0.39	0.28	0.05
2001										
	Cosmopolitan	0.30	0.14	0.20	0.15	0.22	0.30	0.39	0.26	0.05
	Glamour	0.29	0.14	0.22	0.15	0.21	0.26	0.43	0.26	0.05

YEAR	MAGAZINE	Income Quintile 1	Income Quintile 2	Income Quintile 3	Income Quintile 4	Income Quintile 5	AGE 18-24	AGE 25-39	AGE 40-64	AGE 65+
2002										
	Glamour	0.29	0.14	0.18	0.14	0.25	0.31	0.36	0.30	0.03
	Cosmopolitan	0.27	0.15	0.19	0.14	0.25	0.29	0.36	0.31	0.05
2003										
	Cosmopolitan	0.25	0.16	0.18	0.16	0.26	0.28	0.38	0.28	0.06
	Glamour	0.24	0.17	0.18	0.16	0.25	0.27	0.39	0.30	0.04
2004										
	Cosmopolitan	0.20	0.22	0.21	0.12	0.25	0.27	0.37	0.31	0.05
	Glamour	0.24	0.19	0.17	0.13	0.26	0.26	0.37	0.31	0.06

Table 7.

MAG	YEAR	PRODUCT	< 1 page	1 Page
Cosmopolitan	Total		15	101
	1988	Dexatrim2	0	2
		Grapefruit Herbal Diet2	0	2
		Trimolite	0	9
		Dietol-72	0	7
		Sure Cure2	7	0
		Total Diet Plan2	0	3
		Cal-Ban 3000	0	7
		Acutrim2	0	5
		Sure Cure II	2	0
		Dexavall 2001	0	2
		The Final Diet	0	2
		Successfully Slim	1	0
		Bio-Trim	0	2
		Nutrim	1	0
		Maximum Weight-Loss Diet Plan	0	1
	1989	Trimolite	0	4
		Sure Cure2	1	2
		Cal-Ban 3000	0	3
	1990	Dexatrim2	0	3
		Cal-Ban 3000	0	1
		SIO	0	1
	1991	Dexatrim2	0	4
	1992	Dexatrim2	0	4
	1993	Dexatrim2	0	1
		Cybertrim	0	1
		Acu-Stop 2000	0	2
		Lipo/Trim	0	3
		Quick Trim	0	3

MAG	YEAR	PRODUCT	< 1 page	1 Page
Glamour			99	36
	1987	Thinz2	0	1
		Acutrim2	0	4
	1989	Dexatrim2	0	3
	1993	Dexatrim2	0	2
		Thermo Blend Fat Burner	2	0
		Citrium	1	0
		Citramax	2	0
		Super Diet Max	2	0
		CitriGold	1	0
		Ellotrim	1	0
		Citramax Plus	3	0
	1996	Dexatrim2	0	2
		Six Day Bio Diet	3	0
		Thermo Blend Fat Burner	11	0
		Chroma Slim	3	1
		Chromatrim	1	0
		Citrus Slim	1	0
		Fat Burner	0	4
		Metrim	0	1
		Citrlean	1	0
		Energy Diet	1	0
		Bio-Safe	2	0
	1997	Thermo Blend Fat Burner	1	0
		Chroma Slim	0	2
		Ellotrim	3	0
		Bio-Safe	6	0
		Body Sculpture	4	0
	1998	Six Day Bio Diet	10	0

		Diet Max	0	2
		Cellulite Reduction System	0	1
		Metatrol	1	0
MAG	YEAR	PRODNUM	< 1 page	1 Page
Cosmopolitan	1993	Chromalite 3	0	1
		Nutrition 21	0	1
		LipoTrim	0	3
	1994	Chromatrim	1	0
		Quick Trim	0	2
		Chromalite 3	0	1
		Ultra Diet Pep	0	2
		Body Gold	1	0
		Cybergenic Quick Trim System	0	1
	1995	Dexatrim2	0	1
		Chroma Slim	0	3
		Metrim	0	1
		Lipo/Trim	0	2
		Meditrol	0	2
		Stay Trim	0	1
		Theraslim	0	1
	1996	Ultra Diet Pep	0	1
	2001	CarbSolutions	0	1

		Ellotrim	2	0
		Chromaslim Ultra	0	4
		Insta-Slim Gold	2	0
MAG	YEAR	PRODNUM	< 1 page	1 Page
Glamour	1998	Celebrity Diet	1	0
		48 Hour Miracle Diet	1	0
		Chromaslim Ultra	0	1
		Ultrapyruvate	0	1
		Fat Assassin	0	1
		Thyrolean	2	0
		Slimtan	1	0
		Power Diet System	1	0
		Lean Routine	1	0
		Weight Management System	1	0
		Chitosan	3	0
		Cheat & Eat	1	0
		FTF	1	0

Figure 1: Frequency of Over-the-Counter Advertisements by Magazine

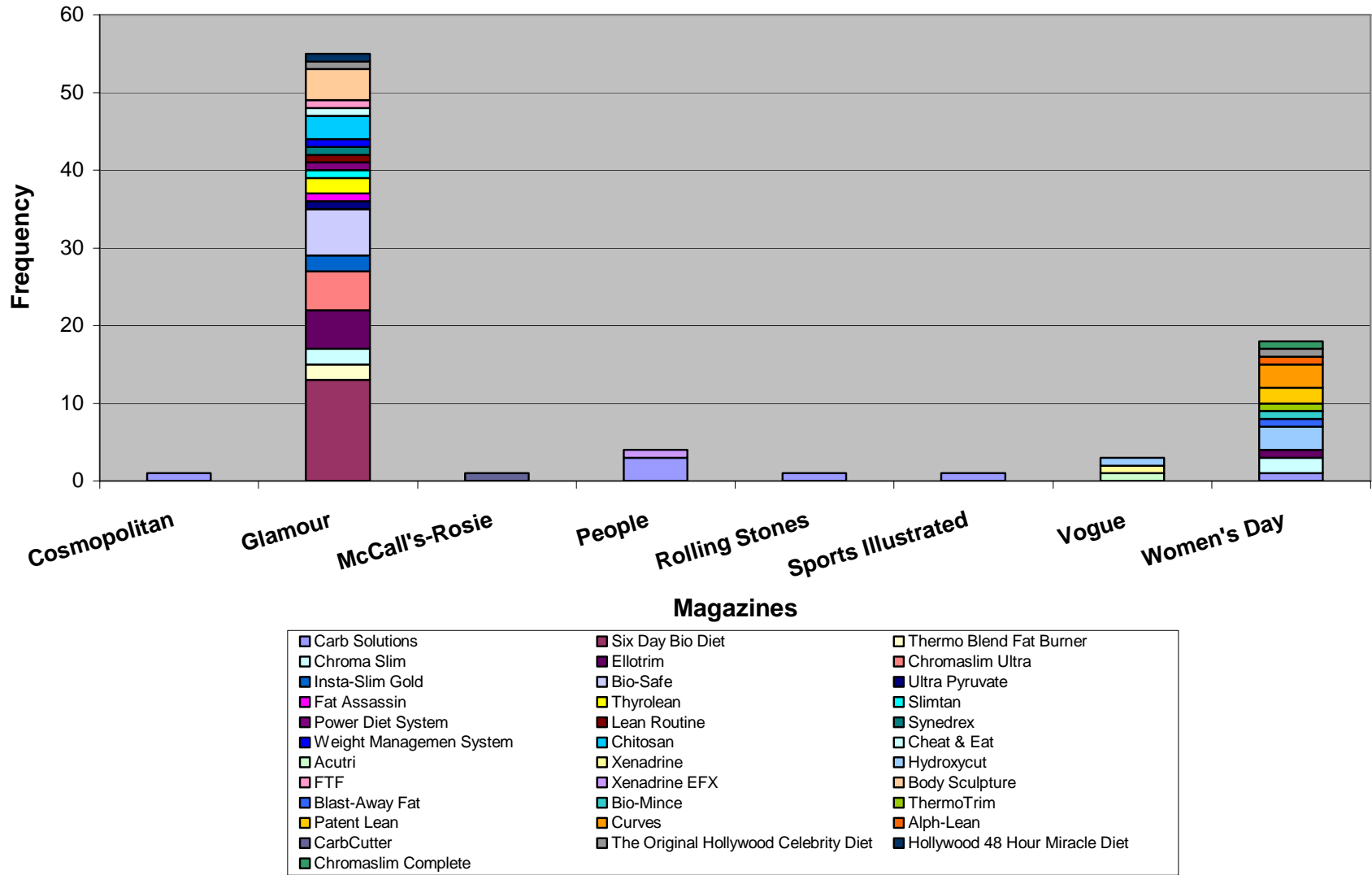


Figure 2: Appearance of Prescription DTC Weight-Loss Products by Magazine

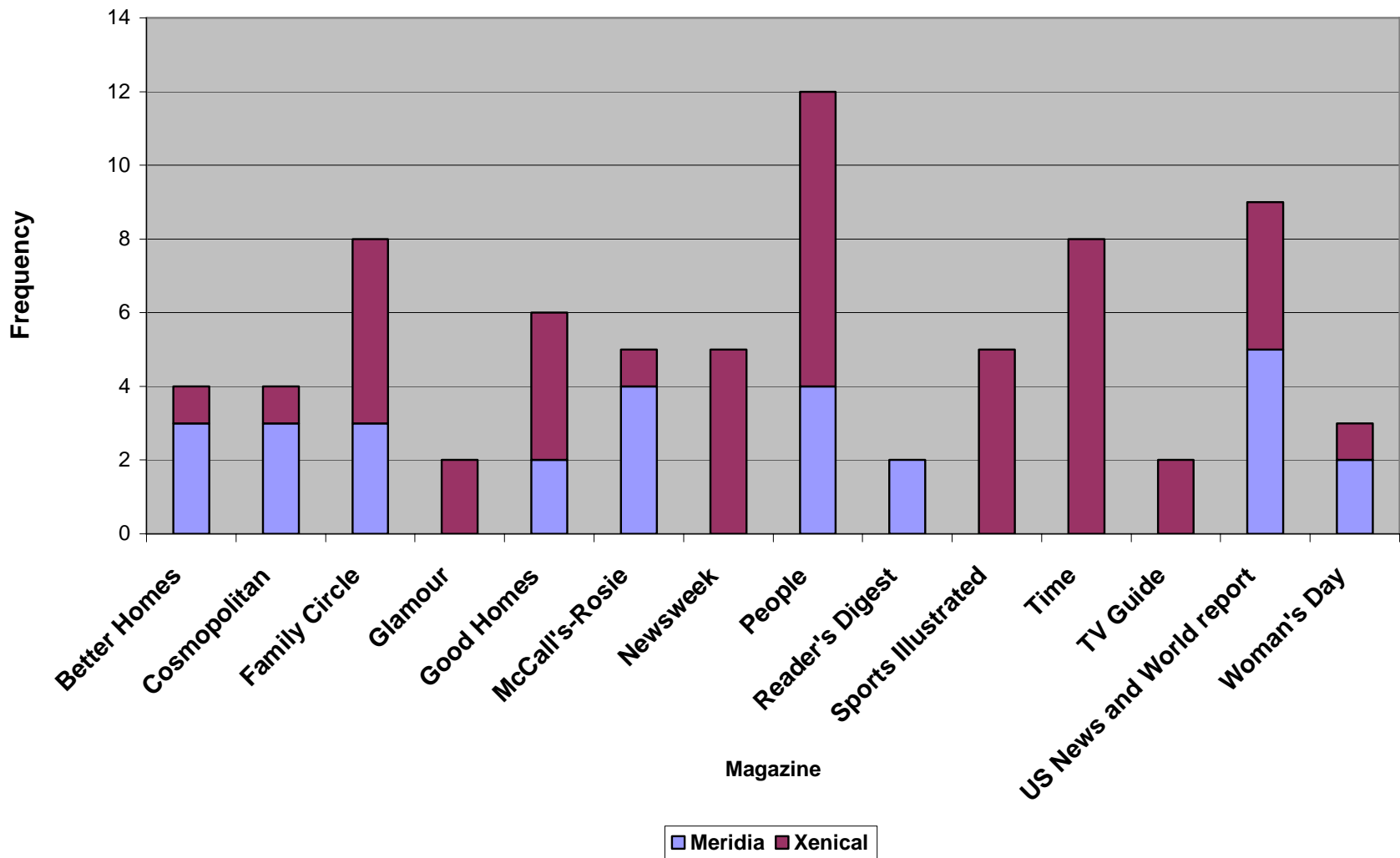


Figure 3: Frequency of Over-the-Counter Advertisements by Year

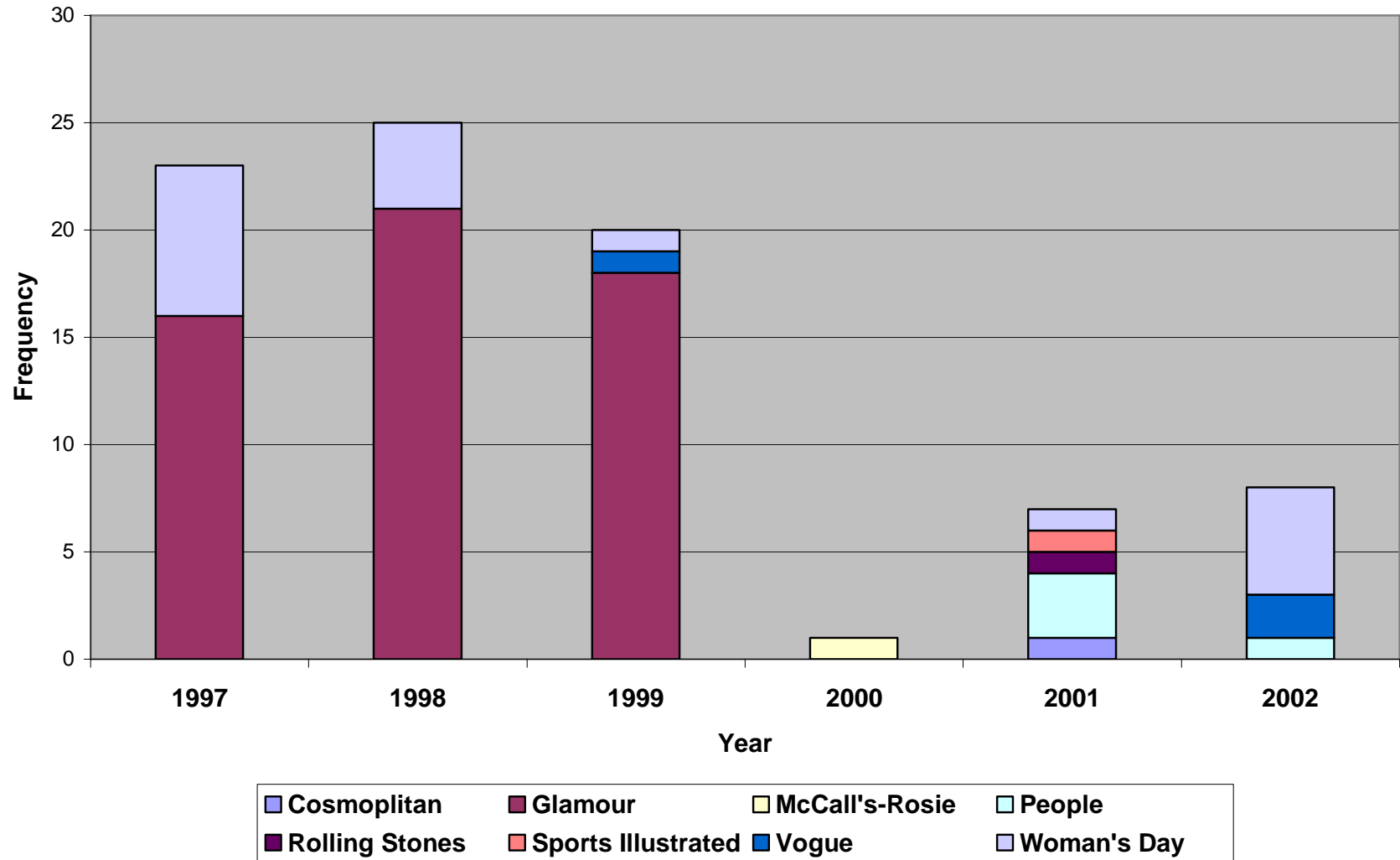


Figure 4: Frequency of Prescription Advertisements by Year

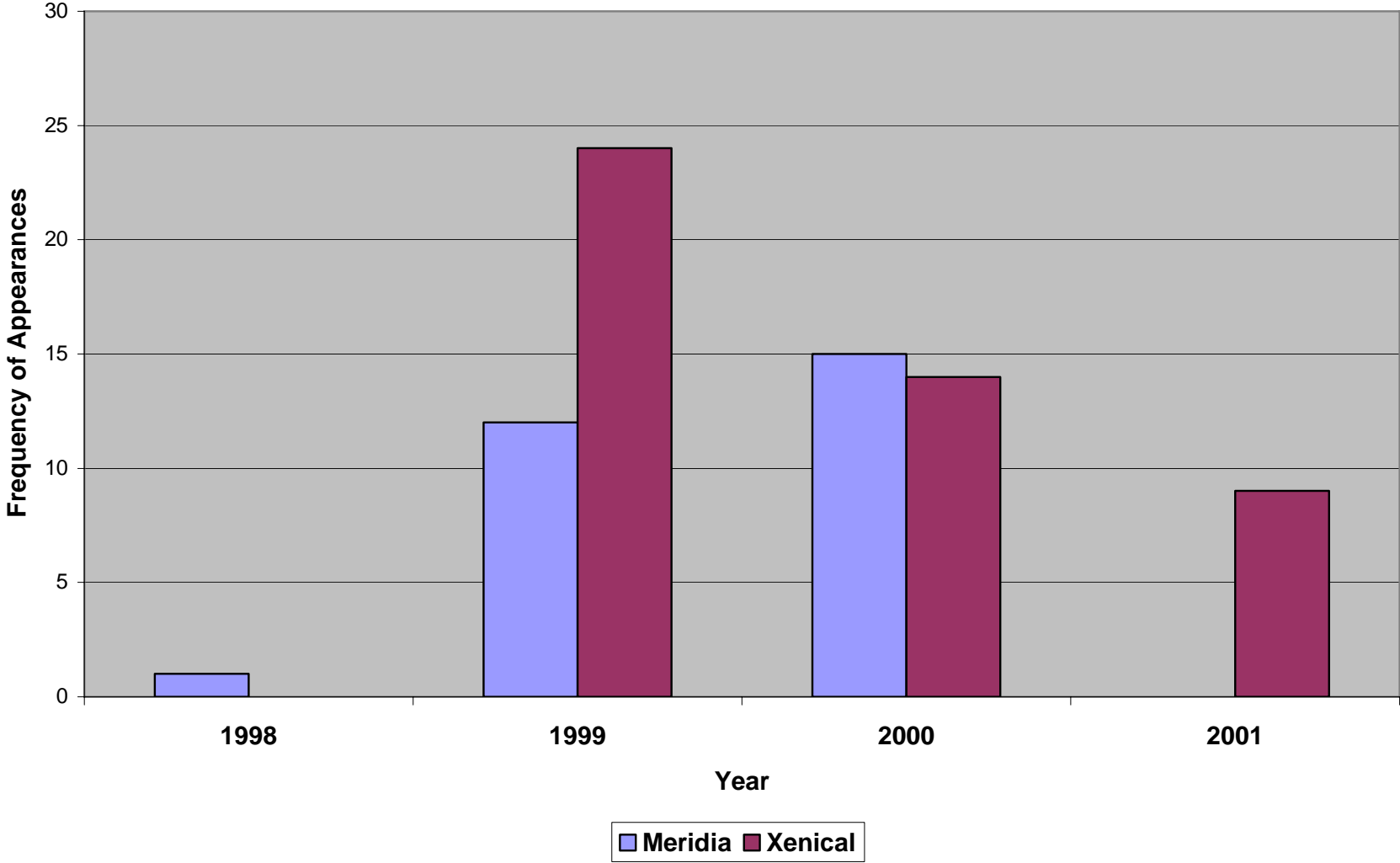


Figure 5: Analysis of Firms' Placement of Over-the-Counter Advertisements by Year (1985-2002)

