The “Fourth Part” of Pediatrics: 50 Years of Display Advertising

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The uncertain romance between scholarly journals and the drug industry has long been like a marriage of convenience between partners who become friends ultimately, not because they were very fond of each other originally, but because they needed each other.1

Robert H. Moser, MD
Executive Vice President
American College of Physicians

From the very beginning, advertising revenue was a major motivation to establish a journal owned by the American Academy of Pediatrics (AAP) and a major focus of the board of directors. The first editor, Dr Hugh McCulloch, proclaimed that “Pediatrics will consist of four divisions; the fourth division is advertising.”2 Until the late 1970s, this was all display advertising or advertising prepared by advertising agencies in camera-ready format. Classified advertising was introduced later, but a discussion of this form of advertising is not included in this article.

I examined a convenience sample of 50 years of display advertising in Pediatrics as well as AAP board minutes, committee reports, and other related documents. A brief questionnaire tapped the memories of a select group of 68 physicians and scientists in academic pediatrics and office-based pediatric practice, and those involved with the AAP, and assessed their reactions to advertising in Pediatrics.

ADVERTISING VOLUME AND DOLLARS

Before the establishment of Pediatrics in 1948, the Journal of Pediatrics, owned by CV Mosby Company, St Louis, MO, was the official journal of the AAP. The board determined that “there should be more money accruing to it from the Journal [of Pediatrics].”3 One option was to revise the agreement with Mosby. Although he acknowledged that, with one exception, he made more money from the Journal of Pediatrics than from any other, Mosby refused to open his books to the AAP. He also made it clear that “the Journal of Pediatrics is not for sale.”4 The board’s alternative was to create a new journal “to make money.”5 Certain that advertising would be easy to obtain, negotiations began with Charles Thomas Publishers, Springfield, IL, to found a new journal to be owned by the AAP. With only 30 pages of advertising per issue, they estimated that the journal would break even and perhaps make a small profit.6 Advertising charges were $100 per page per issue. Advertising in the first volume of Pediatrics averaged 30 pages per issue, as predicted, increasing to 34 pages with the next volume and to 43 pages with the third volume (or 25% of total pages [Table 1]). Advertising volume continued to be either a major pleasure or a serious headache to the AAP board for the next 50 years.

In 1953, Charles Thomas reported that despite “the general decrease in advertising in medical journals in the past few years, . . . Pediatrics has done pretty well to show a steady increase in advertising income.”7 Advertising income for 1953 was $91,000, $10,000 more than in the previous year, but profit was reduced by the costs of editing, printing, and distribution, which were paid out of advertising and subscription revenues. Net income to the AAP was $69,301 in 1953 and $105,345 in 1955. To increase advertising sales, Thomas requested a list of upcoming scientific articles so that they could contact companies with related products. “You write to a company and tell them about this article that is going to appear, how they could tie their advertising in with the article. If it is an article on [the toxicity of] boric acid, we could almost certainly get Homemaker’s Products in there.”8 Homemaker’s baby powder did not contain boric acid.

Advertising volume reached its peak in the 1960s (Table 1). By 1961, just less than 40% of the journal’s pages were commercial. By the end of the decade, volume had declined to 31%. This decline continued into and through the 1970s and 1980s (Table 1), but Pediatrics remained the leading advertiser among all pediatric journals. In 1981, it ranked 60th among all medical journals and captured 32% of the total advertising revenue of the six leading US pediatric journals. The Journal of Pediatrics was second, with 23%.9 The number of advertisers fell in the 1990s, but increasing use of multipage spreads compensated, in part, for the loss (Table 1), although revenue declined in every year except 1997. Net advertising income in 1997 was $1,682,190 or approximately 39% of total journal revenue. The remainder was derived from member and nonmember subscriptions.10,11 In 1991, 28% of the operating budget (of the AAP) came from dues, and 14% from advertising and exhibits.12 Errol Alden, MD, deputy executive director at the AAP, declared that “Journal advertising provides . . . financial support for . . . many worthwhile [AAP] pro-

