Financial Ties and Conflicts of Interest Between Pharmaceutical and Tobacco Companies

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Corporate diversification allows for well-hidden financial ties between pharmaceutical and tobacco companies, which can cause a conflict of interest in the development and marketing of pharmaceutical products. In our investigation of tobacco company documents released and posted on the Internet as a result of the Master Settlement Agreement, we have found that these financial ties have fostered both competition and collaboration between the tobacco and pharmaceutical industries. We present 3 case studies. One shows how tobacco companies pressured pharmaceutical companies to scale back their smoking cessation educational materials that accompanied Nicorette. The second shows how they restricted to whom the pharmaceutical company could market its transdermal nicotine patch. In the third case, we show how subsidiary tobacco and pharmaceutical companies of a parent company collaborated in the production of a nicotine-release gum. Thus, because tobacco cessation product marketing has been altered as a result of these financial conflicts, disclosure would serve the interest of public health.

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Financial ties between companies producing addictive tobacco products and companies producing drugs to treat or alleviate the addiction are a potential conflict of interest. Several types of financial ties can exist. For example, one company could be the sole supplier of a product that is needed by another company. Or, a company could be financially dependent on sales from another company. Corporate diversification also results in financial ties between companies.

Corporate diversification leads to a network of holding companies, parent companies, and subsidiaries that are financially connected but operate seemingly independently.[1,2] Diversification can contribute to financial stability, but it also allows corporate negotiations to occur with little public knowledge and can hide financial ties that are potential conflicts of interest.

The diversification of the tobacco industry is well-documented.[3,4] The tobacco industry has systematically acquired companies that manufacture unrelated consumer products such as cookies, macaroni and cheese, candy, and pharmaceuticals. The tobacco industry has used its financial ties to pressure a variety of industries to oppose tobacco control.[5] The pharmaceutical industry also maintains diversified interests and is involved in the sale of multiple products such as chemicals, pesticides, plastics, and pharmaceuticals.[2] Thus, corporate diversification has resulted in financial ties between pharmaceutical companies that market nicotine replacement therapies (NRTs) and the tobacco industry.

We examined internal tobacco industry documents to investigate the historical relationship between pharmaceutical companies and the tobacco industry and the impact corporate financial ties have on the development and marketing of NRTs.

METHODS

Recent litigation and the Master Settlement Agreement have made thousands of tobacco industry internal documents available for analysis. As required by the Master Settlement Agreement,[6] tobacco companies maintain Web sites of these documents. We searched the Philip Morris, RJ Reynolds, Lorillard, and Tobacco Institute document Web sites between February 2001 and June 2001 to identify relevant documents. We searched using 49 combinations of 1 to 4 terms that included *nicotine patch & pharmaceutical*, *dow*, *ceiba geigy & confidential*, *procordia AB & confidential*. We also used the names of other key prod-

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uct trade names (eg, Nicorette, Nicoderm), company names (eg, Lederle, Warner Lambert), and coporate executives (eg, T. S. Osdeen, R. D. Latshaw). We identified 187 documents and summarize them below.

RESULTS

We describe herein 3 case studies involving financial ties between pharmaceutical and tobacco companies. The cases of Nicorette gum and Habitrol transdermal nicotine patch illustrate competition between the tobacco and NRT markets. We focus on Nicorette and Habitrol because these were 2 of the most profitable NRTs on the market and because we found the most documents discussing these 2 products. The third case of Procordia AB shows collaborative efforts to share technology to develop both an NRT for pharmaceutical sales and a tobacco product for tobacco company sales.