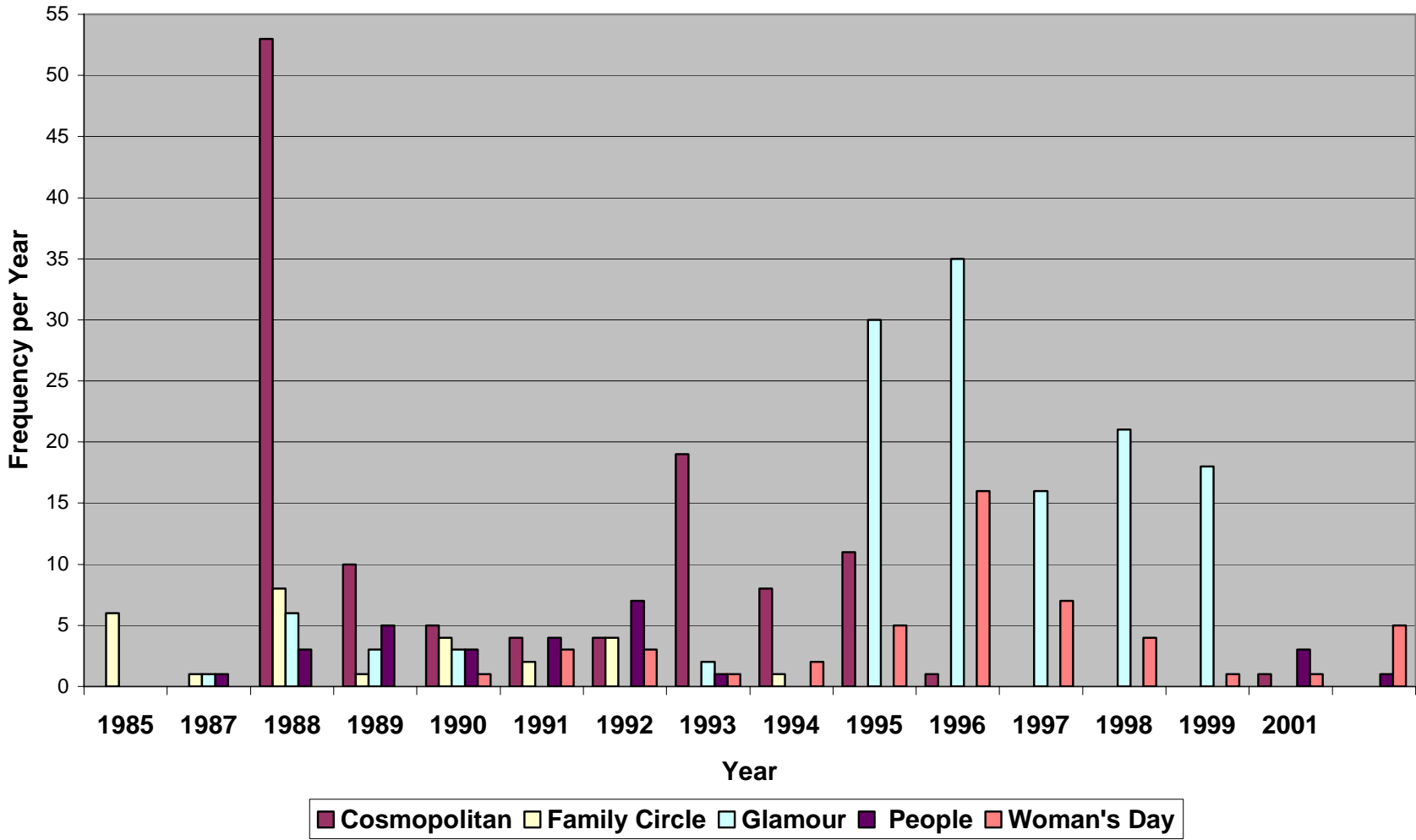


Figure 6. Nature of Appeal within Advertisements

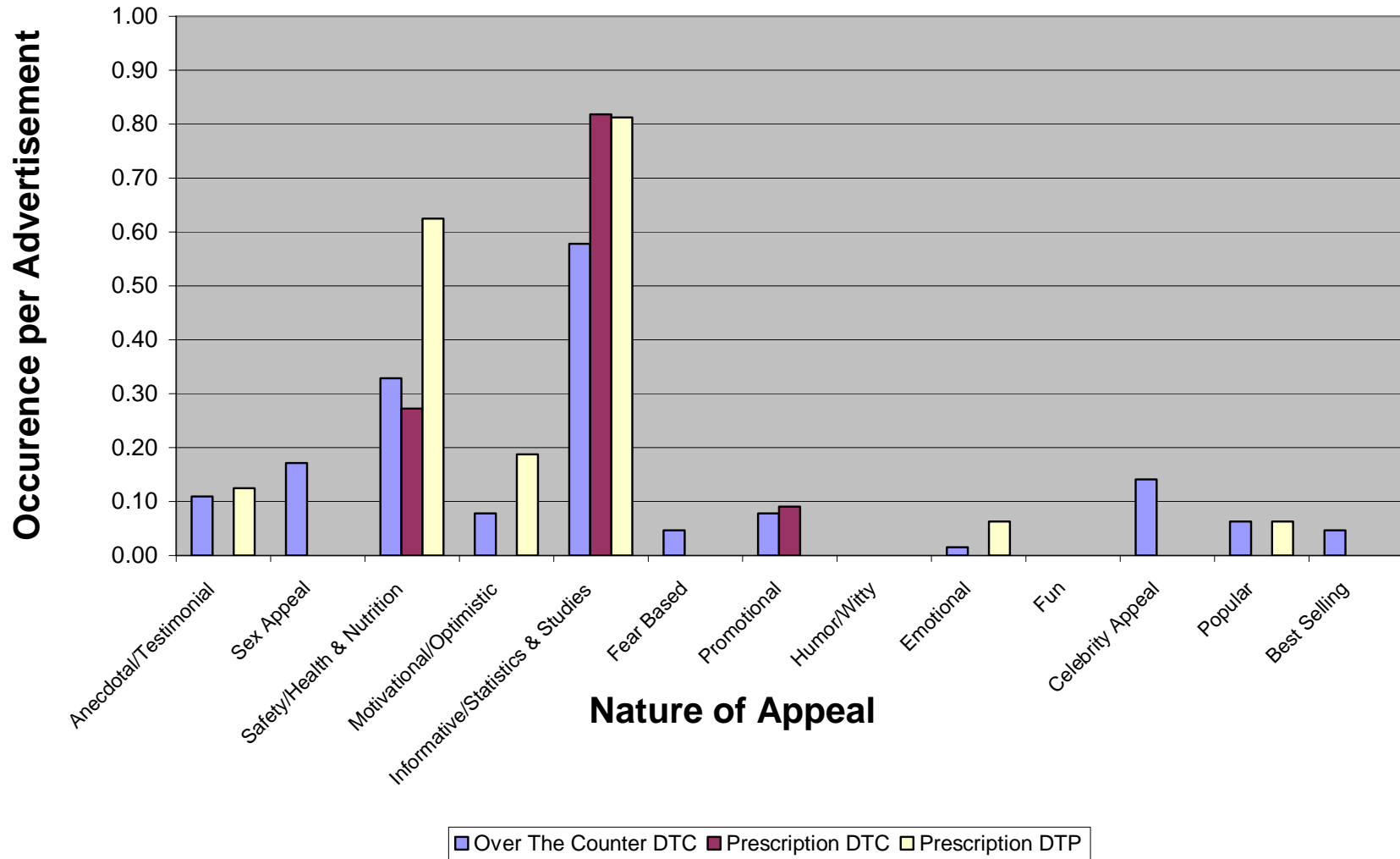


Figure 7: Dissemination of Effectiveness Information by Target Audience

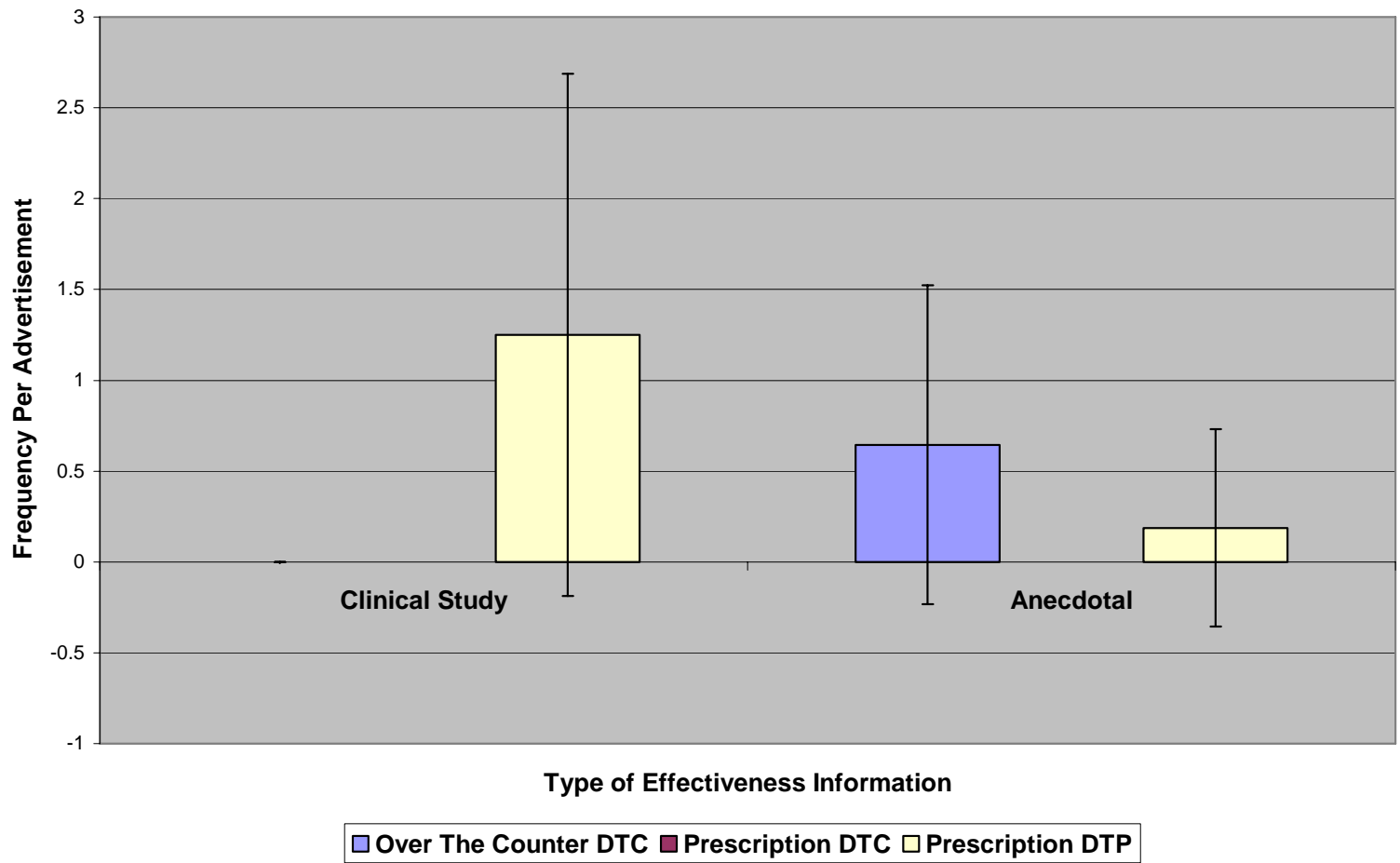
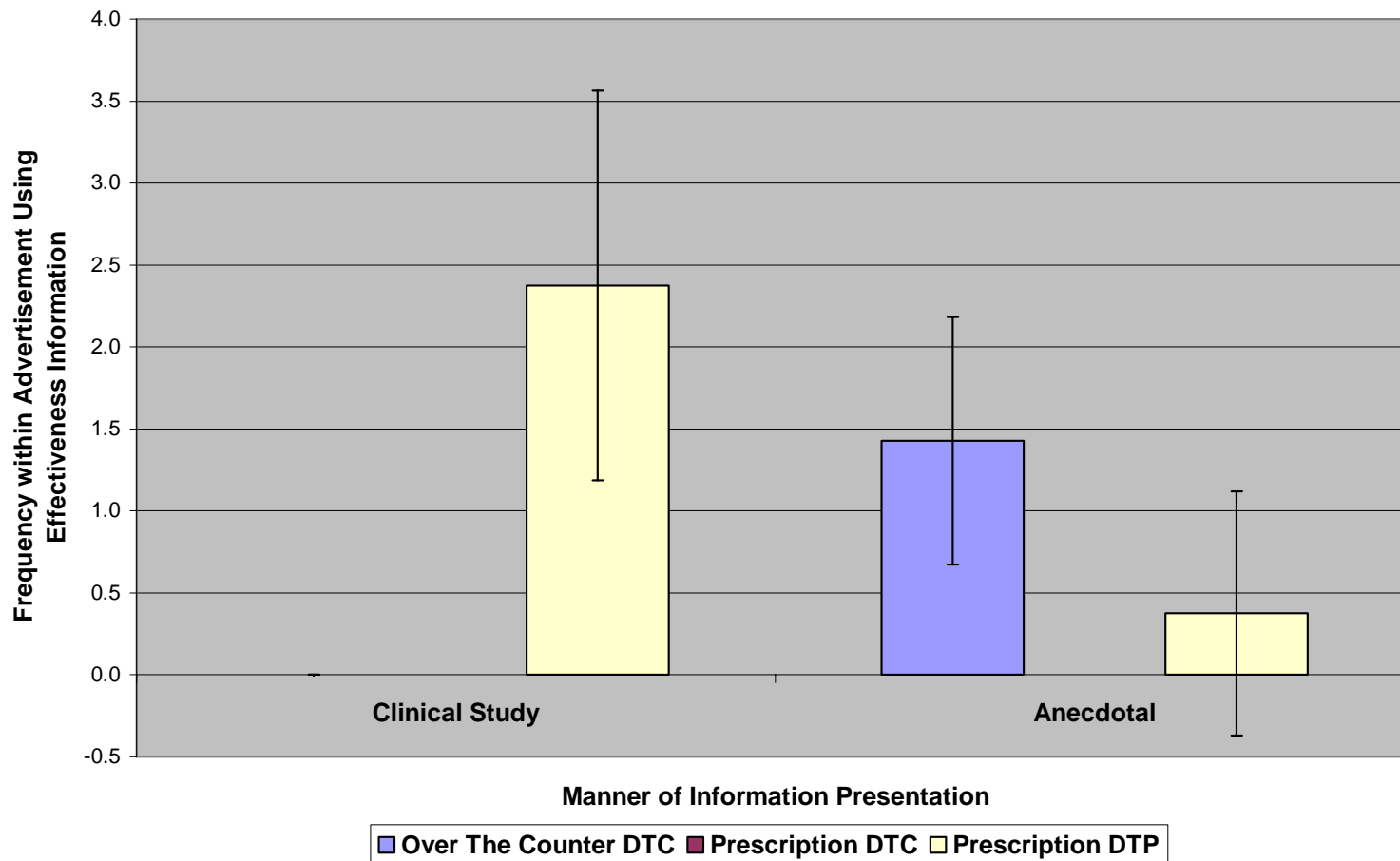


Figure 8: Manner of Presentation of Effectiveness Data by Target Audience



The figure above presents the only the advertisements that presented effectiveness information. Consequently, because prescription DTC advertisements did not present any clinical or anecdotal data the frequencies are 0.