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**REVIEW, REJECTION, AND CONTROL OF ADVERTISING**

Dr Hugh McCulloch’s original plan was that “every piece of advertising must be approved by the Editorial Board; it will be handled just like original articles.” But, no aspect of *Pediatrics* has been more contentious than control and rejection of advertising copy. *Pediatrics* accepted all advertisements that were “accepted by the Council on Pharmacy [of the American Medical Association] ... and would rely on what is considered popular approval by the pediatricians as a whole” in judging nonpharmaceutical products, which Dr McCulloch expected would be limited to “infants’ clothing, toys and nursery equipment.” Debate soon began as to whether decisions on advertising belonged to the Publications Committee of the executive board or to the editor. Dr Edgar Martmer, a board member and later AAP president, argued that the acceptance of advertising “is a financial matter pure and simple.” The editor should “have the right of censorship” of the copy but “not the selection of advertisers.” Dr McCulloch argued that “whether the product is published or not should be decided by the Editorial Board. We want the right to throw out what we do not want.” The AAP board made “acceptance of advertising contracts ... a function of the Publications Committee,” and the editor continued to review copy. Dr McCulloch periodically provided examples of rejected advertising to the executive board: “We are trying to get Libby, McNeill and Libby to take out of their advertising that strained vegetables are good for babies when they are four weeks old.”

“Standards for Acceptance of Advertising Copy for Publication in *Pediatrics*” was published for the first time in the September 1948 issue of *Pediatrics* (Fig 1) and, with some modifications, episodically thereafter into the 1960s. With the May 1983 issue, a small statement regarding advertising was added to the bottom of the official notice of ownership: “Advertisements appearing in *Pediatrics* are reviewed in light of appropriate ethical considerations before being accepted for publication. The publication of an advertisement neither constitutes nor implies a guarantee of endorsement by *Pediatrics* or the American Academy of Pediatrics of the product or service advertised or of the claims made for the product or service by the advertiser.” In October 1988, the first sentence was deleted.

Despite this review policy, the June 1950 issue of *Pediatrics* contained a full-page advertisement for Hadacol (Fig 2). This vile-tasting vitamin and mineral mixture that was described later by the Federal Trade Commission, in court, as “leeringly prurient ballyhoo” which “is false, misleading and deceptive in representing the nostrum as an effective treatment and cure for scores of ailments and diseases.” Louisiana State Senator Dudley J LeBlanc, the manufacturer of Hadacol, was “neither an MD nor a pharmacist.”

### TABLE 1. Categories and Quantities of Advertisements (1948–1998)

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*a* Average number of advertisements per issue including AAP publication (excluding AAP meeting announcements and classifieds).

*b* Average number of pages per issue devoted to advertising in whole or in part (excluding classifieds).

*c* Average number of sections per issue of uninterrupted articles.

*d* Average number of sections per issue of uninterrupted advertising (interruptions may include an articles section, table of contents, information for authors, AAP notices, brief quotes, or comments).

*e* Advertisements for items directly prescribed, ordered, or used by physicians, hospitals, clinics, or other health care providers.

*f* Average number of individual advertisements in category per issue regardless of size or number of pages.

*g* Advertisements for items that may be suggested by physician but that are discretionary with regard to actual purchase by parent and brand chosen (eg, formula, soap, lotions, books, schools).

*h* Ratio of number of advertisements in total physician to total parent categories.
geous sales methods resulted in enormous sales of Hadacol, perhaps 2,000,000 bottles per month. The copy in *Pediatrics* stated that it was "especially indicated in febrile and debilitated states as a supplement to restricted diets and in pre-operative and post-operative conditions. Hadacol may be prescribed with confidence for use for both old and young." There were no citations to any studies or publications regarding its use either in adults or in children, and it is doubtful that any testing was ever performed. The advertisement appeared only once in *Pediatrics*. The editor may have mistakenly viewed it as just another multivitamin preparation. The American Medical Association's journals would not have published Hadacol advertisements because they refused to approve any multivitamin preparations.