Assessing the Competition

The first NRT to be used as part of a smoking cessation program was Nicorette gum, marketed in 1980 in the United States by Marion Merrell Dow. The tobacco industry reacted to Nicorette, and a decade later to transdermal nicotine patches, by analyzing the NRT market to assess the competition with tobacco products and to anticipate lost revenue due to smokers' quitting.[7-14] The tobacco industry concluded that NRTs were a threat to their profits.[9,14-16]

In 1992, before the release of the nicotine patch and after almost a decade of Nicorette sales, a Philip Morris memo notes that

> The total smoking cessation industry represents a $300 million market in the US and $600 million worldwide. Nicorette gum comprises a significant percentage of this market in the US—about 35%. Sales of Nicorette gum have doubled from $40 million in 1984 to $102 million in 1990. . . . The introduction of the transdermal nicotine skin patch is anticipated to provide a significant increase in revenues for the smoking cessation industry.[17]

The introduction of the transdermal nicotine patch, such as Habitrol in 1991, was highly profitable for the pharmaceutical industry. By August 1992, transdermal nicotine patch sales were $700 million.[18]

The tobacco industry also searched for ways to exert financial pressure on pharmaceutical companies that were selling NRTs. The tobacco industry analyzed the advertising strategies for smoking cessation products and tracked the number of dollars spent by pharmaceutical companies for NRT advertising.[12,19-24] It was very strategic for the tobacco industry to exert pressure on NRT marketing through pharmaceutical companies that were already financially connected to the tobacco industry. Pharmaceutical companies, such as Marion Merrell Dow (Nicorette) and CIBA-Geigy (Habitrol), made significant profits from the sale of NRTs and profited from selling to the tobacco industry products for growing and processing tobacco and cigarettes. Documents describe how financial ties with pharmaceutical companies made it possible for the tobacco industry to negotiate the language of advertising messages for NRTs. The tobacco industry's goal was to remove antismoking or antitobacco themes from NRT advertising.[25,26]

Case No. 1
Nicorette Chewing Gum: Dow Chemical and Philip Morris

Marion Merrell Dow, a subsidiary of Dow Chemical Company between 1980 and 1995, released Nicorette gum in 1980. The release came with a marketing campaign that included *The Smoking Cessation Newsletter*, a publication designed to provide physicians information and encouragement to advise their patients to quit smoking.[27]

The first and only newsletter to be published was an extensive, 8-page issue. The newsletter contained an interview with Michael A. H. Russell, director of the addiction research unit at Maudsley Hospital, London, England. The newsletter also discussed how smoking addiction is initiated and maintained and included statistics from a US Surgeon General's Report on morbidity and mortality from smoking and an article encouraging physicians to urge their patients to quit smoking. The newsletter contained information from the National Cancer Institute's "Helping Smokers Quit" kit, lists of additional resources found in most communities to help smokers quit, and segments titled "Smoking as an Addiction" and "New Evidence on Survival Rate of Former Smokers."

Dow Chemical is a major supplier of chemicals to the tobacco industry. Philip Morris purchased approximately $8 million of humectants, chemicals that help tobacco retain its moisture, from Dow Chemical in 1982.[28] Philip Morris immediately took offense to the Nicorette marketing campaign.[29] Between 1982 and 1986, Dow Chemical and Philip Morris engaged in a series of back-and-forth threats and negotiations. To maintain its sales to Philip Morris, Dow claimed that it was not taking an anti-cigarette–industry approach with Nicorette.[30] In 1982, after the release of its only issue, Dow canceled *The Smoking Cessation Newsletter*. By 1984, the articles and educational materials released with the debut of Nicorette were dropped and replaced with a single sentence, "If you want to quit smoking for good, see your doctor."[31,32]

Despite these changes in Nicorette advertising, Philip Morris canceled purchases from Dow Chemical. On May 7, 1984, Philip Morris suspended purchases from Dow, as described in the following meeting notes from R. D. Latshaw at Philip Morris to A. J. Kay, Jr, at Philip Morris:

> [We] ceased issuing glycerine, propylene glycol, and triethylene orders to Dow . . . Dow was told that we were discontinuing all humectant purchases because of Dow-Merrell's attack on cigarette smoking associated with the introduction of Nicorette. . . . Specific examples of Dow's objectionable campaign were cited:
>
> 1. Efforts to encourage all smokers at their Freeport Plant (source of most of our materials) to give up cigarettes.
>
> 2. The Dow sponsored Policy Analysis Incorporated study indicating an additional $59,000 lifetime medical expense for smokers.
>
> 3. Dow literature appearing in doctors' offices encouraging smokers to quit by using Nicorette.
>
> 4. A new Richmond doctors' clinic discouraging smoking and offering