Figure 9: Use of Mechanism Information

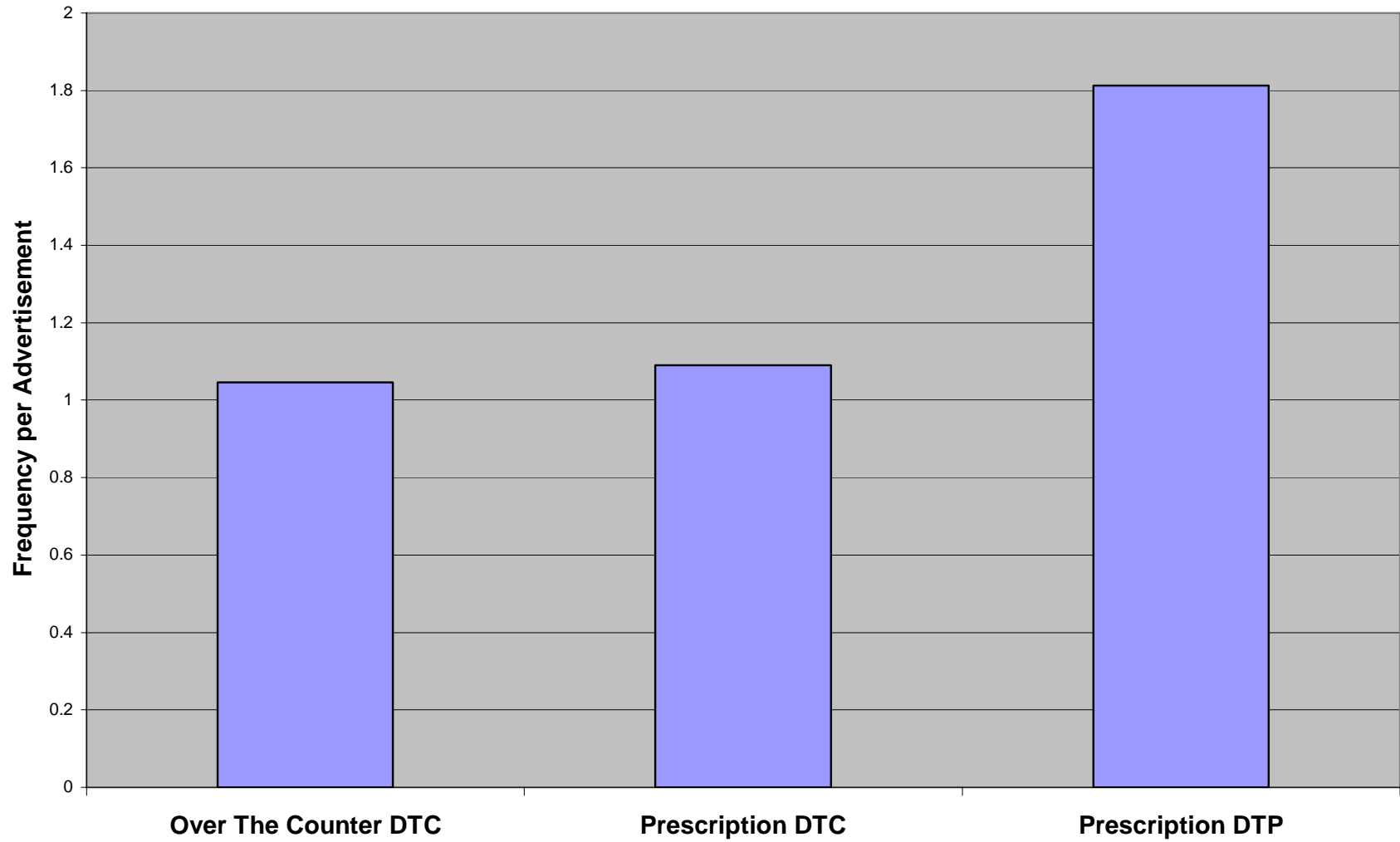


Figure 10: Frequency of Risk Information within Advertisements

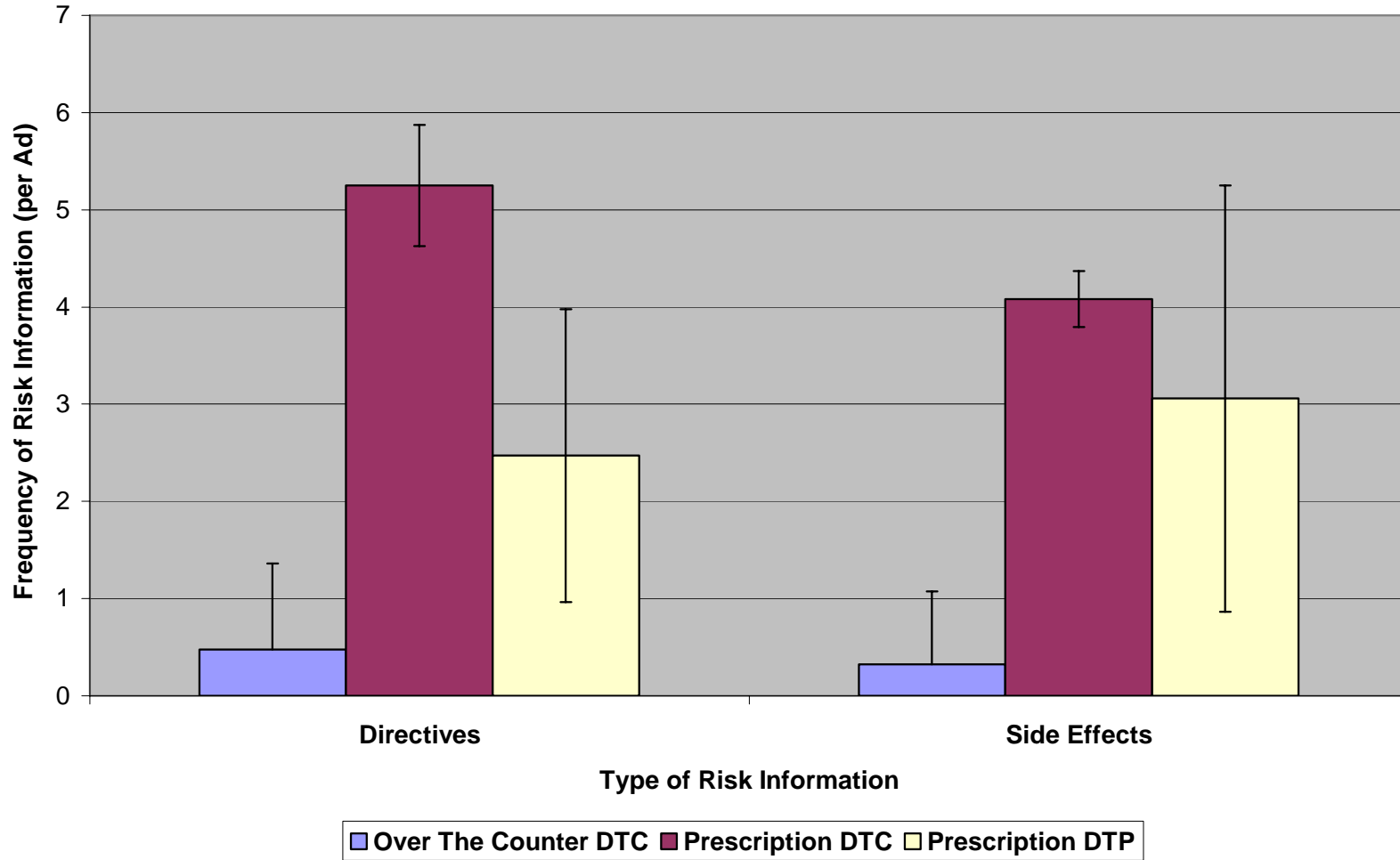


Figure 11: Use of Risk and Benefit Information

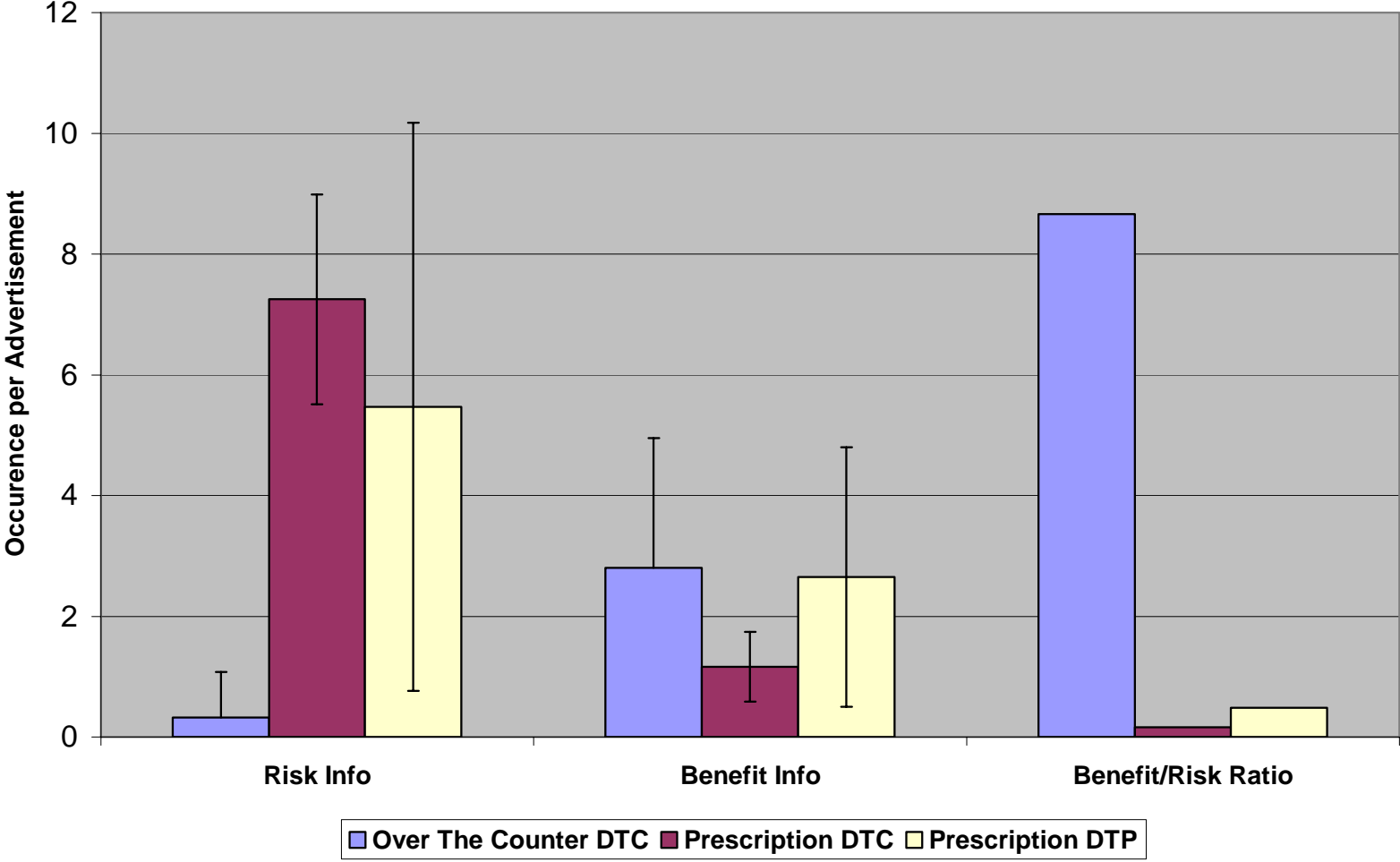


Figure 12: Safety Claims And Product Differentiation Claims

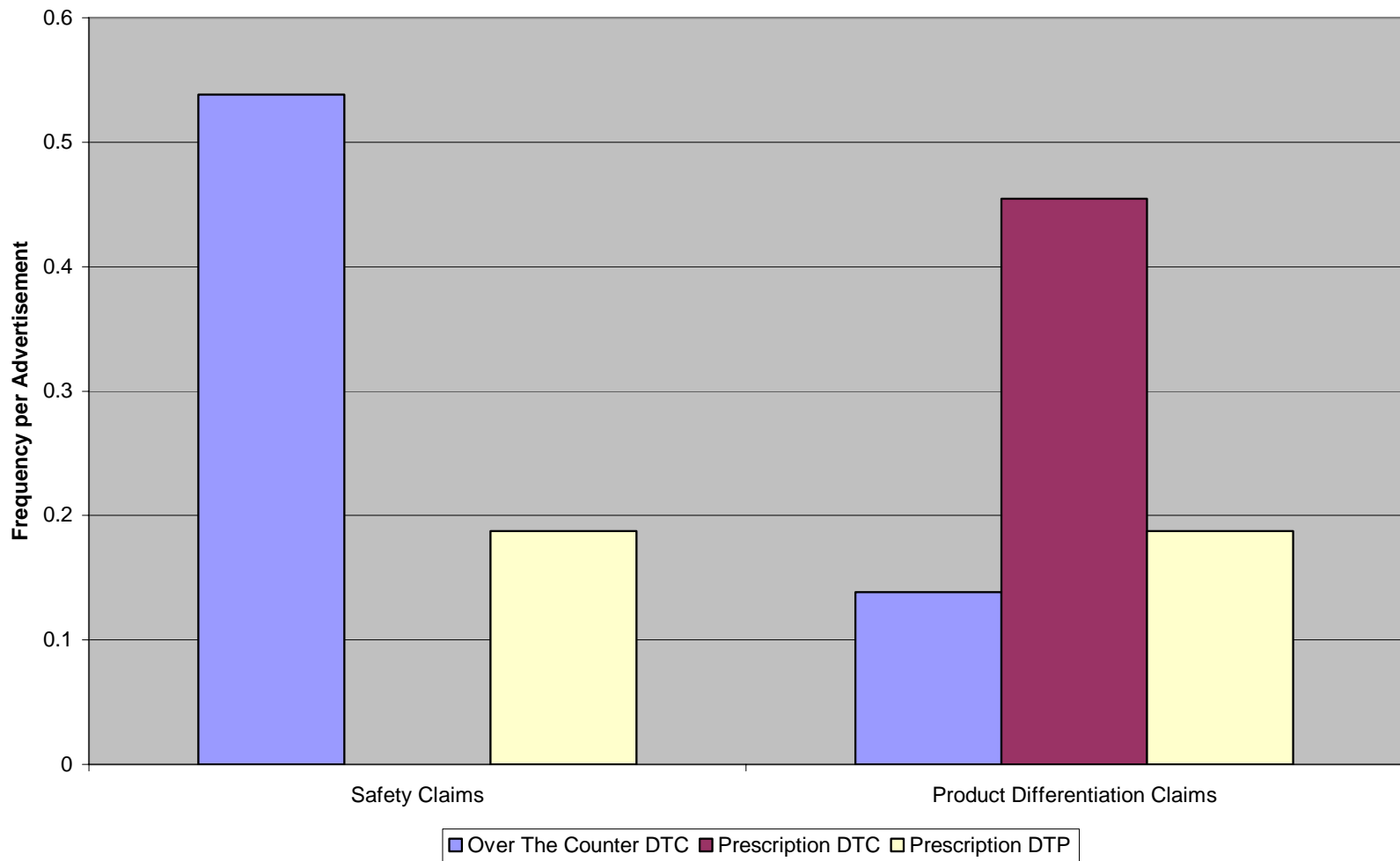


Figure 13a: Frequency of Advertisements Under 1 Page in Cosmopolitan and Glamour by Year

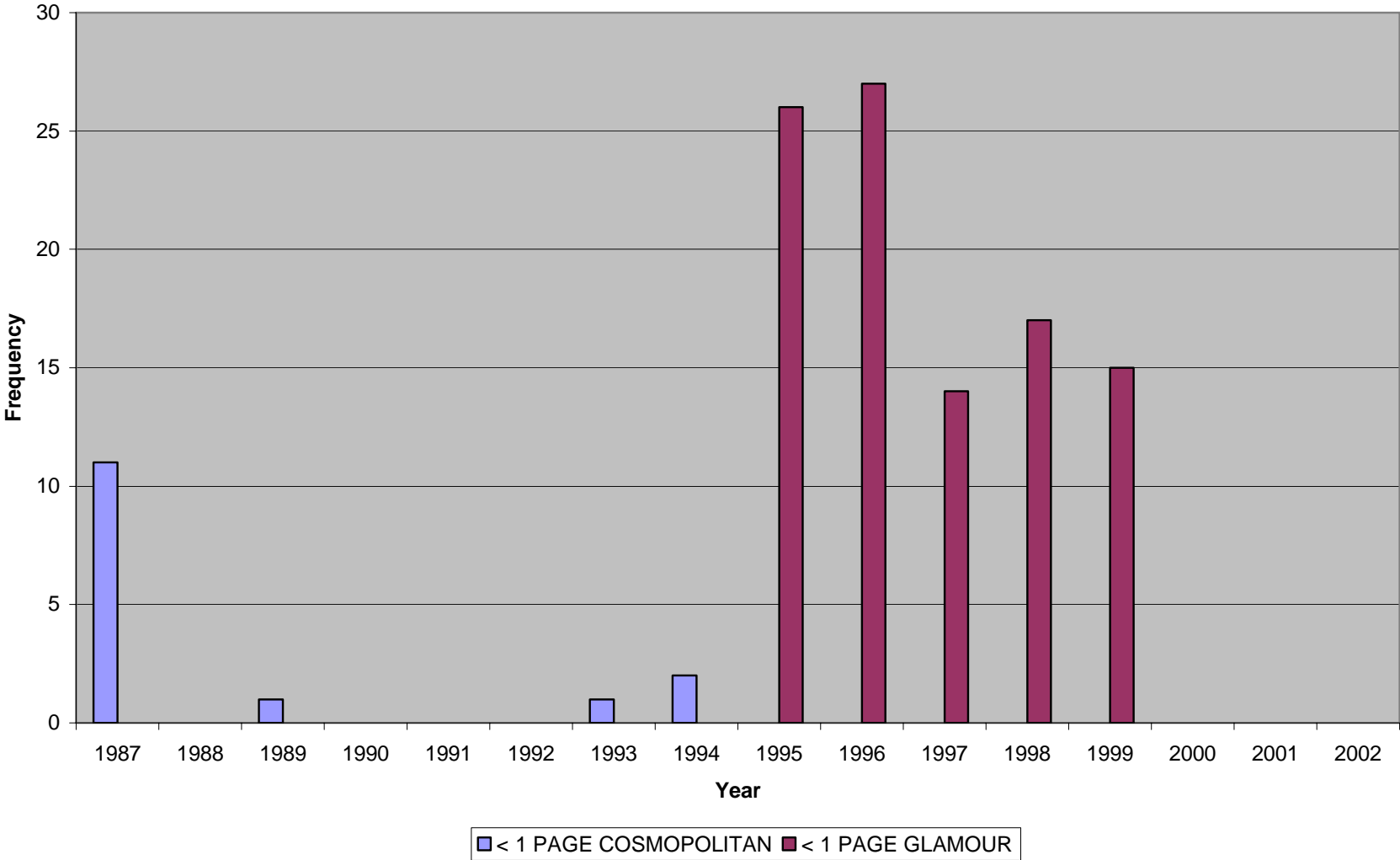
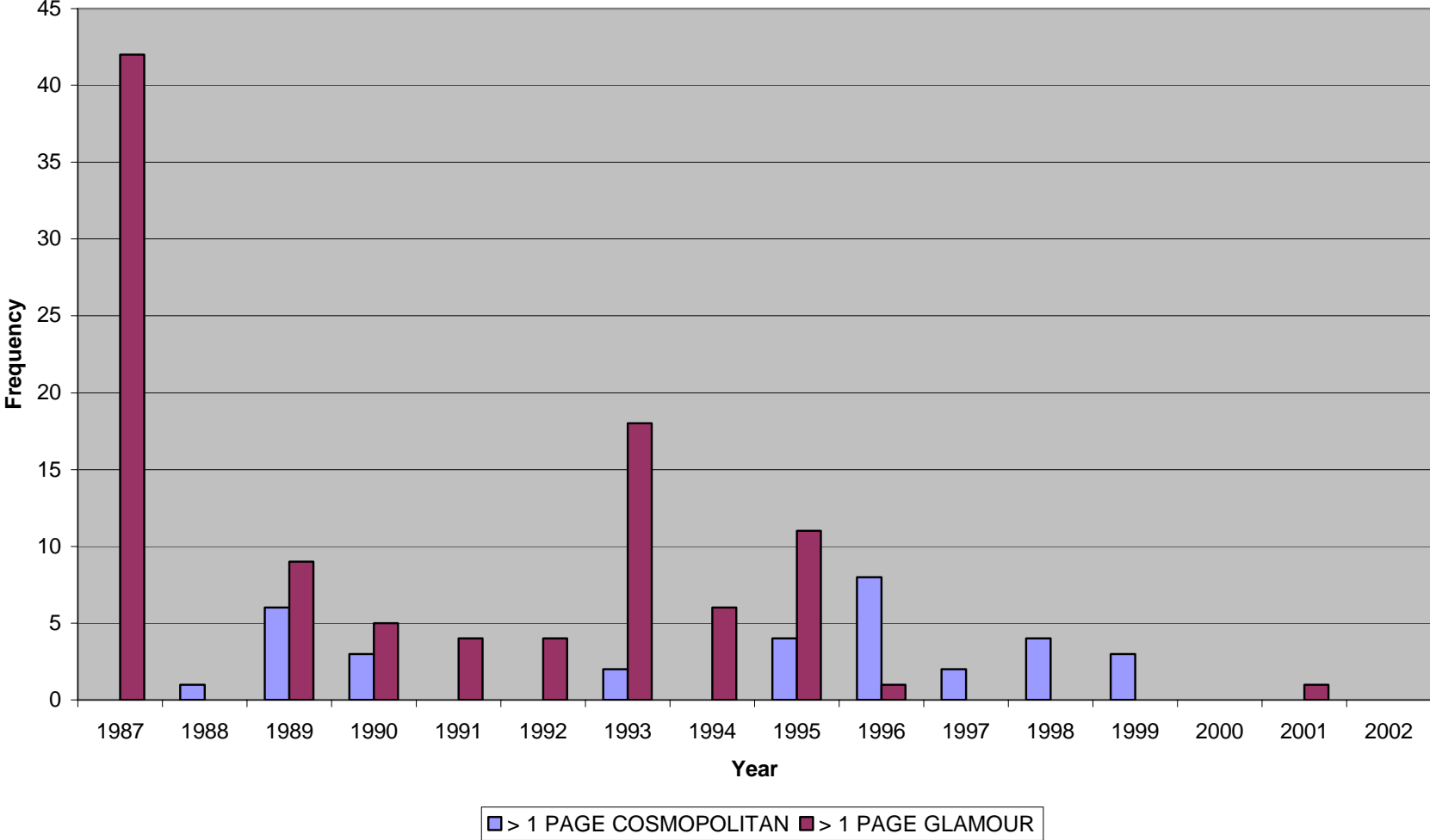