By 1953, the acceptance of advertisers shifted from the Publication Committee to the AAP executive secretary's office. Dr McCulloch complained to the executive board that "a good deal of the copy that Thomas [publisher] sends in for printing, I don't see."21 But the executive board questioned whether *Pediatrics* code of standards was too high for advertisers. "We didn't let the Ovaltine people advertise. If you let someone come in that isn't any good you are going to lose, say, ten of them."22 Ovaltine advertising, however, had appeared earlier in *Pediatrics*, with a picture of a physician looking much like Dick Tracy and a headline stating, "In the Aim Toward Prevention of Rheumatic Fever Recurrence." It continued: "Although the effect of nutrition on rheumatic fever recurrence is still being studied, clinical observations have clearly shown that a relationship does exist."23 Narrowly avoiding a catastrophe, the second editor, Dr Charles May, rejected an iron–cobalt mixture in 1954, a "very juicy contract with two full pages for two years." Two weeks after the advertisement was rejected, articles appeared in other journals on the "toxic effect of cobalt [to the thyroid gland]... in the doses in the compound."24 Although accuracy and completeness of copy was the usual concern, political philosophy was the reason for objections to an advertisement for prepaid medical insurance, "Preventive Medical Care". Readers feared that publication of such an advertisement in *Pediatrics* would imply to members that it was endorsed by the AAP. The board refused to act, and the advertisement continued.25

Dr Charles May, more so than any other editor, had a particular interest in advertising and in ensuring...
ing that it was honest and validated. The AAP executive board became concerned, however, when he decided to become executive director of the Physicians' Council for Information on Child Health (PCICH), a new organization to be funded by the pharmaceutical and infant formula industry, with Ross Laboratories as the major supporter. The role of the organization was to counsel industry on the accuracy and quality of their public information, including advertising, and, if approved, to allow them to display the council's insignia. The AAP board feared that he might be “serving two masters.” On the one hand, they said, he might favor the financial backers of the PCICH; however, on the other, he was known to be tough and might be too harsh on advertisers and drive them away from the journal. The board decided to take advertising copy review away from Dr May and turn it over to the managing editor, an individual who reported to the executive director of the AAP. Several years later, after Dr May had left PCICH, conflict between the board and Dr May flared anew after Dr May published several editorial in Pediatrics that the board felt were contrary to AAP policies. One of these was critical of vitamin advertising. The board required “any editorial in Pediatrics dealing with social, political or economic issues to be approved by the Executive Board before publication.” Dr May declined to write any additional editorials in Pediatrics. He continued to write for other journals, however, and in 1961 he published two particularly contentious papers from the perspective of the AAP board, one of which was a “strongly critical attack on the pharmaceutical industry’s advertising and promotion methods” asserting that owners of these journals could not be depended on to control quality of advertisements because they were so lucrative. One board member interpreted Dr May’s comments as evidence that he “does not trust the judgement of the Managing Editor” of Pediatrics. Others defended Dr May and said that the “attack on the drug firms and their advertising ... is justified.” The board voted to terminate Dr May as editor. Dr Clement Smith succeeded Dr May.

By 1964, review of pharmaceutic advertising became easier because the US Food and Drug Administration (FDA) established stricter rules. Dr EH Christopherson, AAP executive secretary, noted that the “number of advertising pages that we are now forced to question ... has decreased a great deal. Advertisers are not allowed to make claims that cannot be substantiated. We say to them ‘you have to either prove it, or take it out.’” But, he continued, “I think we are very lenient, actually. Some ads kick around in our office and we say, should we or should we not. Maybe we should not get too fussy about this.”

From 1965 to 1972, the names of the companies and the reasons for rejection or revision were reported annually to the executive board. Nearly every major company had a citation, some repeatedly. Rejections were for use of unpublished or unscientific references, unsubstantiated superlatives, undocumented claims, absence of ingredients, inappropriate quotations from AAP documents, and carryover conclusions from adult studies. The estimated loss of $30 000 to $80 000 per year in advertising revenue from rejections led the AAP executive director to review personally all advertising copy recommended for rejection in 1972. In 1972, Dr Jerold F. Lucey, then chairman of the editorial board, but not yet editor, questioned why the AAP needed to be “more severe” than the FDA. “The Academy is harder on advertisers than any other journal and gets no credit for it.” The board then passed a motion to use the same guidelines as did the FDA. Pediatrics, however, would not accept “data on file with the company” as references in advertising as did the FDA. In 1990, Pediatrics changed this requirement.

The November 1988 issue of Pediatrics included a 12-page spread introducing the new Carnation (Nestlé’s) Good Start H.A., which was proclaimed “a breakthrough hypoallergenic infant formula.” Five months before the advertisement appeared in Pediatrics, the FDA and pediatricians already had received complaints about allergic reactions to the formula. Briefer versions of the advertisement continued to appear, but a “data-on-file” reference was deleted. Apparently at the last minute, 4 pages of “Information for Healthcare Professionals” (A45–A48) were removed. The advertisement is entirely absent from the April, May, June, and July 1989 issues, despite being listed in the advertisers’ index. This was the time when nine state attorneys-general brought suit against Carnation for engaging in “deceptive and unfair advertising in violation of each state’s consumer protection law.” The word “hypoallergenic” was said to “mislead consumers and readers of professional journals to believe that Good Start H.A. was non-allergenic.” Particular concern was expressed about the words “breakthrough” and “truly hypoallergenic” and references to studies and data that did not support the conclusions drawn. One state attorney-general noted that “the advertising in professional journals could mislead even pediatricians [emphasis mine] to believe that the formula’s alleged hypoallergenicity had been documented in clinical studies, when it had not.” Carnation discontinued the use of the word “hypoallergenic” voluntarily, although it admitted no violations. New advertisements for Good Start H.A. without “hypoallergenic” returned to Pediatrics in August 1989.

The Carnation Company (Nestlé’s) introduced public advertising of infant formula in the United States in 1989, leading the AAP to consider rejection of their advertisements in Pediatrics. “Legal counsel advised that ... the Academy could ... only decline Carnation advertising if the ads were deemed erroneous and/or harmful.” In September 1989, a policy statement, “Direct Advertising to the Public,” asserted that “Advertising in Academy publications directed to the professional ... will not be impacted by the fact that such company is engaged in direct advertising of infant formula to the public.” Carnation continued to advertise in Pediatrics, despite the ever-growing confrontation with the AAP, which ultimately culminated in Carnation’s legal action.
against the AAP over restraint of trade and which was decided in favor of the AAP.

Over the years, various offices and individuals within the AAP administration have been assigned responsibility for the review of advertising. Since 1967, it has been the specific responsibility of the director of education to review all advertising submitted to the journal, consulting others at his discretion.

ADVERTISING PROMOTION

The promotion of advertising in Pediatrics has always been of great importance to the AAP executive board, because it is related directly to the income derived from the journal. During the second year of publication, each AAP member was sent a card listing the names of the companies that advertised in Pediatrics. When a company salesperson came to the office, the pediatrician was urged to refer to the card and see only those salespersons from companies that advertised in the journal.38 Advertisers were notified that they could include “as advertised in Pediatrics” or “accepted for advertising in Pediatrics” on labels and in other journals, but were warned to never use “approved by Pediatrics.”39

INTERSPERSION

It sounds like a disease, and it was considered such by many readers. Interspersion is the insertion of advertisements in locations in the journal between text or other nonadvertising copy. Noninterspersed, or stacked, journals place their advertising in the front and back of the journal, with all text material between these two “bins” of advertisements. The interleaving of advertising and editorial pages began in the 1890s in the Ladies Home Journal and spread rapidly.40 Heavy interspersion increases the likelihood that readers will actually see the display material, even if only for a few seconds. The ideal journal, from the perspective of the advertiser, would have 50% text page and 50% advertising pages, with every other page devoted to advertising. Many “controlled publication” journals, also known colloquially as “throw-away journals,” and tabloids achieve even higher levels of exposure by having advertising on the same pages as the text, as with newspapers and popular magazines. Advertisers consider more than six pages of consecutive advertisements a detriment to visibility; more than 18 pages is severely restrictive. The degree to which a journal deviates from advertisers’ ideals diminishes their attractiveness and what the journal can charge. This may be offset by other factors, such as access to particular physician groups, the prestige of being the “official” journal, and the quality of articles and reputation of the authors and their institutions.