Figure 13b: Frequency of Advertisements Longer than 1 Page in Cosmopolitan and Glamour by Year



Appendix 1 – Events and Developments Regarding the Advertising of Weight-loss Products

- 1962 – Federal Trade Commission transferred authority of regulating prescription drug advertising to the Food and Drug Administration with the amendment to the Food, Drug, Cosmetic Act (Calfee, 2002).
- 1982 – FDA declared a moratorium on direct to consumer advertising after previously announcing that DTC advertising was not in violation of the FDA law and regulations (Calfee, 2002).
- 1985 – FDA lifted its moratorium on DTC advertisements, but required DTC advertisements to meet the same standards as direct to physician advertisements (Calfee, 2002).
- 1994 – Dietary Supplement Health and Education Act of 1994 shifted the burden of proving the safety of a dietary supplement from the FDA to the manufacturer (Blanck et al., 2001; Cleland et al., 2002).
- 1996 – Dexfenfluramine and Fenfluramine were voluntarily withdrawn from the market after reports of heart valve abnormalities and an increased risk of pulmonary hypertension.
- 1997 – FDA releases guidelines for DTC broadcast advertisements, which relaxed the requirements to provide disclosure information (Calfee, 2002).
- FDA proposed restrictions regarding the use of products containing Ephedrine Alkaloids (Clapham et al., 2001)
- Knoll releases its new product Sibutramine (Meridia), an appetite suppressant (Blanck, Khan, & Serdula, 2004a).
- 1999 – Roche releases Orlistat (Xenical) (Blanck, Khan, & Serdula, 2004a).
- 2000 – Manufacturers using the active ingredient phenylpropylamine voluntarily withdrew their products from the market after reports of an increased risk of hemorrhagic stroke (Clapham et al., 2001)

Appendix 2 – SCADS Archive

The SCADS archive is a collection originally containing all print advertisements for smoking cessation products, tobacco products, and smoking-related public service announcements that appeared in 26 consumer magazines. The archive was expanded to include weight-loss product advertisements in these same 26 magazines, which includes: *Better Homes, Cosmopolitan, Esquire, Family Circle, Glamour, Good Housekeeping, Jet, McCall, Modern Maturity, Newsweek, People, Playboy, Readers Digest, Rolling Stone, Sports Illustrated, Time, TV Guide, Vogue, and Women's Day*. Yearly Subscription data obtained from the Simmons National Consumer Survey for each magazine was used to fully describe the readership in terms of gender, race, ethnicity, education and income level.

The original archive recorded print advertisements for weight-loss products between January 1985 and May 2002, which introduces 12 years of over-the-counter product advertisements that do not have prescription competitors. Consequently, in order to compare the firm print advertising decisions, the over-the-counter print advertisements were limited to only periods when a name-brand prescription product was available, which occurs after January 1997.

The SCADS database also includes print advertisements directed at physicians. These advertisements were collected from the Journal of American Medical Association and the New England Journal of Medicine between January 1995 and May 2002. Advertisements were collected on three brands: Redux, Meridia, and Xenical. As stated in the data and methods section, the majority of the advertisements from the Journal of American Medical Association were missing from the bound copies in the library. Upon further inquiry, the index of advertisements listed these products as “Demographic and “Mini” inserts an/or ROB ad pages.” Consequently, we cannot account for the claims made in these advertisements.

Over-the-counter Weight-Loss Products

1EZDIET	Cheat and Eat
AMINOSCULPT	CHEATTABS
ATKINS	CHINESEDIETTEA
AUTOMATICWEIGHT- LOSSCOMPOUND	Chitosan
BDI Pharmaceuticals	Chromaslim
BETALEAN	Chromaslim Ultra
BETALEANHP	Chromatrim
Biomince	Chromax
BioSafe	Chromax
Biotrim	Chromium Picolinate
Blast Away Fat	Chromolite 3
Bodi-Trim	Citrolean
Body Gold	CitriGold
Body Sculpture	Citrimax
BODYFORLIFE	Citrimax Plus
BODYSUCCESSDIET	Citrium
Cal-Ban 3000	Citruslim
CARBCUTTER	CORDUZIN
CARBSOLUTIONS	CORTISLIM
Celebrity Diet	Curves
Cellulite Reduction System	Cybertrim
CHANGEONEDIET	D and E Pharmaceuticals

Definition	HUNGERSWITCH
Dexatrim	HYDROGELSLIMPATCH
Dexatrim Extra Strength	HYDROXYCUT
Dexatrim Maximum Strength	Inhibitol
DEXATRIMNATURAL	Insta-Slim Gold
Dexavall 2001 Plan	Lean Routine
Diet Aids	LEANBALANCE
Diet Pills and Energizers	LEANSOURCE
DIETFUEL	LEANSYSTEM7
DietMax	LEANTABS
Dietol-7	LIPOBAN
Ellotrim	Lipotrim
ELUSLIM	LIVLITE
Energy diet	MAGGIEDROZD-WEIGHTLOSSPLAN
ESTROLEAN	Maximum Loss Diet Plan
Fat Assassin	MEDIFAST
Fat Burner	Meditrol
Fat Control	MELTRX
Final Diet	Metatrol
Fit Over 40 System	Metrim
FTF	MIAMI48HOURDIET
GELATHIN	MONTIGNACWEIGHT-LOSSPLAN
GLUCOtherM	More Than A Diet
Grapefruit Herbal Diet	MYOPLEX

MYOPLEXSPORT

Nutrim

NUTRISYSTEMNOURISH

Nutrition 21

NX Trim

ONE-A-DAYWEIGHT

ONE-A-DAY WEIGHT SMART

ORIGINALCELEBRITYJUICEDIE

T

ORIGINALHOLLYWOODCELEB
RITYDIET

ORIGINALHOLLYWOODDIETJ
UICE

OXYLENE

PATENTLEAN

PEDIALOSS

Pepback

Phase I

Power Diet System

Prolamine

Prolamine

Prolamine

PURANOL

Quick Trim

QUICKSLIM

RAPID WEIGHT LOSS

RELACORE

Revive

SATISE

SHAPEUP

Sio

Six Day Bio Diet

SKINNYPILL

SLIMFAST

SLIMFASTOPTIMA

SLIMFASTPLAN

SLIMMINTS

Slimtan

STACKER2

STARCHAWAY

Stay Trim

Successfully Slim

Super Diet Max

Super Formula

Sure Cure

Sure Cure II

Svelt Patch

Synedrex

TAEBOENDPOWERDIET

TETRAZENE	Ultimate Solution Diet Program
The Milford Plan	Ultra Diet Pep
Theraslim	Ultra Pyruvate
THERMAFEM	ULTRACARB
Thermo Blend	ULTRALIPOLEAN
THERMODYNAMX	ULTRAPERFECT
THERMOINFUSION	VITRACIN
Thermotrim	WEBMDWEIGHTLOSS
ThinZ	Weight Management System
Thyrolean	WEIGHTLOSSPILLS
Thyrolean	WEIGHTWATCHERS
Tonalin	XENADRINE
Tonalin	Xenadrine EFF
Total Diet Plan	XENADRINE40
TOTALLEAN	XENADRINEEFX
Trimolite	XENADRINE HIGH PROTEINBAR
TRIMSPAX32	XENADRINENRG
TRIOMEGA	ZANTREX3
TRIPLELEAN3	ZOTRIN
TUMMYFLATTENING-GEL	

Appendix 3: Over-the-Counter Weight-Loss Coding Form

CONTENT CODING FORM FOR OTC WEIGHT LOSS	
UNIQUE AD NUMBER _____ UANUM Product _____ Product Number _____ PRODNUM Manufacturer _____ Manufacturer Number _____ MANUMN	
(Ad Length) <input type="checkbox"/> <1pgs How big (Width X Length in inches): _____ WIDTH X _____ LENGTH <input type="checkbox"/> 1pg <input type="checkbox"/> >1pgs How many pages: _____ NUMPAGES	
Product Type <input type="checkbox"/> Not specified PRODTYPENS <input type="checkbox"/> (Tablet) <input type="checkbox"/> (Gum) <input type="checkbox"/> (Bar) <input type="checkbox"/> (Capsule) <input type="checkbox"/> (Caplet) <input type="checkbox"/> (Shake/Liquid) <input type="checkbox"/> (Gel) <input type="checkbox"/> (Patch) <input type="checkbox"/> (Cream) <input type="checkbox"/> Unspecified Pill (Not identified as tablet, capsule, or caplet) PILLUS <input type="checkbox"/> Other PRODTYPEO _____ PRODTYPEOT	
Design of Ad ADDESIGN <input type="checkbox"/> Color <input type="checkbox"/> Black & White <input type="checkbox"/> Microfiche	
Ad Visual (<i>check all that apply</i>) <input type="checkbox"/> (Picture) <input type="checkbox"/> (Product) <input type="checkbox"/> (Text) <input type="checkbox"/> (Chart/graph) <input type="checkbox"/> (Questionnaire) <input type="checkbox"/> (Cutout) <input type="checkbox"/> (Testimonial)	
Taglines <input type="checkbox"/> None specified <input type="checkbox"/> Tagline: _____ <div style="text-align: right;">Number: _____ TAGNUM</div>	
Directives (<i>check all that apply</i>) <input type="checkbox"/> None specified DIRECTNS <input type="checkbox"/> Order: <input type="checkbox"/> Now DIRECT1 <input type="checkbox"/> By phone DIRECT2 <input type="checkbox"/> By Mail DIRECT3 <input type="checkbox"/> Other: DIRECT4 _____ DIRECT4OT <input type="checkbox"/> Use with a sensible diet and exercise plan DIRECT5 <input type="checkbox"/> Take before meals DIRECT6 <input type="checkbox"/> Consult your physician before using DIRECT7 <div style="padding-left: 20px;"><input type="checkbox"/> especially if you have high blood pressure, if pregnant or nursing, or on medication</div> <div style="padding-left: 40px;">for heart condition or taking a MAO inhibitor DIRECT8</div> <input type="checkbox"/> If you lose too much weight, use product less often DIRECT9 <input type="checkbox"/> This product is not intended to diagnose, treat, cure or prevent any disease DIRECT10	

<input type="checkbox"/> You need to measure your results weekly to prevent excessive weight loss DIRECT11 <input type="checkbox"/> This product is not for use by individuals under the age of 18 DIRECT12 <input type="checkbox"/> Use only as directed DIRECT13 <input type="checkbox"/> Other _____ DIRECTOT
Side Effects (<i>check all that apply</i>) <ul style="list-style-type: none"> <input type="checkbox"/> none specified SIDENS <input type="checkbox"/> reduces the absorption of vitamins SIDE1 <input type="checkbox"/> lose weight too fast SIDE2 <input type="checkbox"/> Other: _____ SIDEOT
General Claims (<i>check all that apply</i>) <p><u>General Claims</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Scientifically formulated/patented technology GCLAIM1 <input type="checkbox"/> Clinically tested/studied GCLAIM2 <input type="checkbox"/> Finally available in US GCLAIM3 <input type="checkbox"/> Ingredients patented GCLAIM4 <input type="checkbox"/> New discovery/ Discovery in exotic locale GCLAIM5 <input type="checkbox"/> As seen on T.V. GCLAIM6 <input type="checkbox"/> Available at food, drug and discount stores GCLAIM7 <input type="checkbox"/> Great Taste GCLAIM8 <input type="checkbox"/> Sugar Free GCLAIM9 <p><u>Negative General Claims</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> These statements have not been evaluated by the Food and Drug Administration NGCLAIM1 <input type="checkbox"/> Results not typical and depend on your diet and training program./Individual results may vary NGCLAIM2 <input type="checkbox"/> Alters the way your body digests food NGCLAIM3 <p><u>Fat/Cholesterol/Muscle</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Detoxifies body FAT1 <input type="checkbox"/> Burns/oxidizes/reduces/inhibits production of fat, converts fat into energy FAT2 <input type="checkbox"/> Burns Calories FAT3 <input type="checkbox"/> Stabilizes blood sugar FAT4 <input type="checkbox"/> Reduces cholesterol/triglycerides FAT5 <input type="checkbox"/> Tones muscle, increases muscle tissue, converts amino acids to muscle FAT6 <input type="checkbox"/> Gets rid of flab FAT7 <input type="checkbox"/> Blocks calorie absorption FAT8 <input type="checkbox"/> Reduces cellulite FAT9 <p><u>Nutrients/Metabolism</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Provides essential nutrients NUTRIENT1 <input type="checkbox"/> Does not interfere with the normal absorption of vitamins and minerals NUTRIENT2 <input type="checkbox"/> 100% all natural/ contains no drugs NUTRIENT3 <input type="checkbox"/> Non-addictive/ contains no caffeine or chemical stimulant NUTRIENT4 <input type="checkbox"/> Does not upset metabolism NUTRIENT5

- Increases metabolism/metabolic rate **NUTRIENT6**
- Regulates metabolism **NUTRIENT7**
- Replaces a meal **NUTRIENT8**
- Absorbs water **NUTRIENT9**
- Doesn't ruin a low-carb diet **NUTRIENT10**
- Contains:
 - The GAFA Complex **NUTRIENT11**
 - Chromium Picolinate **NUTRIENT12**
 - Pyruvate **NUTRIENT13**
 - Other: _____
NUTRIENT14
- Prevents the absorption of carbohydrates and helps them from being converted to fat **NUTRIENT15**
- L-Carnitine included **NUTRIENT16**
- Rids your body of toxins **NUTRIENT17**

Miraculous Claims

- (Proven) effective **MIRACLE1**
- Guaranteed results **MIRACLE2**
- Results can be seen almost immediately/ fast acting **MIRACLE3**
- Boosts strength, energy, and libido **MIRACLE4**
- Appetite suppressant/ controls hunger **MIRACLE5**
- Lose _____ lbs in _____ days /weeks/ months (circle one)
MIRACLE6 MIRACLE6A MIRACLE6C MIRACLE6B
- Sent discreetly **MIRACLE7**
- Dramatic results are not uncommon **MIRACLE8**
- This patented product works well for both men and women **MIRACLE9**
- Endorsement by doctor **MIRACLE10**
- Safe for diabetics/ Stabilize blood sugar **MIRACLE11**
- Helps improve the normal functions of your body **MIRACLE12**
- Lose _____ inches from _____ (i.e. each thigh) in _____
days/weeks/months
MIRACLE13A MIRACLE13B MIRACLE13C
- MIRACLE13D**
- Additional claims:
- Lose _____ inches from _____ (i.e. each thigh) in _____
days/weeks/months
MIRACLE14A MIRACLE14B MIRACLE14C
- MIRACLE14D**
- Lose _____ % of the fat layer from stomach/ body fat in _____
days/weeks/months **MIRACLE15A**
MIRACLE15B MIRACLE15C
- Went from size _____ to _____ size _____ OR Lose _____ sizes
MIRACLE16A MIRACLE16B MIRACLE16C
- Controls your weight/ do not gain weight back **MIRACLE17**

100% risk free **MIRACLE18**
 Can be taken while on medication **MIRACLE19**
 Highly recommended by European doctors **MIRACLE20**
 Can help in reducing and eliminating both early stretch marks and late stretch marks **MIRACLE21**
 Can lose weight without counting calories/exercise **MIRACLE22**
 Medical Breakthrough **MIRACLE23**
 Fat Burner AND tan accelerator **MIRACLE24**
 Can eat anything you want! **MIRACLE25**
 Makes you feel good about yourself **MIRACLE26**

Offerings (*check all that apply*)
 None specified **OFFERNS**
 Coupons and discounts **OFFER1**
 Free Gift **OFFER2**
 Type of gift: _____ **OFFER2T**
 Money back guarantee **OFFER3**
 Conditions: _____ **OFFER3T**
 No conditions specified **OFFER3NS**
 Order form **OFFER4**
 Support program **OFFER5**
 Fitness system/Nutritional Plan **OFFER6**
 Free trial offer/free sample **OFFER7**
 Special Bonus **OFFER8**
 Other _____ **OFFERO**

Pricing (*fill in the blanks and check all that apply*)
 No pricing information specified **PRICEN** Credit Cards accepted
PRICECC

PRICE1A	PRICE1B	PRICE1C	PRICE2A	PRICE2B	PRICE2C
<input type="checkbox"/> \$ ____ . ____ for a	<input type="checkbox"/> ____ day supply	<input type="checkbox"/> ____ week supply	<input type="checkbox"/> \$ ____ . ____ for a	<input type="checkbox"/> ____ day supply	<input type="checkbox"/> ____ week
supply					
	<input type="checkbox"/> ____ month supply			<input type="checkbox"/> ____ month	
	<input type="checkbox"/> ____ pill supply			<input type="checkbox"/> ____ pill supply	
	<input type="checkbox"/> not specified supply			<input type="checkbox"/> not specified supply	
PRICE3A	PRICE3A	PRICE3C	PRICE4A	PRICE4B	PRICE4C
<input type="checkbox"/> \$ ____ . ____ for a	<input type="checkbox"/> ____ day supply	<input type="checkbox"/> ____ week supply	<input type="checkbox"/> \$ ____ . ____ for a	<input type="checkbox"/> ____ day supply	<input type="checkbox"/> ____ week
supply					
	<input type="checkbox"/> ____ month supply			<input type="checkbox"/> ____ month	
	<input type="checkbox"/> ____ pill supply			<input type="checkbox"/> ____ pill supply	
	<input type="checkbox"/> not specified supply			<input type="checkbox"/> not specified supply	

Shipping & Handling Information: _____

SHIPPING

Contact Information (*check all that apply*)

- No additional information Address Phone Number
CONTACTN **CONTACT1** **CONTACT2**
- Website
CONTACT3
- Other _____
CONTACTO

Nature of Ad Appeal (*check all that apply*)