In 1972, JAMA began to permit the insertion of advertising copy between major sections of the journal text, and the New England Journal of Medicine inserted abstracts among the advertising pages. Dr Clement Smith and the editorial board objected to interspersion and stated that “convenience for reading and binding, and the simple dignity of the publication as a scientific journal, strongly indicated continuation of the present arrangement.”41 But early in 1973, Dr Robert Frazier, executive director of the AAP, decided to allow the insertion of advertisements into the text sections of the July 1973 issue “to produce a satisfactory increase in advertising income.”42 Reporting to the AAP executive board, he commented that he “did not ask the Editorial Board’s approval or permission”. A new Policy on Advertising, dated August 23, 1973, stated formally that “ad copy will be interspersed between sections of text material in four positions… in addition to ad copy preceding and following text; interspersed copy will not back up to text pages.”43 Dr Nicholas Nelson, a member of the editorial board, stated in a position paper that the editorial board was made aware of the possibility of interspersion in May 1973, but were assured that “no definitive step would be taken without further consultation…” Nevertheless, interspersion commenced without the promised prior consultation.”44

The new interspersion policy improved advertising sales by 50%, with an increase in net income of $80,000 for the year.45 Some executive board members remained uncomfortable and suggested both a membership poll and a reduction from from four inserted bins to one. Both were rejected. Pediatrics received and published a number of letters to the editor objecting to interspersion. Dr Frazier published a commentary in Pediatrics in December 1973 on interspersion, noting that it did not cause “significant interference to reading the scientific pages” and that new binding techniques with glued rather than sewn pages allow advertising pages to be “easily removed at the time of binding.”46 At the end of his commentary and without any linkage, Dr Frazier announced the resignation of Dr Clement Smith as editor. Before his departure, Dr Smith had expressed considerable concern to the editorial board when a “great researcher’s sacred text… was immediately juxtaposed against some baboon… with a huge red proboscis advertising a decongestant.”47

Concern with interspersion continued leading to reevaluation in 1974.48 An ad hoc committee on advertising reported that 10 of 23 prestigious journals had interspersion, including half of the British and American pediatric journals.49 Only Pediatric Research remains stacked to this day and has few display advertisements. Pediatrics reduced the number of interspersed bins from four to two early in 1974, apparently in response to demands from readers. Nonetheless, advertising pages increased through the first half of 1974 to 1025 from 773 the previous year, and advertising income was at a record high of $455,000.50 The managing editor also noted that “correspondence criticizing… interspersion had generally ceased, but on inquiry there are significant numbers who object.” The Journal of Pediatrics began interspersion with the January 1975 issue and, by June of that year, had increased the interspersions to seven bins.

In April 1975, the editorial board of Pediatrics continued to protest interspersion and voted for removal from Pediatrics of all advertising for drug products and equipment and “in the event that advertising is
to be continued, that such advertising be ‘stacked’.54 Alternatives they suggested were “increased advertising charges, page charges to authors, and increased subscription prices and dues.” Others suggested new AAP publications that would contain interspersed advertising.

Pediatrics, with only four bins, was considered by advertisers still to be stacked and not truly interspersed. Advertising revenue fell, and additional decline in income was predicted. A return to stacked advertising was projected to result in a loss of $100,000 to $125,000 per year and complete elimination of advertising in an annual loss of $176,000.52 Dr Frazier recommended that there be no change in the interspersion policy (ie, two bins among text sections) but that a reader survey be undertaken promptly, the results to be shared with the editorial board. The 1975 readership survey asked the critical question: “Would you be willing to incur a $3 increase in subscription charges in order to prevent dispersion of advertising throughout the editorial content?” A clear majority of respondents who characterized themselves as academics said no.53 The executive board made no change.54