- Anecdotal/Testimonial **APPEAL1**
 - Sex appeal **APPEAL2**
 - Safety/ Health & Nutrition **APPEAL3**
 - Motivational/Optimistic **APPEAL4**
 - Informative/Statistics & Studies **APPEAL5**
 - Fear Based **APPEAL6**
 - Promotional **APPEAL7**
 - Humor/Witty **APPEAL8**
 - Emotional **APPEAL9**
 - Stressing Activity or Exercise **APPEAL10**
 - Celebrity Appeal **APPEAL11**
 - Popular **APPEAL12**
 - Best Selling **APPEAL13**
- If Best Selling or Popular, how many products sold:
- Thousands **APPEAL13A**
 - Millions **APPEAL13B**
 - Specific Number: _____ **APPEALC**

Superiority Claims

- None **SUPERNS**

- Comparison Product(s) **SUPERP** General Comparison **SUPERG**
- Which Product: _____ **SUPERPW**
- Basis of Comparison: _____ **SUPERPB**
- Text of claim _____
SUPERPT _____

Before and After Pictures

- Are there Before/After **Full Person** pictures: Yes No
BANDAY
- If yes, how many before and after full person sets are in ad: _____
BANDANUM
- 1st Set of before/after pictures:
BANDA1RACE Race White Black Hispanic Asian Other

CBI
BANDA1GENDER Gender Male Female

CBI
BANDA1AGE Age Child Teen Adult Elder

CBI
BANDA1USE Using Product Yes No
BANDA1TIME Time on product: _____ N/A **BANDA1NA**
Celebrity: Yes No If Yes, Who: _____
BANDA1CELEB **BANDA1CELEBWHO**

Weight before: _____ Weight after: _____ Total Weight Lost: _____
BANDA1WB **BANDA1WA** **BANDA1WT**

Demeanor:
BANDA1DIMB Before: Sad/Stern No particular expression Happy/Smiling

BANDA1DA After: Sad/Stern No particular expression Happy/Smiling

Clothing:
BANDA1CB Before: Bathing Suit Athletic/workout clothes Casual Dress up

BANDA1CB After: Bathing Suit Athletic/workout clothes Casual Dress up

Social Depiction:
BANDA1SDB Before: Alone With other people
If with other people **BANDA1SDWHOB**
 Family Romance Work
 Recreation Other _____

BANDA1SDA After: Alone With other people
If with other people **BANDA1SDWHOA**
 Family Romance Work
 Recreation Other _____

2nd Set of before/after pictures:

BANDA2RACE Race White Black Hispanic Asian Other

CBI
BANDA2GENDER Gender Male Female

CBI
BANDA2AGE Age Child Teen Adult Elder

CBI
BANDA2USE Using Product Yes No
BANDA2TIME Time on product: _____ N/A **BANDA2NA**
Celebrity: Yes No If Yes, Who: _____
BANDA2CELEB **BANDA2CELEBWHO**

Weight before: _____ Weight after: _____ Total Weight Lost: _____

BANDA2WB	BANDA2WA	BANDA2WT
<u>Demeanor:</u>		
BANDA2DB	Before:	<input type="checkbox"/> Sad/Stern <input type="checkbox"/> No particular expression <input type="checkbox"/> Happy/Smiling
BANDA2DA	After:	<input type="checkbox"/> Sad/Stern <input type="checkbox"/> No particular expression <input type="checkbox"/> Happy/Smiling
<u>Clothing:</u>		
BANDA2CB	Before:	<input type="checkbox"/> Bathing Suit <input type="checkbox"/> Athletic/workout clothes <input type="checkbox"/> Casual <input type="checkbox"/> Dress up
BANDA2CB	After:	<input type="checkbox"/> Bathing Suit <input type="checkbox"/> Athletic/workout clothes <input type="checkbox"/> Casual <input type="checkbox"/> Dress up
<u>Social Depiction:</u>		
BANDA2SDB	Before:	<input type="checkbox"/> Alone <input type="checkbox"/> With other people If with other people BANDA2SDWHOB <input type="checkbox"/> Family <input type="checkbox"/> Romance <input type="checkbox"/> Work <input type="checkbox"/> Recreation <input type="checkbox"/> Other _____
BANDA2SDA	After:	<input type="checkbox"/> Alone <input type="checkbox"/> With other people If with other people BANDA2SDWHOA <input type="checkbox"/> Family <input type="checkbox"/> Romance <input type="checkbox"/> Work <input type="checkbox"/> Recreation <input type="checkbox"/> Other _____
<u>3rd Set of before/after pictures:</u>		
BANDA3RACE	Race	<input type="checkbox"/> White <input type="checkbox"/> Black <input type="checkbox"/> Hispanic <input type="checkbox"/> Asian <input type="checkbox"/> Other <input type="checkbox"/>
CBI		
BANDA3GENDER	Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/>
CBI		
BANDA3AGE	Age	<input type="checkbox"/> Child <input type="checkbox"/> Teen <input type="checkbox"/> Adult <input type="checkbox"/> Elder <input type="checkbox"/>
CBI		
BANDA3USE	Using Product	<input type="checkbox"/> Yes <input type="checkbox"/> No
BANDA3TIME	Time on product:	_____ <input type="checkbox"/> N/A BANDA3NA
	Celebrity:	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Who: _____
	BANDA3CELEB	BANDA3CELEBWHO
	Weight before: _____	Weight after: _____ Total Weight Lost: _____
BANDA3WB	BANDA3WA	BANDA3WT
<u>Demeanor:</u>		
BANDA3DIMB	Before:	<input type="checkbox"/> Sad/Stern <input type="checkbox"/> No particular expression <input type="checkbox"/> Happy/Smiling
BANDA3DA	After:	<input type="checkbox"/> Sad/Stern <input type="checkbox"/> No particular expression <input type="checkbox"/> Happy/Smiling
<u>Clothing:</u>		
BANDA3CB	Before:	<input type="checkbox"/> Bathing Suit <input type="checkbox"/> Athletic/workout clothes <input type="checkbox"/> Casual <input type="checkbox"/> Dress up
BANDA3CB	After:	<input type="checkbox"/> Bathing Suit <input type="checkbox"/> Athletic/workout clothes <input type="checkbox"/> Casual <input type="checkbox"/> Dress up

Social Depiction:

BANDA3SDB Before: Alone With other people
If with other people **BANDA3SDWHOB**
 Family Romance Work
 Recreation Other _____

BANDA3SDA After: Alone With other people
If with other people **BANDA3SDWHOA**
 Family Romance Work
 Recreation Other _____

Complete this section if there are **BODY PARTS** depicted in the ad.

Body Parts shown: Yes No

BPARTSYN

Check all that apply:

Person 1: Torso Arms Legs Back

Other _____
BPARTS1A BPARTS1B BPARTS1C BPARTS1D BPARTS1O

Before and after body part picture for Person 1 **BPARTSBA**

REPEAT CODES

Person 2: Torso Arms Legs Back

Other _____
 Before and after body part picture for Person 2

Person 3: Torso Arms Legs Back

Other _____
 Before and after body part picture for Person 3

Person 4: Torso Arms Legs Back

Other _____
 Before and after body part picture for Person 4

Person 5: Torso Arms Legs Back

Other _____
 Before and after body part picture for Person 5

If there are **NO** before-after pictures in the ad but there **ARE** pictures of people,

complete the following sections

Person 1

PIRACE Race White Black Hispanic Asian Other CBI

PIGENDER Gender Male Female

CBI

PIAGE Age Child Teen Adult Elder

CBI

PIUSE Using Product Yes No

PIWLOSS Weight lost (in lbs): _____ N/A

PIWLOSSNA

PITOPNUM Time on product: _____ Time Unit _____ **PITOPT**

PICELEB Celebrity: Yes No If Yes, Who: _____

PICELEBWHO

PIOCCU Occupation, if stated: _____

Weight before: _____ Weight after: _____ Total Weight Lost: _____

PIWLOSSB

PIWLOSSA

PIWLOSST

PID Demeanor: Sad/Stern No particular expression Happy/Smiling

PIC Clothing: Bathing Suit Athletic/workout clothes Casual Dress up

PISD Social Depiction: Alone With other people

If with other people **PISDWHO**

Family Romance Work

Recreation Other _____

Person 2 Race White Black Hispanic Asian Other

CBI

REPEAT CODES Gender Male Female CBI

Age Child Teen Adult Elder CBI

Using Product Yes No

Weight lost (in lbs): _____ N/A

Time on product: _____ N/A

Occupation, if stated: _____

Celebrity: Yes No If Yes, Who: _____

Weight before: _____ Weight after: _____ Total Weight Lost: _____

Demeanor:

Sad/Stern No particular expression Happy/Smiling

Clothing: Bathing Suit Athletic/workout clothes Casual Dress up

Social Depiction:

Alone With other people

If with other people

Family Romance Work

Recreation Other _____

Person 3 Race White Black Hispanic Asian Other
CBI

Gender Male Female CBI
Age Child Teen Adult Elder CBI
Using Product Yes No
Weight lost (in lbs): _____ N/A
Time on product: _____ N/A
Occupation, if stated: _____
Celebrity: Yes No If Yes, Who: _____

Weight before: _____ Weight after: _____ Total Weight Lost: _____

Demeanor:
 Sad/Stern No particular expression Happy/Smiling

Clothing: Bathing Suit Athletic/workout clothes Casual Dress up

Social Depiction:
 Alone With other people
If with other people
 Family Romance Work
 Recreation Other _____

Person 4 Race White Black Hispanic Asian Other
CBI

Gender Male Female CBI
Age Child Teen Adult Elder CBI
Using Product Yes No
Weight lost (in lbs): _____ N/A
Time on product: _____ N/A
Celebrity: Yes No If Yes, Who: _____
Occupation, if stated: _____
Weight before: _____ Weight after: _____ Total Weight Lost: _____

Demeanor:
 Sad/Stern No particular expression Happy/Smiling

Clothing: Bathing Suit Athletic/workout clothes Casual Dress up

Social Depiction:
 Alone With other people
If with other people
 Family Romance Work
 Recreation Other _____

Person 5 Race White Black Hispanic Asian Other
CBI

Gender Male Female CBI
Age Child Teen Adult Elder CBI
Using Product Yes No
Weight lost (in lbs): _____ N/A
Time on product: _____ N/A

Celebrity: Yes No If Yes, Who: _____

Occupation, if stated: _____

Weight before: _____ Weight after: _____ Total Weight Lost: _____

Demeanor:

Sad/Stern No particular expression Happy/Smiling

Clothing: Bathing Suit Athletic/workout clothes Casual Dress up

Social Depiction:

Alone With other people

If with other people

Family Romance Work

Recreation Other _____

Group of people (5 or more people)

GROUPYES Group of people No group of people

GRACEW/B/H/A/O/CBI Race White Black Hispanic Asian Other

CBI

GGENDERM/F/CBI Gender Male Female

CBI

GAGEC/T/A/E/CBI Age Child Teen Adult Elder

CBI

GUSE Using Product Yes No

Social Depiction:

Family Romance Work Recreation

Other _____

GFAMILY GROMANCE GWORK GRECREATION GSDOTHER

Appendix 4: Prescription Weight-Loss Coding Form

CODING FORM FOR Prescription Weight-Loss	
UNIQUE AD NUMBER _____	UNIQUEADNUMBER
BRAND NUMBER _____	
PRODUCT _____	PRODUCT
MANUFACTURER _____	MANUFACTURER
Type of ad (check all that apply)	<input type="checkbox"/> Advertisement TYPEADVERTISEMENT <input type="checkbox"/> Preview Ad TYPEPREVIEWAD <input type="checkbox"/> Other _____ TYPEOFADOTHER
Sponsors _____	TYPEOFADSPONSORS
Journal(s)/Magazines Found In	JOURNALS MAGAZINES
Ad Length <input type="checkbox"/> 1pg ADLENGTHN1PAGE TYPEOFADHELPSEEKING <input type="checkbox"/> 2pgs ADLENGTHN2PAGES TYPEOFADREMINDERADVERTISEMENT <input type="checkbox"/> 3pgs ADLENGTHN3PAGES TYPEOFADPRODUCTNAME <input type="checkbox"/> 4pgs ADLENGTHN4PAGES <input type="checkbox"/> >4pgs ADLENGTHM4PAGES	Type of Advertisement <input type="checkbox"/> Help-Seeking <input type="checkbox"/> Reminder Advertisements <input type="checkbox"/> Product name and disease info
Directive Length <input type="checkbox"/> 1pg DIRLENGTHN1PAGE DIRECTIVEBMICHART <input type="checkbox"/> 2pgs DIRLENGTHN2PAGE DIRSIDEEFFECTS <input type="checkbox"/> 3pgs DIRLENGTHN3PAGE DIRHEALTHYDIET	<input type="checkbox"/> BMI Chart <input type="checkbox"/> Side Effects Chart <input type="checkbox"/> Healthy Diet Chart
FDA APPROVAL DATE 1 _____	DIRLENGTHFDAAPPROVAL1
FDA APPROVAL DATE 2 _____	DIRLENGTHFDAAPPROVAL2
FDA APPROVAL DATE 3 _____	DIRLENGTHFDAAPPROVAL3
Product Type	<input type="checkbox"/> Not Specified PRODTYPENOTSPECIFIED <input type="checkbox"/> Tablet PRODTYPETABLET <input type="checkbox"/> Program PRODTYPEPROGRAM <input type="checkbox"/> Capsule PRODTYPECAPSULE <input type="checkbox"/> Other _____ PRODTYPEOTHER
<input type="checkbox"/> Dosage not specified DOSAGENOTSPECIFIED	
Dosage _____ mg <input type="checkbox"/> n/a	_____ mg <input type="checkbox"/> n/a

<p style="text-align: center;">DOSAGE1</p> <p>Frequency <input type="checkbox"/>D <input type="checkbox"/>W <input type="checkbox"/>M <input type="checkbox"/>O _____ FREQDAILY1/WEEKLY1/MONTHLY1/OTHER1</p> <p style="text-align: center;">□ not specified FREQNOTSPECIFIED1</p> <p style="text-align: center;">_____ mg <input type="checkbox"/> n/a</p>		<p style="text-align: center;">DOSAGE2</p> <p>Frequency <input type="checkbox"/>D <input type="checkbox"/>W <input type="checkbox"/>M <input type="checkbox"/>O _____ FREQDAILY2/WEEKLY2/MONTHLY2/OTHER2</p> <p style="text-align: center;">□ not specified FREQNOTSPECIFIED2</p> <p style="text-align: center;">_____ mg <input type="checkbox"/> n/a</p>	
<p style="text-align: center;">DOSAGE3</p> <p>Frequency <input type="checkbox"/>D <input type="checkbox"/>W <input type="checkbox"/>M <input type="checkbox"/>O _____ FREQDAILY3/WEEKLY3/MONTHLY3/OTHER3</p> <p style="text-align: center;">□ not specified FREQNOTSPECIFIED3</p>		<p style="text-align: center;">DOSAGE4</p> <p>Frequency <input type="checkbox"/>D <input type="checkbox"/>W <input type="checkbox"/>M <input type="checkbox"/>O _____ FREQDAILY4/WEEKLY4/MONTHLY4/OTHER4</p> <p style="text-align: center;">□ not specified FREQNOTSPECIFIED4</p>	
<p>Manufacturer</p> <p>_____</p>			
<p>Number _____ <input type="checkbox"/> Unable to be determined</p>			
<p>Design of Ad <input type="checkbox"/> Color DESIGNADCOLOR</p>		<p><input type="checkbox"/> Black & White <input type="checkbox"/> Microfiche DESIGNADBLACKANDWHITE</p>	
<p style="text-align: center;">DESIGNADMICROFICHE</p>			
<p>Ad Visual (check all that apply)</p> <p>Picture <input type="checkbox"/> Product <input type="checkbox"/> Text <input type="checkbox"/></p> <p>chart/quiz/questionnaire</p> <p>ADVISUALPICTURE ADVISUALPRODUCT ADVISUALTEXT</p> <p style="text-align: center;">ADVISUALCHARTQUIZQUESTIONAIRE</p>			
<p>(Tagline)</p> <p>_____</p>			
<p>Font Type Description _____ TAGLINEFONTDESCRIPTION</p>			
<p>Number _____ <input type="checkbox"/> No tagline in ad</p>			
<p>Administration <input type="checkbox"/> By prescription only ADMINPRESCRIPTION</p>		<p><input type="checkbox"/> OTC (Over the Counter) ADMINOVERTHECOUNTER</p>	
<p style="text-align: center;"><input type="checkbox"/> Not identified in ad ADMINNOTSPECIFIED</p>			
<p>Directives (check all that apply) <input type="checkbox"/> None specified</p> <p><input type="checkbox"/> Ask/see doctor or healthcare professional DIRASKSEEDOCTOR</p> <p><input type="checkbox"/> Tell your doctor about any problems you have with medication DIRTELLYOURDOCTOR</p> <p><input type="checkbox"/> Avoid possible dangerous drug interactions DIRAVOIDPOSSIBLE</p> <p><input type="checkbox"/> Use in conjunction with changes in diet and/or exercise DIRDIETEXERCISE</p> <p><input type="checkbox"/> Follow dosing schedule (e.g. “once a day”) DIRFOLLOWDOSING</p> <p><input type="checkbox"/> See important information on the following page DIRSEEIMPORTANTDIRECTIVEPAGE</p> <p><input type="checkbox"/> Product is not for everyone DIRPRODUCTISNOT</p> <p><input type="checkbox"/> Tell your physician if you are taking cyclosporine DIRTELLYOURPHYSICIAN</p> <p><input type="checkbox"/> BMI ≥ 30 or BMI ≥ 27 with risk factors DIRBMIANDRISKFACTORS</p> <p style="text-align: center;"><input type="checkbox"/> Other _____ DIROTHER</p>			
<p>Do Not Take If...</p> <p><input type="checkbox"/> Hx of CAD DNTHXOFCAD</p> <p style="text-align: center;">DNTHXOFCADIAC</p> <p><input type="checkbox"/> Hx of Cardiac arrhythmias</p>			

<input type="checkbox"/> Hx of CHF DNTHXOFCHF <input type="checkbox"/> Hx of poorly controlled hypertension DNTHXOFPPORLYHTN <input type="checkbox"/> Hx of severe renal impairment DNTHXOFSEVERERENAL <input type="checkbox"/> Gall bladder problems DNTGALLBLADDER DNTPREGNANTORNURSING <input type="checkbox"/> Food absorption problems DNTFOODABSORPTIONPROB <input type="checkbox"/> Parkinson's disease DNTPARKINSONSDISEASE <input type="checkbox"/> Hypersensitivity to Subutramine DNTHYPERSENSITIVITYSUBUTRAMINE <input type="checkbox"/> Malabsorption syndromes hypothyroidism) DNTMALABSORPTIONSYNROME <input type="checkbox"/> Allergies to product DNTALLERGIESPROD <input type="checkbox"/> Hx of Migraines DNTHXOFMIGRAINES <input type="checkbox"/> Taking other appetite suppressant drugs DNTTAKINGAPPETITESUPPRESANTS <input type="checkbox"/> Other _____	<input type="checkbox"/> Hx of stroke DNTHXOFSTROKE <input type="checkbox"/> Hx of severe hepatic dysfunction DNTHXOFSEVEREHEPATIC <input type="checkbox"/> Pregnant or breastfeeding <input type="checkbox"/> Reduced bile flow <input type="checkbox"/> Under 16 or 18 DNTUNDER16 DNTUNDER18 <input type="checkbox"/> Anorexia nervosa DNTANOREXIANERVOSA <input type="checkbox"/> Organic causes of obesity (i.e DNTORGANICCAUSESOFOBESITY <input type="checkbox"/> Serious Heart Condition DNTSERIOUSHEARTCONDITION <input type="checkbox"/> Glaucoma DNTGLAUCOMA <input type="checkbox"/> Taking Cyclosporine DNTTAKINGCYCLOSPORINE DNTOTHER	
Side Effects (check all that apply) SENONESPECIFIED <input type="checkbox"/> Pulmonary hypertension SEPULMONARYHYPERTENSION <input type="checkbox"/> diarrhea SEDIARRHEA <input type="checkbox"/> Loss of appetite SELOSSOFAPPETITE <input type="checkbox"/> Gallstones SEGALLSTONES <input type="checkbox"/> Reduced vitamin absorption SEREDUCEDVITAMIN <input type="checkbox"/> Interference with cognition and motor performance SEINTERFERENCEWCOGNITION <input type="checkbox"/> Other _____	<input type="checkbox"/> Seizures SESEIZURES <input type="checkbox"/> headaches SEHEADACHES <input type="checkbox"/> Constipation SECONSTIPATION <input type="checkbox"/> gas w/ oily discharge SEGASWOILYDISCHARGES <input type="checkbox"/> Anorexia SEANOREXIA	<input type="checkbox"/> None specified <input type="checkbox"/> Renal/hepatic SERENALHEPATIC <input type="checkbox"/> Dry mouth SEDRYMOUTH <input type="checkbox"/> Insomnia SEINSOMNIA <input type="checkbox"/> Increased bowel SEINCREASEDBOWEL <input type="checkbox"/> Inability to control bowel SEINABILITYTOBOWELMOVE SEOTHER
General Claims (check all that apply) EFFNONESPECIFIED Effectiveness <input type="checkbox"/> Provides sustained weight loss ___% and ___ years <input type="checkbox"/> CS EFFPROVIDESSUSTAINED1 EFFDOSE1 EFFCS <input type="checkbox"/> Provides sustained weight loss ___% and ___ years	<input type="checkbox"/> Graph/Chart EFFGRAPHCHART1 <input type="checkbox"/> Graph/Chart EFFGRAPHCHART1	<input type="checkbox"/> None specified <input type="checkbox"/> Dose EFFDOSE1 <input type="checkbox"/> Dose EFFDOSE1

CS
 EFFPROVIDESSUSTAINED2 EFFFORTIME2 EFFGRAPHCHART2
 EFFDOSE2 EFFCS2
 Provides sustained weight loss ___% and ___ years Graph/Chart Dose
 CS
 EFFPROVIDESSUSTAINED3 EFFFORTIME3 EFFGRAPHCHART3
 EFFDOSE3 EFFCS3
 Mean weight loss _____ lbs Graph/chart Dose
 CS
 EFFMEANWEIGHT EFFMWGRAPHCHART
 EFFMWDOSE EFFMWCS
 Lose ___ lbs in ___ days Graph/chart Dose
 CS
 Reduced Cholesterol _____ → _____ CS Anec
 EFFREDUCEDCHOLESTEROL EFFCHOLESTTO EFFCHOLESCS ANECDOTAL
 Reduced Blood Pressure _____ → _____ CS Anec
 EFFREDUCEDBLOOD EFFBPTO EFFBPCS EFFBPANEC
 Want to lose weight EFFWANTTOLOSEWEIGHT
 Keep weight off EFFKEEPOFFWEIGHT

Mechanism

<input type="checkbox"/> inhibits fat absorption MECHINHIBITSFAT	<input type="checkbox"/> None Specified
<input type="checkbox"/> converts amino acids into muscle tissue MECHCONVERTSAATOMT	<input type="checkbox"/> appetite suppressant/controls hunger MECHAPPETITESUPPRESSANT
<input type="checkbox"/> reduces body fat MECHREDUCESBODY	<input type="checkbox"/> converts body fat to energy MECHBODYFAT
<input type="checkbox"/> reduces cholesterol levels MECHREDUCESCHOLESTEROL	<input type="checkbox"/> increases lean muscle tissue MECHINCREASESLEAN
<input type="checkbox"/> oxidizes fat MECHOXIDIZESFAT	<input type="checkbox"/> detoxifies body MECHDETOXIFIES
<input type="checkbox"/> reduces triglycerides levels/ stabilizes blood sugar MECHREDUCESTRIGLYCERIDE	
<input type="checkbox"/> contains lipotropics which help break down fatty deposits in the body MECHCONTAINSLIPOTROPICS	
<input type="checkbox"/> regulates/stimulates metabolism to burn fat/calories more effectively MECHREGULATESSTIMULATES	
<input type="checkbox"/> inhibits serotonin reuptake MECHINHIBITSSEROTONIN	

General Claims (Cont)

Tolerance (No side Effects) None specified TOLNONSPECIFIED

Well-tolerated by _____ patients TOLWELLTOLERATED

No increase incidence of valvular heart disease
TOLNONINCREASEHEARTVALVEDISEASE

does not interfere with the natural absorption of vitamins and minerals
TOLDOESNOTINTERFEREABSORP

non-addictive/ contains no caffeine or chemical stimulant
TOLNONADDICTIVECONTAINSNOSTIMULANT

does not upset metabolism TOLDOESNOTUPSETMETA

safe TOLSAFE

no side effects TOLNOSIDEEFFECTS

<p>Other Effects</p> <p><input type="checkbox"/> lose/burn excess weight without changing diet or taking exercise OCLAIMSLOSEBURNEXCESS</p> <p><input type="checkbox"/> provides essential nutrients OCLAIMSPROVIDESESSENTIAL</p> <p>Other Claims</p> <p><input type="checkbox"/> “eat all you want” OCLAIMSALLYOUWANT</p> <p><input type="checkbox"/> Convenient (i.e once a day) OCLAIMSCONVENIENT</p> <p><input type="checkbox"/> guaranteed results OCLAIMSGUARANTEED</p> <p><input type="checkbox"/> _____ of people who use since _____</p> <p><input type="checkbox"/> Long-term effects have not been established OCLAIMSLONGTERMEFFECTS</p> <p><input type="checkbox"/> Weight Loss Dose Dependent OCLAIMSWEIGHTLOSSDOSE</p> <p><input type="checkbox"/> Effect on co-morbidities not established OCLAIMSEFFECTONCOMORBIDITIES</p> <p><input type="checkbox"/> Other _____ OCLAIMSOTHER</p>		
<p>General Information about Obesity <input type="checkbox"/> None specified</p> <p><input type="checkbox"/> Causes diabetes OBSITYINFOCAUSESDIABETES <input type="checkbox"/> Causes heart disease OBSITYINFOCAUSESHEART</p> <p><input type="checkbox"/> Causes Hypertension OBSITYINFOHYPERTENSION <input type="checkbox"/> Causes arthritis OBSITYINFOCAUSESARTHRTIS</p>		
<p>Contact Information (check all that apply)</p> <p><input type="checkbox"/> No additional information CONTACTINFOADDITIONAL</p> <p><input type="checkbox"/> Address CONTACTINFOADDRESS <input type="checkbox"/> Phone Number CONTACTINFOPHONENUMBER</p> <p><input type="checkbox"/> Website CONTACTINFOWEBSITE <input type="checkbox"/> Contact system CONTACTINFOCONTACTSYSTEM</p> <p><input type="checkbox"/> Other _____ CONTACTINFOOTHER</p>		
<p>Price Claims/Offerings (check all that apply)</p> <p><input type="checkbox"/> None PCONONE</p> <p><input type="checkbox"/> Cost savings <input type="checkbox"/> Coupons and discounts <input type="checkbox"/> Free brochure/booklet/Information kit PCOCOSTSAVINGS PCOCOUPONSAND PCOFREEBROCHUREBOOKLETINFORMATION</p> <p><input type="checkbox"/> Money back guarantee <input type="checkbox"/> Free Product/trials <input type="checkbox"/> Support system/program PCOMONEYBACKGUARNTEE PCOFREEPRODUCT PCOSUPPORTSYSTEMPROGRAM</p> <p><input type="checkbox"/> Lack of Insurance Coverage PCOLACKOFINSURANCE</p> <p><input type="checkbox"/> Other _____ PCOOTHER</p>		
<p>Superiority Claims <input type="checkbox"/> None SUPNONE</p> <p><input type="checkbox"/> Comparison Product(s) <input type="checkbox"/> General Comparison <input type="checkbox"/> Placebo SUPCOMPARISON SUPGENERALCOMPARISON SUPCOMPARISONTOPLACEBO</p> <p>Which Product: _____ SUPWHICHPRODUCT</p>		

Basis of Comparison: _____ FTC Report FTC Method
 Either
SUPBASISOFCOMPARISON **SUPFTCREPORT** **SUPFTCMETHOD**
SUPFTCEITHER

Text of claim _____ **SUPTEXTOFCLAIMS**

Nature of Ad Appeal (*check all that apply*)

Anecdotal/Testimonial **NOANNECDOTALTESTIMONIAL**
 Sex appeal **NOASEXAPPEAL**
 Safety/ Health & Nutrition **NOASAFETYHEALTH**
 Motivational/Optimistic **MOTIVATIONALOPTIMISTIC**
 Informative/Statistics & Studies **NOAINFORMATIVESTATISTICS**
 Fear Based **NOAFEARBASED**
 Promotional **NOAPROMOTIONAL**
 Humor/Witty **NOAHUMORWITTY**
 Emotional **NOAEMOTIONAL**
 Fun **NOAFUN**
 Celebrity Appeal **NOACELEBRITYAPPEAL**
 Popular **NOAPOPULAR**
 Best Selling **NOABESTSELLING**
 If Best Selling or Popular, how many products sold? _____
NOAIFBESTSELLING

Images of Inanimate objects None **IOIONONEDISPLATED**

Empty Plates # _____ Full Plates # _____ Plates with Food Leftover # _____
IOIOEMPTYPLATES **IOIOFULLPLATES** **IOIOPATESWITH**
 Pamphlet for more information **IOIOPAMPHLETFOR**
 Tight Rope **IOIOTIGHTROPE** Balance Bar
IOIOBALANCEBAR
 Product **IOIOPRODUCT**

Description Elaboration _____
 _____ **IOIODESCRIPTIONTRBB**

Mechanism Images

Anatomical Models
 Brain Intestines Fat Molecules
 Neurotransmitters
MIBRAIN **MIINTESTINES** **MIFATMOLECULES**
MINEUROTRANSMITTORS

Presence of Drug Interaction within model or location of drug interaction
MIDRUGMOLECULES

Advertising Programs Within Advertisement

Advertising Weight Loss Program Program Name: _____
APWAADVERTISINGWEIGHT **APWAPROGRAMNAME**
 Healthcare counselors **APWAHEALTHCARE**

Celebrity: Yes No If Yes, Who: _____
PERSON1CELEBRITY **PERSON1IFYESWHO**

Weight before: _____ Weight after: _____ Total Weight
PERSON1WEIGHTBEFORE **PERSON1WEIGHTAFTER**
PERSON1TOTALWEIGHT

Lost: _____
PERSON1WEIGHTBEFORE **PERSON1WEIGHTAFTER**
PERSON1TOTALWEIGHT

Demeanor:
 Sad/Stern No particular expression Happy/Smiling
PERSON1SADSTERN **PERSON1NOPARTICULAR** **PERSON1HAPPYSMILING**

Clothing:
 Bathing suit Athletic/workout clothes Casual Dress
PERSON1BATHINGSUIT **PERSON1ATHLETICWORKOUT** **PERSON1CASUAL**
PERSON1DRESSUP

Social Depiction:
 Alone **PERSON1ALONE** With other people
PERSON1WITHOTHERPEOPLE

If with other people
 Family **PERSON1FAMILY** Romance **PERSON1ROMANCE** Work
PERSON1WORK
 Recreation **PERSON1RECREATION** Physician **PERSON1PHYSICIAN** Patient
PERSON1PATIENT
 Other _____ **PERSON1SOCIALOTHER**

Person 2 Race White Black Hispanic Asian Other CBI
PERSON2WHITE/ PERSON2BLACK/ PERSON2HISPANIC/ PERSON2ASIAN/
PERSON2OTHER/ PERSON2CBI

Gender Male Female CBI
PERSON2MALE/ PERSON2FEMALE/ PERSON2GENDERCBI

Profession Patient Physician CBI
PERSON2PATIENT/ PERSON2PHYSICIAN/ PERSON2PROFCBI

Age Child Teen Adult Elder Infant CBI
PERSON2CHILD/ PERSON2TEEN/ PERSON2ADULT/ PERSON2ELDER/
PERSON2INFANT/ PERSON2AGECBI

Using Product Yes No **PERSON2USINGPRODUCT**
Weight lost (in lbs): _____ **PERSON2WEIGHTLOSS** N/A
PERSON2WEIGHTLOSSNA

Time on product: _____ **PERSON2TIMEONPROD** N/A
PERSON2TIMEONPRODNA

Celebrity: Yes No If Yes, Who: _____
PERSON2CELEBRITY **PERSON2IFYESWHO**

Weight before: _____ Weight after: _____ Total Weight
PERSON2WEIGHTBEFORE **PERSON2WEIGHTAFTER**
PERSON2TOTALWEIGHT

Lost: _____
PERSON2WEIGHTBEFORE **PERSON2WEIGHTAFTER**
PERSON2TOTALWEIGHT

Demeanor:
 Sad/Stern No particular expression Happy/Smiling
PERSON2SADSTERN **PERSON2NOPARTICULAR** **PERSON2HAPPYSMILING**

Clothing:
 Bathing suit Athletic/workout clothes Casual Dress

up

PERSON2BATHINGSUIT PERSON2ATHLETICWORKOUT PERSON2CASUAL
PERSON2DRESSUP

Social Depiction:

Alone PERSON2ALONE With other people

PERSON2WITHOTHERPEOPLE

If with other people

Family PERSON2FAMILY Romance PERSON2ROMANCE Work
PERSON2WORK

Recreation PERSON2RECREATION Physician PERSON2PHYSICIAN Patient
PERSON2PATIENT

Other _____ PERSON2SOCIALOTHER

Person 3 Race White Black Hispanic Asian Other CBI
PERSON3WHITE/ PERSON3BLACK/ PERSON3HISPANIC/ PERSON3ASIAN/
PERSON3OTHER/ PERSON3CBI

Gender Male Female CBI
PERSON3MALE/ PERSON3FEMALE/ PERSON3GENDERCBI

Profession Patient Physician CBI
PERSON3PATIENT/ PERSON3PHYSICIAN/ PERSON3PROFCBI

Age Child Teen Adult Elder Infant CBI
PERSON3CHILD/ PERSON3TEEN/ PERSON3ADULT/ PERSON3ELDER/
PERSON3INFANT/ PERSON3AGECBI

Using Product Yes No PERSON3USINGPRODUCT

Weight lost (in lbs): _____ PERSON3WEIGHTLOSS N/A
PERSON3WEIGHTLOSSNA

Time on product: _____ PERSON3TIMEONPROD N/A
PERSON3TIMEONPRODNA

Celebrity: Yes No If Yes, Who: _____
PERSON3CELEBRITY PERSON3IFYESWHO

Weight before: _____ Weight after: _____ Total Weight

Lost: _____
PERSON3WEIGHTBEFORE PERSON3WEIGHTAFTER
PERSON3TOTALWEIGHT

Demeanor:

Sad/Stern No particular expression Happy/Smiling
PERSON3SADSTERN PERSON3NOPARTICULAR PERSON3HAPPYSMILING

Clothing:

Bathing suit Athletic/workout clothes Casual Dress

up

PERSON3BATHINGSUIT PERSON3ATHLETICWORKOUT PERSON3CASUAL
PERSON3DRESSUP

Social Depiction:

Alone PERSON3ALONE With other people

PERSON3WITHOTHERPEOPLE

If with other people

Family PERSON3FAMILY Romance PERSON3ROMANCE Work
PERSON3WORK

Recreation PERSON3RECREATION Physician PERSON3PHYSICIAN Patient
PERSON3PATIENT

Other _____ PERSON3SOCIALOTHER

Person 4 Race White Black Hispanic Asian Other CBI
PERSON4WHITE/ PERSON4BLACK/ PERSON4HISPANIC/ PERSON4ASIAN/
PERSON4OTHER/ PERSON4CBI

Gender Male Female CBI
PERSON4MALE/ PERSON4FEMALE/ PERSON4GENDERCBI

Profession Patient Physician CBI
PERSON4PATIENT/ PERSON4PHYSICIAN/ PERSON4PROFCBI

Age Child Teen Adult Elder Infant CBI
PERSON4CHILD/ PERSON4TEEN/ PERSON4ADULT/ PERSON4ELDER/
PERSON4INFANT/ PERSON4AGECBI

Using Product Yes No PERSON4USINGPRODUCT

Weight lost (in lbs): _____ PERSON4WEIGHTLOSS N/A
PERSON4WEIGHTLOSSNA

Time on product: _____ PERSON4TIMEONPROD N/A
PERSON4TIMEONPRODNA

Celebrity: Yes No If Yes, Who: _____
PERSON4CELEBRITY PERSON4IFYESWHO

Weight before: _____ Weight after: _____ Total Weight
Lost: _____ PERSON4WEIGHTBEFORE PERSON4WEIGHTAFTER
PERSON4TOTALWEIGHT

Demeanor:

Sad/Stern No particular expression Happy/Smiling
PERSON4SADSTERN PERSON4NOPARTICULAR PERSON4HAPPYSMILING

Clothing:

Bathing suit Athletic/workout clothes Casual Dress
up
PERSON4BATHINGSUIT PERSON4ATHLETICWORKOUT PERSON4CASUAL
PERSON4DRESSUP

Social Depiction:

Alone PERSON4ALONE With other people
PERSON4WITHOTHERPEOPLE

If with other people

Family PERSON4FAMILY Romance PERSON4ROMANCE Work
PERSON4WORK

Recreation PERSON4RECREATION Physician PERSON4PHYSICIAN Patient
PERSON4PATIENT

Other _____ PERSON4SOCIALOTHER

Person 5 Race White Black Hispanic Asian Other CBI
PERSON5WHITE/ PERSON5BLACK/ PERSON5HISPANIC/ PERSON5ASIAN/
PERSON5OTHER/ PERSON5CBI

Gender Male Female CBI
PERSON5MALE/ PERSON5FEMALE/ PERSON5GENDERCBI

Profession Patient Physician CBI
PERSON5PATIENT/ PERSON5PHYSICIAN/ PERSON5PROFCBI

Age Child Teen Adult Elder Infant CBI
 PERSON5CHILD/ PERSON5TEEN/ PERSON5ADULT/ PERSON5ELDER/
 PERSON5INFANT/ PERSON5AGECBI

Using Product Yes No PERSON5USINGPRODUCT
 Weight lost (in lbs): _____ PERSON5WEIGHTLOSS N/A
 PERSON5WEIGHTLOSSNA

Time on product: _____ PERSON5TIMEONPROD N/A
 PERSON5TIMEONPRODNA

Celebrity: Yes No If Yes, Who: _____
 PERSON5CELEBRITY PERSON5IFYESWHO

Weight before: _____ Weight after: _____ Total Weight
 Lost: _____ PERSON5WEIGHTBEFORE PERSON5WEIGHTAFTER
 PERSON5TOTALWEIGHT

Demeanor:
 Sad/Stern No particular expression Happy/Smiling
 PERSON5SADSTERN PERSON5NOPARTICULAR PERSON5HAPPYSMILING

Clothing:
 Bathing suit Athletic/workout clothes Casual Dress
 up
 PERSON5BATHINGSUIT PERSON5ATHLETICWORKOUT PERSON5CASUAL
 PERSON5DRESSUP

Social Depiction:
 Alone PERSON5ALONE With other people
 PERSON5WITHOTHERPEOPLE

If with other people
 Family PERSON5FAMILY Romance PERSON5ROMANCE Work
 PERSON5WORK
 Recreation PERSON5RECREATION Physician PERSON5PHYSICIAN Patient
 PERSON5PATIENT
 Other _____ PERSON5SOCIALOTHER

Group of people (5 or more people)
 Group of people No group of people
 YESGROUPOFPEOPLE NOGROUPOFPEOPLE

Race White Black Hispanic Asian Other CBI
 GROUPWHITE/GROUPBLACK/GROUPHISPANIC/GROUPASIAN/GROUPOTHER/GROUPRACEC
 BI

Gender Male Female CBI
 GROUPMALE/ GROUPFEMALE
 GROUPGENDERCBI

Age Child Teen Adult Elder CBI
 GROUPCHILD/GROUPTWEEN/GROUPADULT/GROUPELDER/GROUPAGECBI

Social Depiction:
 Family Romance Work Recreation
 Other _____
 GROUPFAMILY GROUPTROMANCE GROUPWORK GROUPTRECREATION
 GROUPTSOCOTHER

Appendix 5: Coding Tool Descriptors

Unique Ad, Product, and Manufacturer Numbers:

The unique ad number can be found on the upper right hand corner of the advertisement on a post-it. The Product and Manufacturer numbers can be found in the attached spreadsheets.