Although the number of bins of display advertising technically was at four through most of the 1970s, critical examination of the journals reveals that AAP notices, tables of contents, instructions, quotes from the literature, and text material other than scientific articles generally were inserted between sections of advertising so that the number of bins of advertising averaged approximately seven (Table 1). Article text continued to appear in three sections throughout the early 1980s. A marked decline in advertising pages began early in 1982, continuing for the next few years.55 In 1985, with only approximately 55 pages of advertising per issue, interspersion was increased, dividing the articles into four sections. By 1986, this was increased further, so that articles appeared in five sections, with four interspersed advertising bins in addition to the front and back sections, which themselves were interleaved with nonarticle text material. The total number of pages of advertising increased steadily thereafter, and during the late 1980s, reached a peak of nearly 100 pages per issue. Once again, in the 1990s, there has been a decline in advertising pages and numbers, which have decline in the last 2 years to an average of only 49 pages per issue. The total number of advertising bins has been increased to approximately 15 per issue from insertion of additional reading matter among advertisements; scientific articles remain divided into five sections.

Pharmaceutic companies now are spending ~$5000 per physician annually in the United States on advertising, but they find Pediatrics less attractive than other journals and medical publications.56 In 1987, Pediatrics slipped from first place among pediatric media to second in number of pages of advertising, replaced by Contemporary Pediatrics, primarily because of interspersion and reader surveys indicating better advertising recognition in Contemporary Pediatrics.57 Pediatric News and AAP News, both of which are tabloids, carry advertising on the same pages as text, and are now rated more highly by advertisers than is Pediatrics, although Pediatrics maintains second place in volume among all pediatric media. According to Gary Walchli, Vice President for Advertising Sales, Williams and Wilkins, Baltimore, MD, advertisers like the look and readability of the throw-away and tabloid publications. Physicians are reading them.58 Advertising industry analysis for 1997 reveals a 45% advertising exposure for AAP News compared with 37% for Pediatrics.59 This same analysis also reveals that advertising exposure in Pediatrics has declined over the past 3 years, whereas it has increased in most other pediatric journals, especially in Infectious Diseases of Children, which now has the highest advertising readership rating.

The majority who responded to my brief questionnaire would not opt for removal of advertising from the journal, and most emphatically would not want to pay additional subscription fees to have the journal without any advertising (Table 2). The estimated increase in cost to subscribers if all advertising was eliminated would be ~$30 per year.60 It appears from the survey that most readers have learned to ignore the advertisements (Table 2).

<table>
<thead>
<tr>
<th>TABLE 2. Responses to Brief Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you read the advertising material in Pediatrics?</td>
</tr>
<tr>
<td>Never</td>
</tr>
<tr>
<td>Almost never and rarely</td>
</tr>
<tr>
<td>Superficially</td>
</tr>
<tr>
<td>Occasionally</td>
</tr>
<tr>
<td>Selectively regularly</td>
</tr>
<tr>
<td>Regularly</td>
</tr>
<tr>
<td>Do advertisements in Pediatrics provide educational or other useful information?</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Rarely</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Do advertisements in Pediatrics interfere with medical education?</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Probably not</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Do advertisements in Pediatrics provide accurate information?</td>
</tr>
<tr>
<td>Never</td>
</tr>
<tr>
<td>Sometimes</td>
</tr>
<tr>
<td>Generally, but unbalanced (half-truths, biased)</td>
</tr>
<tr>
<td>Yes, generally</td>
</tr>
<tr>
<td>Do you recall instances in which advertisements in Pediatrics misinformed or provided incorrect information?</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Do you believe that advertisements in Pediatrics lead pediatricians and other physicians in directions that are inappropriate?</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Probably not or seldom</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Would you like Pediatrics to have no advertising?</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Would you like Pediatrics to have no advertising even if it increased the cost of AAP membership or subscriptions very significantly?</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Maybe, depending on cost</td>
</tr>
</tbody>
</table>
ADVERTISING CONTENT