Ad Length

If the ad is less than one page you will have to measure the size of the ad with a ruler, in inches. The width is the ad size from left to right while the length of the ad is from bottom to top.

Product Type:

The product type describes in what form the product is presented to the customer or patient. There are many different product types and some ads have more than one item (a low carbohydrate bar with an accompanying bottle of capsules). If that is the case, check as many product types as there are presented. If you are sure that the product is a pill but not sure if it is a tablet or a capsule check off “Unspecified Pill.” If the type of product is not mentioned in the ad, check “not specified”.

Design of ad

Specify whether the ad is in color, black & white, or microfiche. The microfiche ads are in black and white and have poorer resolution, these are not meant to be black and white but are stored that way in the library/digitally.

Ad Visual

Ad visual describes the objects in the ad. Specify whether the ad contains text, pictures, product, charts, quizzes, or questionnaires, and be sure to check all that apply.

Pictures are not just photographs but can be cartoons, people, etc. Products do not count as pictures.

Product can be in the form of the packaging (box, bottle etc.) or actual product form (tablet, capsule).

Charts don't have to be specifically outlined as a formal chart. Sometimes they are subtly conveyed within the marketing figures as risk meters or steps in product dosage. For example BEHO.03-03.PH.LIPITOR.1 has a chart next to the woman, demonstrating her characteristics and cholesterol level.

Quizzes and questionnaires don't need to be specifically outlined as such but can be conveyed through a series of questions with space for “answers” and with or without provided “answers”.

Testimonials are any enlarged quote next to a person, or if there is a quote with a person telling about their experience with the product.

Tagline

Write in the tagline and corresponding tagline number that appears in the advertisement. If there is no tagline in the ad check the “no tagline” box.

Taglines are not just a recurring phrase in multiple ads, a tagline should be a phrase associated with the brand/product that is seen in multiple different types of advertisement for the same product. For example, some phrases may be used multiple times but within the same advertisement theme. These are not taglines but phrases used for a specific ad campaign. We want taglines to be associated with the brand/product, not specific ads/series of ads.

Directives, Side Effects, and General Claims do not have to say exactly what is listed on the coding form. The coding form embodies general statements that could refer to more specific claims and information found in individual advertisements. Check all that apply for these categories.

Use “Other” boxes sparingly, most important statements have been accounted for and if they are too specific will not be useful to us. Make sure that it is pertinent to Directives, Side Effects, Claims, or Information and that it hasn’t already been accounted for in one of the boxes.

Directives

Directives are specific instructions given in the advertisement to be carried out with administration of the product. The section is divided into a section that gives directives for those taking the medicine and a part that lists those who are not directed to take the medicine.

Directives are often implied but should still be marked. For instance “avoid possible dangerous drug interactions” should be marked when an ad tells you to talk to your doctor about other medications you are taking when using product ____.

Side Effects

Side effects of the product are listed in the print of most ads. Check all side effects that apply to the given product. Some side effects are very product specific and are not listed. Write these out in the “other” category.

Dyspepsia should be included in upset stomach/pain/nausea and arthralgia in muscle/joint/bone pain.

Do not go through the warnings page to find additional side effects, include only those listed in the promotional part of the ad.

General Claims

These are general claims that the manufacturers make, describing how the product works, success rates, statistics/studies on the product, and what differentiates it from other products in the field. Preventative claims are before the condition sets in, the product claims that it will help to deter the onset of the condition. Treating claims are

directed toward relieving the symptoms of a specific condition. Reversal claims aim to show the product can reverse degenerative symptoms and bring back normal health. *Be VERY careful in this section. There are a lot of possible claims. Go through the ad line by line and see if there is anything you can check off.*

Price Claims/Offerings

Any claims about the price of the product that the manufacturer makes in the advertisement should be included in this section. Offerings are deals, discounts, rebates, merchandise etc. that the manufacturing company offers the customer through their advertisement. If a claim or offer is made that is not specifically listed on the coding form write it in the “other” line. Support systems/programs refer to any additional help given by the product manufacturer/company beyond just information (i.e. insurance coverage, consumer hotlines, programs etc.).

Pricing

In this section you are to fill out the price and then the supply. The supply can be given in how many days, weeks, months, or pills the price will allow. Fill out as many price sections as are offered in the ad. If they accept Credit Cards, make sure to check off the box. If they have any Shipping/Handling information, be sure to check off the box and write it in.

Contact Information

This pertains to the information of the company manufacturing the product. Most often includes contact, product information, informative questionnaires, and self-tests. Check boxes pertain to how the information is distributed.

Nature of Ad appeal

Ad appeal refers to how the advertisement convinces the consumer to purchase the product. Unlike product claims nature of ad appeal is what marketing technique is used beyond the characteristics of the product. Check all that apply, many ads will use more than one advertising technique. Informative is the default ad appeal if nothing else is used; nature of ad appeal is a required field.

Remember that the Nature of Ad appeal is the specific marketing technique used in the advertisement so the appeal is explicitly conveyed, not subtly referred to.

Anecdotal- Ad appeal is based on a specific person’s experience/story with the medication or illness. These will have ads based on people’s subjective experiences with the product or condition.

i.e. I exercise, eat right, but still overweight...until I took _____

An ad is not anecdotal/testimonial if it just has a picture of someone next to the product and it looks as if they used the product. There must be some sort of explicit “testimony” or story about how they used the product/had the condition.

Fear-based- ad appeal is based on scaring you into purchasing the product by expanding on the severity of the illness and making drastic statements like “your kids just

want you around for the future”- suggesting that if you want to be around for the future you’ll get their medication.

Safety- emphasizes how safe/low risk of side effects the medication is. This is only part of the ad appeal if the advertisement makes a point to highlight the safety of the product. This box should be checked if the ad makes a lot of claims about how nutritious their product is. Needs to be more than just a statistic or statement about low risk of side effects.

Motivational - has a “you can do it” attitude. Tries to pick you up and get you normal again, these ads reach out to the consumer and make them feel like there is a solution to the condition. “You can do it! We can help”
Motivational must be overt and beyond statements that the drug works to cure a condition, these must be part of the “ad appeal”, specifically marketed as motivational.

Informative/Statistics and Studies- gives empirical evidence of the medicine’s effectiveness or the prevalence of the disease through specific statistics or clinical trials. The statistics referred to are based on studies or research (i.e. FatBlocker helped 90% people, FatBlocker lowers body fat 43% average etc.), not % decrease in fat from one person. An ad is informative if it does not include obvious information. Information to be included in “informative” should be the main text of the article; an ad is not informative based on the fine print text, including “important information about” ____.

*This is also the default appeal if no other technique is used.

Not every ad is informative

* Claims and advertising opinions are not informative. (i.e. best, most, safest etc.)

Popular Appeal- Makes you feel like you’re not alone, many other people suffer from the same symptoms as you and take medication for it. “18 million Americans suffer from depression”.

Emotional- Linking depression or sadness to obesity. “I was upset all of the time, until I tried Carb Solution.” Must have an explicit link to a change in emotion because of the product.

Stressing Activity or Exercise: Placing a large emphasis on exercise in conjunction with the product. Needs to be more than just a woman in a workout outfit.

Best-selling- Tells you how many other people have bought the product “... is the best selling medication for weight loss”.

Promotional- Focus is to promote the product through special offers, coupons, guarantees, promotions, etc.

Preview ads are always promotional - they are promoting the introduction of the product.

Humor/witty – any comedic or witty advertisements, whether overt or subtle

- plays on words, intended ridiculousness, social satires, rhymes

- taglines can be considered humor/witty and all ads with them should be coded as such however not all taglines are necessary humor/witty
- you must analyze the intent of the advertisement, not your personal belief of whether or not you think the ad is funny

Sex Appeal - *provocative*, revealing clothing, suggestive poses, etc.

Less obvious partial nudity such as exposed shoulders, midriff, legs is still considered seductive/sexy

- may be ad with one or multiple people in it
e.g. man without shirt, woman in bathing suit, seductively flowing skirts

ALSO a woman at a bar or people at a dance club with seductive poses or facial expressions may count as seductive

* do NOT base decision only on facial expression, unless 100% surely seductive

Superiority Claims

Refer to explicit comparisons of all products in the product category/genre or a specific competitor/leading brand. If a specific competitor is mentioned write the competitor below. Fill in the basis for comparison, study/test used to compare it to other brands regardless of specific comparisons.

Before and After Pictures (Over the counter only):

First, you must decide if there are FULL BODY before and after pictures. A before and after stomach shot does not count. If there are, record how many and start to code them. Race/gender/age/celebrity status do not change and you only have to do those once. For “using product” there has to be a SPECIFIC connection to words and a person. Only EXPLICIT references to people using the product count. There are three before/after characteristics you should code: Demeanor/Clothing/and Social Depiction.

Body Parts

This section is if there are pictures of just body parts. This section is NOT if one person’s thigh is visible. This section IS for just a picture of a thigh.

People in Ad

If there are 5 people or less in the ad, go through and code them according to race, gender, age, whether or not they are using the product, and whether or not they are a celebrity. For categories that may be difficult to see or are fairly ambiguous mark CBI (cannot be identified). Do not guess individuals’ characteristics such as race, gender, age etc. When coding multiple people, code foreground/focus of the ad first and background people next. All people should be coded from left to right. i.e., 2 people in front and 3 people in back. Code front left, front right, back left, middle, right in that order. For people not arranged in the same picture and in a circular format, code using clock format starting at noon and rotating clockwise. i.e. 4 separate pictures/people in a square pattern on the page. Start with top right picture/person, bottom right, bottom left, top left in that order.

Group of People

If there are more than 5 people in the ad, mark all boxes that apply using the same categories as ***People in Ad***. If there is a group of people don't mark off all the individual boxes, just the group box. However, still mark people in the individual people category but leave all the individual boxes blank.

Characteristics should pertain to the group as a whole, so mark all that apply. i.e. multiracial, multi-gender ads should mark all races present and both male and female.

Appendix 6 – Variable Measurement

Hypothesis 1: Determining the target audience of the advertisement

Due to the inclusion of the multiple individuals within an advertisement, there was a need to determine who the target population was in the advertisement. Appendix 6, figure 1 displays how just using the raw data from the content coding tool can skew the results. The use of a baby and a male physician should not be included in the analysis of the firms' ability to target a specific audience through choosing specific magazines. Appendix 6, figure 2 displays an advertisement displayed toward a female audience. Appendix 6, figure 3 displays an advertisement displayed to both males and females. In this image, the presence of two females and one male presents the inability to determine the exact target population of this advertisement.

Hypothesis 2: Determining Nature of Advertisement Appeal and Depiction of Individuals

In analyzing the nature of advertisement appeal, the occurrence of multiple appeals can occur within the same advertisements. Figures 4, 5, 6, 7, and 8 represent a specific advertisement appeal to clarify the major appeal within the advertisement. Although figure 4 presents an image of a female waist line, the appeal is predominantly informative because it includes the mechanism of action and the chemical. Figure 5 is anecdotal because of the multiple before and after images and the quotes from actual users. Figure 6's primary appeal is safety, health, and nutrition because the advertisement claims the individual does not need to starve or over-exercise to lose weight. Figure 7 represents a sex appeal advertisement. The inclusion of Bodylove as the name brand and the pose and clothing of the individual presented in the advertisement creates an appeal that is sexual in nature.

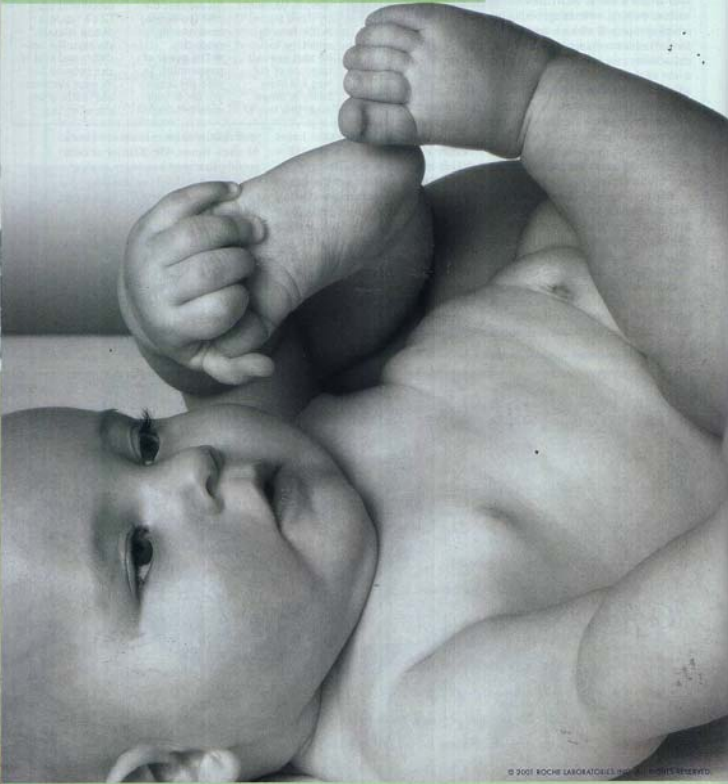
To describe the depiction of individuals, figure 9 covers most of ways individuals are portrayed in these advertisements. The first two individuals within the advertisement dressed in casual white clothes represent individuals who are with a significant other who appear to be happy and smiling. The other male individual within the advertisement who is wearing red shorts and a blue shirt can be considered wearing athletic clothes with no particular facial expression. The female gardening can be considered alone, wearing casual clothes with no particular facial expression. The female rollerblading was considered wearing athletic clothes and happy and smiling. The female the red dress in figure 5 is an individual who can be considered wearing dress-up clothes.

Hypothesis 5: Use of Product Differentiating Claims


The use of product differentiation claims is extremely prevalent in this class of drugs due to the reports of adverse events as well as the voluntary withdrawals. The product differentiation claims are identified in red squares in Figures 3, 10, 11, 12, and 13. These are examples of what constitutes a product differentiation claim.

Figure 1 – Xenical Advertisement
 SCADS Database
 Appeared in *Family Circle* - April 24, 2001

In the beginning, your weight was in the capable hands of your doctor. It still should be.



© 2001 ROCHE LABORATORIES. ALL RIGHTS RESERVED.



Talk to your doctor about Xenical, a fundamentally different approach to managing your weight.

Your weight is as important to you today as it was the day you were born. Your doctor will tell you that losing excess weight is an important priority – because it’s a primary cause of diabetes and heart disease. That’s why it’s a good idea to have a healthy, open conversation with your doctor about finding ways to manage your weight successfully. Fortunately, there’s a fundamentally different kind of medication available to help you do it, Xenical.

What is Xenical? Unlike all other prescription weight-loss medications, which work on the central nervous system, Xenical works in your digestive system to prevent about 1/3 of the fat in the food you eat from being absorbed.

Is Xenical right for you? If you are an adult who is at least 30 pounds overweight, depending on height – or 20 pounds overweight, depending on height, with other risk factors such as high blood pressure, high cholesterol, heart disease or diabetes – Xenical may be right for you.

You should take Xenical with healthy, reduced-calorie meals containing no more than 30% of calories from fat.

Important considerations. You may experience gas with oily discharge, increased bowel movements, an urgent need to have them and an inability to control them, particularly after meals containing more fat than recommended.

You should not take Xenical if you are pregnant, nursing, have food absorption problems or reduced bile flow. If you are taking cyclosporine, talk to your doctor before taking



Because Xenical reduces absorption of some vitamins, it is recommended that you also take a daily multivitamin.

The long-term benefits of Xenical on weight-related illnesses and life expectancy have not been established.

XENICare™ The support program you need. Designed to work in conjunction with Xenical, XeniCare personal health care counselors will provide you with the information, tools and encouragement that you need to help you achieve your weight-loss goals.

Call for your free Healthy Conversation Starter Kit. It’s designed to help you ask the right questions, so your doctor can give you the right kind of help. You’ll also receive a free Body Mass Index chart to calculate your BMI and see if your current weight is right for you.

For your free Healthy Conversation Starter Kit, call 1-800-421-7028 today.

Please see important patient information on adjacent page. www.xenical.com



Figure 2 – Xenadrine Advertisement
 SCADS Database
 Appeared in *Vogue* - January 2002

“Losing 22 Pounds Was Easy. Real Easy!”

Before

After

“When friends told me Xenadrine works, I had absolutely no idea that I’d be able to lose 22 pounds in just 3 weeks! Xenadrine’s amazing. No wonder it’s #1 in America.”
 - Adrienne Bruker

Hundreds of thousands of people just like you have reshaped and energized their bodies thanks to the research proven power of Xenadrine RFA-1. It’s the only diet supplement in the world clinically proven to increase fat loss by an extraordinary 38.6 times more than diet and exercise alone. If Adrienne could lose 22 pounds in three weeks, imagine what it can do for you? With Xenadrine, the results speak for themselves. Join the thousands who’ve lost millions of pounds. Put the power of Xenadrine to work for you today!