The first 10 years of *Pediatrics* were characterized by a predominance of advertisements for products over which the parent had discretion, such as over-the-counter drugs (eg, antipyretics, powders, ointments); vitamins; infant formulas; bottles and nipples; foods; child care equipment; and lay publications (Table 1). In the 1960s, this ratio shifted toward products over which the physician had discretion (eg, prescription drugs, vaccines, professional equipment, supplies, and publications). Only in the late 1990s has there been a marked decline in parent-controlled products, perhaps reflecting increased direct advertising of all products, including infant formulas and prescription items, to the public in lay media. Advertisers expected physicians to promote products to parents. This concept of physician-as-salesman well may have evolved from the early 20th Century concept of “ethical” marketing of infant formula through the physician. Not only were the majority of these formulas not advertised to the public, the containers were not labeled as to how the powder was to be prepared for the infant, forcing reliance on advice given by the physician. Medical historian Rima Apple notes that “from the beginning, when the company unveiled Dextri-Maltose at the 1912 AMA convention, Mead Johnson advertised almost exclusively to the medical profession.”61 In a 1925 advertisement, they proudly proclaimed that “Mead’s Infant Diet Materials are advertised only to physicians” who change the feedings from time to time to meet the nutritional requirements of the growing infant.” In a franker 1933 advertisement in the *Journal of Pediatrics*, Mead Johnson declared: “When mothers in America feed their babies by lay advice, the control of your pediatric cases passes out of your hands, Doctor. Our interest in this important phase of medical economics springs not from any motives of altruism, philanthropy or paternalism, but rather from a spirit of enlightened self interest and co-operation because [our] infant diet materials are advertised only to you, never to the public.”62 The AAP has always urged limitation of infant formula advertising to professional journals specifically for the protection of breastfeeding.63 Even advertising in medical journals is acceptable only “if the products are not depicted as a better source of nutrition than human milk.”64 Two of the advertisements for infant formula in the same 1982 issue in which this policy statement appeared followed this restriction, but only by avoiding all mention of breast milk (Ross Laboratories65 and Mead Johnson Nutritional Division66); Wyeth Laboratories noted in small type at the bottom of the second page that “breast milk is the preferred feeding for newborns.”66 Breastfeeding and breast milk are never shown as prominently as the name of the formula in any advertisements. The role of physician-as-marketer for infant health products extended later in the 20th Century to the distribution of gift packages of sample products, including infant formulas, to new mothers.

An average of 12 different vitamin products were advertised per issue in 1949, the largest single product line of all time (Table 1). By the 1970s, vitamin advertising nearly disappeared, and in the 1990s, is rarely represented. A few over-the-counter drugs continue to be advertised, along with advertisements from the two remaining “ethical” formula companies.

In the very first issue of *Pediatrics* in 1948, one third of the advertisements contained attractive photographs or drawings of infants, usually older infants or toddlers. In the same issue, there was only one physician image, a male, and two parent images, a mother and a father. One year later, approximately two thirds of all advertisements contained photographs or drawings of young children, but now several advertisements included preteen images; all of the children in these advertisements were white and included both genders. Four physicians were pictured, all white males. Of the five parents shown, all were mothers. Through the 1950s and 1960s, there was no significant change. The June 1978 issue contains the only image that I have been able to find of a woman who might be a pediatrician (MMR vaccine; Merck, Sharp and Dohme). By 1985, children’s images include African-Americans and Asians, although whites predominate. Physicians are no longer used in the advertisements. Fathers are represented in three advertisements, and the only adult female image is that of a working mother. By 1992, groups of children usually are mixed racially and by gender, but advertisements depicting a single child almost always show the child being white. No fathers are portrayed. Of the 10 mothers, only one is a working woman. The three physicians are white males. In 1995, racially mixed groups of children are common and African-American children are now shown alone in advertisements; images of physicians are absent, but one female child is shown playing doctor and the “patient” is a male child.