The #1 Diet Supplement In America... Because It Works!™

Xenadrine is available at Fine Health Food Stores everywhere, including:

GNC Live Well.

ECKERD

www.Xenadrine.com
 1-888-CYTODYN
 Dept. 6035

CYTODYNE TECHNOLOGIES Lose Weight Fast
Maximum Strength
Xenadrine
RFA-1
CLINICALLY PROVEN
Rapid Fat Loss Catalyst™

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease. CAUTION: This product contains ephedra and may not be for everyone. This product is for adult use only and should not be used by pregnant or nursing women or by anyone with any known medical condition. For best results use as part of a diet and exercise program. *These results not typical. ©2001 Cytodyne Technologies, Inc. All Rights Reserved.

Figure 3 – Xenadrine Advertisement
 SCADS Database
 Appeared in *People* - March 6, 2002

Now there's one thing in life that you can change.

Bobby Aldridge
 Lost 56 Pounds!
 With Xenadrine EFX!

Amber Hensen
 Lost 105 Pounds!
 With Xenadrine EFX!

Sandra Holt
 Lost 53 Pounds!
 With Xenadrine EFX!

Yourselves!



It's amazing how losing a few pounds can change your life.

What's truly amazing is just how much weight you can lose with the new Xenadrine EFX... and it's ephedrine-free. In fact, Xenadrine EFX is the first diet supplement of its kind that's been clinically proven to deliver dramatic results without ephedrine.

With Xenadrine EFX, rediscovering the "skinner you" is easier than you think. Those happy people you see on the left are all real Xenadrine EFX users... and they all experienced incredible weight-loss results in just a few months. They also experienced a whole new level of confidence and self-respect and got back the energy they needed to live life the way it's supposed to be lived. Thin.

So if you've got ten or 20 pounds to lose – or even 105 pounds, like Amber – Xenadrine EFX is ready to help you discover the skinnier side of life. It's the only place to be.

Change your life with Xenadrine EFX.
The Most Revolutionary Diet Supplement Ever!

Sandra – Before. Bobby – Before. Amber – Before.


Available at: GNC, Wal-Mart, Target, Walgreen's, Eckerd Drugs, Albertson's, Sav-On, Vitamin Shoppe, Great Earth, Duane Reade and quality health food and drug stores everywhere.

www.Xenadrine.com 1-888-CYTODYN Dept. 7357

Use as directed and with a sensible nutrition and exercise program. Results shown may not be typical. ©2002 CytoDyne Technologies, Inc. All Rights Reserved.

Figure 4 – Ellotrim Advertisement
SCADS Database
Appeared in Woman's Day - December 15, 1998

Phone in
to slim down
Order a slimmer
waistline by phone



Ellotrim™ Caffeine-free Diet
Aids are the most effective
appetite suppressants available without a doctor's
prescription. From mild to triple-strength, Ellotrim
contains the maximum amount of phenylpropanolamine,
formerly by prescription only. For more info, visit
www.ello.com. To order, call 1-800-523-0732. \$19.95 plus
s/h (90-day supply). Satisfaction guaranteed, or return
within 10 days for refund. Or try a trial size (one per
customer) \$3 prepaid only. Ello Corp., 4937 Woodville
Rd., Northwood, OH 43619.

Figure 5 – Hydroxycut Advertisement
 SCADS Database
 Appeared in Woman's Day - June 4, 2002



“Have you ever looked at your body and wanted to cry?”™

*“If you're like me, then the answer is definitely 'yes'. Before I discovered Hydroxycut, I weighed an embarrassing 187 pounds and hated the way I looked and felt. My bodyweight was out of control. After adding Hydroxycut to my weight-loss plan, I lost an incredible 63 pounds, 12 dress sizes, and inches off my waist! After having children, I never dreamed I could lose all this weight, but Hydroxycut helped make it happen. My husband is so happy for me. He says I look younger and more beautiful than ever. If you really need to lose weight fast like I did, use Hydroxycut.”**
 — Julia Teachout, Mesa, AZ

BEFORE



MIDPOINT



AFTER



BEFORE



AFTER



*“Hydroxycut really helped me lose weight from my problem areas – hips, butt, and thighs.”**

*“I couldn't believe how powerful Hydroxycut was until I tried it for myself. I lost 63 pounds and 12 dress sizes in just 19 weeks!”**

Julia's results not typical*

Television actors, fashion models, and millions of men and women across America trust the most recognized name in weight loss – Hydroxycut – to help them quickly lose weight. Julia achieved the body of her dreams and increased her energy level using the clinically proven Hydroxycut formula. *You can too.* Try Hydroxycut for yourself today. You've got nothing but pounds and inches to lose!*

BEFORE



AFTER



*“My husband John lost an extraordinary 92 pounds and 15 inches off his waist with the help of Hydroxycut! Hydroxycut is one fat burner that really does work!”**



Advanced Weight Loss Formula
HYDROXYCUT
 Lose Fat Fast!
 Clinically Proven
 Increase Energy*
 100% Natural
MUSCLETECH
 Research And Development
 Dietary Supplement 140 Capsules

*“Hydroxycut is the single most effective, natural weight-loss product I've ever used. I highly recommend it to both men and women!”**
 — Dr. Christine Lydon, MD

For more information call 1-800-246-3261.



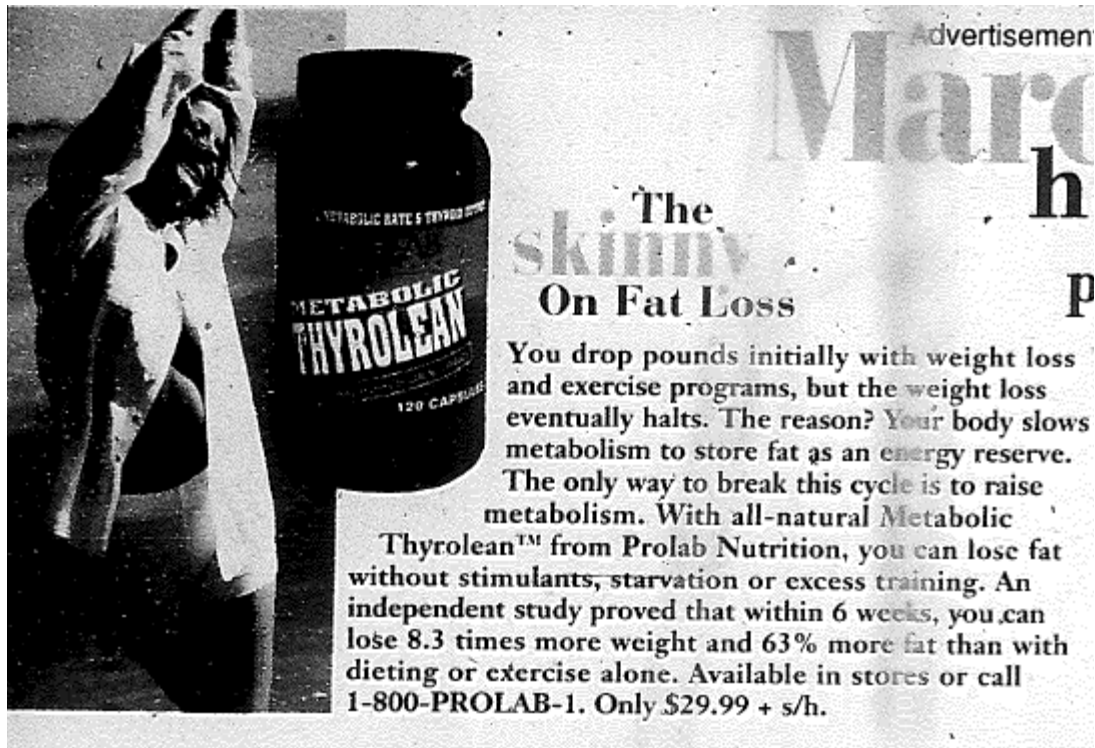



www.hydroxycut.com

*Results Not Typical and depend on your diet and training program. This product is not intended to diagnose, treat, cure, or prevent any disease. These statements have not been evaluated by the FDA. This product is not for use by individuals under the age of 18. Julia and John Teachout have been remunerated for their appearance. Julia lost 63 lbs. and John lost 92 lbs. in 19 weeks by combining diet, exercise and Hydroxycut. Average weight loss expected is 8.4 lbs. in 8 weeks. **This product contains ephedra and may cause serious adverse health effects if used improperly. ***IMPORTANT: Read the ENTIRE label before use and carefully follow the labeled directions for use.

PHOTOGRAPHS: SCOTT JONES (top left); JOE POLILLO (right); ILLUSTRATIONS: BRENT PALLAS
 © 2002 MuscleTech R. & D., Inc. All rights reserved.

Figure 6 – Thyrolean Advertisement
SCADS Database
Appeared in Glamour - March 1999



Advertisement
March
The
skinny
On Fat Loss
P

You drop pounds initially with weight loss and exercise programs, but the weight loss eventually halts. The reason? Your body slows metabolism to store fat as an energy reserve. The only way to break this cycle is to raise metabolism. With all-natural Metabolic Thyrolean™ from Prolab Nutrition, you can lose fat without stimulants, starvation or excess training. An independent study proved that within 6 weeks, you can lose 8.3 times more weight and 63% more fat than with dieting or exercise alone. Available in stores or call 1-800-PROLAB-1. Only \$29.99 + s/h.

Figure 7 – Chitosan Advertisement
SCADS Database
Appeared in Glamour - July 1999



Discover the thin YOU

Bodylove's Power Diet System is the quick fix diet for the new millennium. The results are dramatically evident in just two days. In this system you get the Ancient formula, Chitosan and our special fast start weight-loss detoxifying bonus gift. You will lose up to 10 lbs. in 2 days, or your money back. \$39.95 + s/h. Credit card orders call

(877) 263-9568 or send check/m.o to Bodylove, P.O. Box 6430, Whittier, CA 90609. Better body, mind and soul—
www.bodylove.com

Figure 8 – Curves Advertisement
 SCADS Database
 Appeared in Woman's Day - March 31, 1997

“I DID IT!”



Cindy Williams before.



Cindy Williams after she lost 25 pounds.*

Actor/producer Cindy Williams lost 25 pounds on Jenny Craig.*

"I believe Jenny Craig has everything you need to lose weight – delicious foods, camaraderie, support, even your very own consultant. Jenny Craig is the kind of program that covers all the bases. There's no magic diet pill. What you need is a program like Jenny Craig. I lost the 25 lbs. that I really wanted to lose." Pick up the phone and call Jenny Craig. If I can do it, you can do it!"

Cindy

*Cindy Williams lost 25 lbs. in 4 months. Results not typical.

Bring in this coupon for a complimentary consultation and receive a FREE two-week supply of 100% natural Curves™**



WHILE SUPPLIES LAST!

Jenny Craig
PERSONAL WEIGHT MANAGEMENT

**Expires 7/31/97. One coupon per client. At participating centres. No cash value. Not valid with any other offer.

WD497

C a l l 1 - 8 0 0 - 4 1 3 - 0 0 2 2

and visit us at <http://www.jennycraig.com>

Figure 9 – Meridia Advertisement
 SCADS Database
 Appeared in *New England Journal of Medicine* - June 24, 1999

POINT OF CHANGE®
 encourages your patients to...

Do more

MERIDIA addresses a core problem of obesity—overeating

- ▼ Helps patients feel full, so they can eat less
- ▼ Provides gradual, sustained weight loss (≥10% weight loss in 60% of patients at 1 year)**

Point of Change weight-management program encourages patients to establish the lifestyle skills to be successful with MERIDIA

MERIDIA is indicated for the management of obesity, including weight loss and maintenance of weight loss, and should be used in conjunction with a reduced-calorie diet. MERIDIA is recommended for obese patients with an initial BMI of $\geq 30 \text{ kg/m}^2$ or $\geq 27 \text{ kg/m}^2$ in the presence of other risk factors (eg, hypertension, diabetes, dyslipidemia).

MERIDIA SUBSTANTIALLY INCREASES BLOOD PRESSURE IN SOME PATIENTS. REGULAR MONITORING OF BLOOD PRESSURE IS REQUIRED WHEN PRESCRIBING MERIDIA.

**In a 1-year placebo-controlled study in obese patients, following a 4-week run-in period of aggressive dietary intervention (very-low-calorie diet), those patients who lost an average of 16 lb then received MERIDIA 10 mg once daily or placebo and saw a significant additive decrease in body weight, which was maintained for the duration of treatment.

MERIDIA provides convenient, well-tolerated therapy, with more than 1 million prescriptions in the U.S.¹

- ▼ MERIDIA offers once-daily, flexible dosing

In placebo-controlled obesity trials:

- ▼ Rate of patient withdrawals due to all adverse events comparable to placebo (9% vs 7%, respectively)
- ▼ Most common adverse events were mild to moderate and transient and included:
 - headache (30.3%), dry mouth (17.2%), loss of appetite (13.0%), constipation (11.5%), and insomnia (10.7%)

Please see accompanying brief summary of prescribing information.

POINT of CHANGE®
 weight-management program
 Tailored to fit; balanced to work.

ONCE-DAILY MERIDIA®
 (sibutramine hydrochloride monohydrate) Capsules
 Weight control begins with portion control.

Figure 10 – Meridia Advertisement

SCADS Database

Appeared in *New England Journal of Medicine* - September 3, 1998

Used by over 400,000 patients*

Proven safety profile

▼ No increased incidence of valvular heart disease with MERIDIA [2.3% (3/132 patients)] versus placebo [2.6% (2/77 patients)]²
- Evidenced by echocardiography of patients on MERIDIA for periods of 2 weeks to 16 months (mean duration, 7.6 months)

▼ The most common adverse events seen in placebo-controlled obesity trials were mild to moderate and transient and included: headache (30.3%), dry mouth (17.2%), loss of appetite (13.0%), constipation (11.5%), and insomnia (10.7%)

MERIDIA SUBSTANTIALLY INCREASES BLOOD PRESSURE IN SOME PATIENTS. REGULAR MONITORING OF BLOOD PRESSURE IS REQUIRED WHEN PRESCRIBING MERIDIA.

Well-tolerated

▼ Low incidence of patient withdrawals (9% vs 7% with placebo)

Convenient, flexible, once-daily dosing

▼ Weight loss is dose-dependent^{2,3}

5 mg qd 10 mg qd 15 mg qd
Recommended starting dose

MERIDIA Point of ChangeSM program

▼ Provides free, ongoing, tailored, patient support material


▼ Encourage every new MERIDIA patient to enroll! Simply hand out the Patient Support Pack


▼ For additional information and enrollment materials, call **1-888-KNOLL-04**

For more information on MERIDIA

▼ Contact your Knoll Sales Representative, call the Knoll Medical Information Department at **1-800-526-0221** or visit our web site

ONCE - DAILY

MERIDIA[®]
(sibutramine hydrochloride monohydrate) Capsules 



Please see accompanying brief summary of prescribing information.

Figure 11 – NxTrim Advertisement
SCADS Database
Appeared in *Vogue* - March 1999

Nova Naturals
The Best of Science and Nature

NxTrim

Phen-Fen Results
Without
Side Effects

SAFE FAST EFFECTIVE

NxTrim
Patented Weight Loss Formula
Breaks Down & Burns Fat
Safely Reduces Appetite
Increases Energy

More Healthy Than Any Diet

For Additional Locations & Information: Call Toll Free 1.800.65.NOVA(6682)

Manufacturer's Coupon Expires: June 30, 1999

CONSUMER AND RETAILER: Nova Pharmaceutical will redeem one coupon per purchase in accordance with our coupon redemption policy. Coupon available upon request. Coupon does not be reproduced or stolen. Terms: Nova Coupon To: Nova Pharmaceutical, Inc., CBS Dept. 9000, 7813-A Hulen of Troy, El Paso, TX 79912. Cash value: 00¢. Void where taxed or restricted. Void if transferred or copied.

5 47443 10076 3 (8100) 6 00006

Figure 12 – Meridia Advertisement
 SCADS Database
 Appeared in – February 1999



MERIDIA is a prescription medicine for people who are 30 pounds or more overweight, depending on height.

It is for people who want to lose weight, and keep it off.

And it's unlike anything that came before. MERIDIA works by affecting appetite control centers in the brain.

So it may help you eat less.

You are looking at what you might avoid eating in just the first month.

Of course, you have to do your part with diet and exercise, but MERIDIA can help.

MERIDIA is not for everyone. It can

substantially raise blood pressure, and it's not for people who are pregnant or nursing, under age 16, or for anyone taking anything else for weight loss, depression, Parkinson's disease, migraines, or for people with glaucoma, anorexia, or serious heart problems.

It's a controlled substance, so patients who abuse MERIDIA may become dependent.

Side effects may include headache, constipation, insomnia, and dry mouth.

For more information, ask your doctor, call 1 888 4 MERIDIA, or check out our website at www.4meridia.com.

MERIDIA[®]
 (sibutramine hydrochloride monohydrate) Capsules
 You do your part. We'll do ours.

Ask your healthcare professional and call 1 888 4 MERIDIA for information.
 Please see next page for prescribing information.



©1998 Knoll Pharmaceutical Company

Figure 13 – Xenical Advertisement
 SCADS Database
 Appeared in *Family Circle* – March 13, 2001

Talk to your doctor about Xenical, a fundamentally different approach to managing your weight.

Your weight is as important to you today as it was the day you were born. Your doctor will tell you that losing excess weight is an important priority – because it's a primary cause of diabetes and heart disease. That's why it's a good idea to have a healthy, open conversation with your doctor about finding ways to manage your weight successfully. Fortunately, there's a fundamentally different kind of medication available to help you do it. Xenical.



What is Xenical? Unlike all other prescription weight-loss medications, which work on the central nervous system, Xenical works in your digestive system to prevent about 1/3 of the fat in the food you eat from being absorbed.

Is Xenical right for you? If you are an adult who is at least 30 pounds overweight, depending on height – or 20 pounds overweight, depending on height, with other risk factors such as high blood pressure, high cholesterol, heart disease or diabetes – Xenical may be right for you. You should take Xenical with healthy, reduced-calorie meals containing no more than 30% of calories from fat.

Important considerations. You may experience gas with oily discharge, increased bowel movements, an urgent need to have them and an inability to control them, particularly after meals containing more fat than recommended. You should not take Xenical if you are pregnant, nursing, have food absorption problems or reduced bile flow. If you are taking cyclosporine, talk to your doctor before taking

Xenical. Because Xenical reduces absorption of some vitamins, it is recommended that you also take a daily multivitamin.

The long-term benefits of Xenical on weight-related illnesses and life expectancy have not been established.

XENiCare The support program you need. Designed to work in conjunction with Xenical, XeniCare personal health care counselors will provide you with the information, tools and encouragement that you need to help you achieve your weight-loss goals.

Call for your free Healthy Conversation Starter Kit. It's designed to help you ask the right questions, so your doctor can give you the right kind of help. You'll also receive a free Body Mass Index chart to calculate your BMI and see if your current weight is right for you.



For your free Healthy Conversation Starter Kit, call 1-800-421-7028 today.

Please see important patient information on adjacent page. www.xenical.com