CRITICS OF THE SYSTEM

Readers of *Pediatrics* have used the letters to the editor pages to bring attention to questionable advertisements. In addition to pointing out specific unsubstantiated claims68 and just plain bad medicine in advertising copy,69,70 correspondents have cited published data that is contrary to claims,71 some in the same issue as the advertisement.72 One letter drew attention to advertisements for products that had been banned in several other countries and that were the subject of FDA warnings.73 Writers expressed grave concern about the ability of the AAP to effectively screen and identify flawed advertisements. Two of these letters, 34 years apart, suggest the establishment of an “effective committee”74 or “a multidisciplinary review body”75 as the appropriate device for advertising review. The later letter noted that the International Committee of Medical Journal Editors recommended that “Editors . . . have full responsibility for advertising policy.”76 In response to one of the early letters, the editor of *Pediatrics*, who, at that time, still had responsibility for review of advertising copy, admitted that “the system is reasonably effective” but “not infallible.”77 Dr Arnold Relman, the very well-respected former editor of the
New England Journal of Medicine, contends that the review of advertising is not only fallible, but that “we should not and cannot critically review the therapeutic claims and prescribing information in each of our ads.” We must, he continues “assume that advertising is in compliance with the law.”78 The opposite position is that of the Journal of the American Dental Association, which maintains an “Office of Advertising Review,” critically examining 1000 pieces of advertising copy annually. The editor of the journal stated: “... it would be less than responsible for the dental profession to avoid the task of helping to ensure both the public and dental practitioners that dental products... are safe and effective as claimed by manufacturers.”79

The respondents to my recent questionnaire felt generally that advertisements in Pediatrics provided accurate information, but many noted their lack of balance; 25% recalled advertisements that misinformed (Table 2). The great majority admit that they do not read the advertisements regularly or carefully. In answer to the question of whether advertisements in Pediatrics lead physicians in inappropriate directions, nearly half said yes, but more than half said no. One respondent observed that “nobody advertises breastmilk,” although there have been occasional advertisements for breast pumps. Unlike the throw-away journals, there is no evidence that placement of advertisements in Pediatrics were ever selectively beneficial. If anything, the opposite may be true. An advertisement for simethicone for “problem gas” faced an article reporting a controlled study showing no benefit of the drug in infantile colic.80 An advertisement for Lomotil was opposite an article that recommended against using antiperistaltic medicine in children with diarrhea. In answer to what was “best” about advertising in Pediatrics, one respondent cited “rhinoceros with butterfly on nose.” For the “worst”, “that we have tolerated it with no outcry for 50 years.”

The question remains as to how effective review of advertising in Pediatrics has been and is now. A formal research study of prescription pharmacutic advertising in 1990 in 10 major medical journals, including Pediatrics, found that 92% of advertisements contained deficiencies in areas in which the FDA has established explicit quality standards. The ratings of the journals were not reported individually. Reviewers found that more than half of the advertisements had no or little educational value and were misleading. The reviewers would have rejected nearly two thirds of the advertisements or required major revisions. The problem areas were inaccurate statements and inadequate information on side effects and contraindications, efficacy, and safety. References used to support claims and data presented received the poorest ratings. Many of the references cited were unavailable because they were to unpublished papers or confidential reports, or appeared in journals that were not available in major research libraries.81 This study led the FDA once again to increase its surveillance of advertising. It would be of interest to know how Pediatrics ranked in comparison with other journals.

**SUMMARY AND CONCLUSIONS**

In an editorial in Pediatrics in 1956, Dr Charles May said that “the advertising pages should be considered as a source of information. An important service is rendered the practicing physician when... products are brought to his attention by appropriate advertising.”82

This ideal apparently is rarely achieved. The benefits of advertising are primarily economic. Misleading advertising is of much greater concern to readers than interspersion of advertising with text. But, who should do the reviewing and how critical should the reviewer be?

 Perhaps as good a way to summarize the historical perspective on advertising in Pediatrics is to quote the 1962 editorial by Dr Myron Wegman: “... advertising is fundamentally commercial propaganda frankly designed to present as forcefully and, hopefully, as honestly as possible the merits of a particular product. It is wishful thinking to expect that any advertising can be objective. Unfortunately, irresponsible drug advertising is still far too common, and a way to control it must be found. [A physician]... can never accept [advertising] as a substitute for the thoughtful examination of the data he should have been taught to make during his medical school and hospital days. It is vitally necessary that the physician be carefully indoctrinated by medical educators... with a healthy skepticism and insistence that his evaluation of drugs be made fundamentally on the information derived from scientific reports...”83 Thirty years later, Dr David A Kessler, then FDA commissioner, agreed: "Medical schools can greatly help physicians by incorporating courses that teach students to critically examine promotional information."84

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184 SUPPLEMENT
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The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/102/Supplement_1/177.full.html