> Nicorette. . . . We had been assured that Nicorette would have a low-key introduction and would be aimed only at those smokers who had to stop for medical reasons. Dow continually insisted that they were not taking an anti-cigarette industry position, and backed that assertion two years ago by withdrawing the Smoking Cessation Newsletter. . . . Dow was informed that the recent spate of activity can only be interpreted as a conscious corporate decision that Nicorette is more important than the Philip Morris (and other tobacco) business. That is, they cannot realistically expect a customer to spend millions of dollars for materials, when the profits from those sales, directly or indirectly, are used to attack that customer's product and perhaps reduce the customer's sales.[30]

Philip Morris was dependent on Dow for humectants and Dow wanted to maintain its sales to Philip Morris, so Philip Morris soon resumed purchasing humectants from Dow. On October 25, 1984, notes from a meeting between Andrew Butler, vice president of Dow Chemical; David Sharrock, president of Marion Merrell Dow; and R. D. Latshaw, A. J. Kay, and W. J. Campbell of Philip Morris state the following:

> Dow assured [Philip Morris] PM that antismoking activities within their (sic) company, and related to Nicorette, were not part of any conscious program emanating from Dow's Midland headquarters.
>
> Sharrock said he has been carefully screening advertising and promotional materials to eliminate any inflammatory anti-industry statements. He intends that sales be maintained on a basis of Nicorette being a product for those who want or need to stop smoking. Examples were cited where ad agencies pushed anti-smoking themes and Sharrock vetoed the ideas. Dow is committed to avoid contributing to the anti-cigarette efforts, despite the inherently negative connotations of Nicorette gum. . . .
>
> It was reiterated that Dow had been a superior supplier and that we desired to maintain our relationship. However, future purchases would be predicated on Dow's performance as a supplier as well as the course of the Nicorette program.
>
> As a measure of good faith, we will commence buying propylene glycol, but at significantly reduced levels relative to the pre-May suspension take.[33]

After less than 2 months of resumed business, Philip Morris discovered that Dow was a sponsor for the National Interagency Council on Smoking and Health (NICSH), an alliance of public health organizations, such as the American Lung Association, the US Department of Health and Human Services, the Office on Smoking and Health, and the American Cancer Society. On December 17, 1984, in a letter to Andrew J. Butler, commercial groups vice president of Dow, Alex J. Kay, operations support director of Philip Morris, wrote the following:

> In what we consider to be an extremely alarming development, we have just learned that Dow is supporting the National Interagency Council on Smoking and Health (NICSH). According to our information, Dow has given a $25,000 grant to help NICSH with its newsletter expense. NICSH (membership list attached) is a group who are committed to achieving a "Smoke-Free Society by the year 2000". (sic) At a November meeting, NICSH members contemplated campaigns to:
>
> 1. Present awards to individuals and organizations who refused tobacco industry support, including advertisements.
> 2. Urge national sports organizations and athletes to renounce tobacco sponsorship.
> 3. Back legislative efforts aimed at the tobacco industry.
>
> Further long-term efforts were addressed, all directed toward affecting the demise of our industry.
>
> Normally, when one funds a cause or group, it is in agreement with the fundamental aims of that organization. Therefore, we are extremely concerned with the action taken by Dow in this case, especially, in view of the reassurances offered at our October meeting.[34]

Following this letter, Dow ceased all further donations to the National Interagency Council on Smoking and Health and also stopped donations to other tobacco-control organizations such as the Non-Smoking Generation.[35]

After Dow discontinued donations to NICSH, Philip Morris continued purchases.[36] On September 6, 1985, an interoffice memo from R. D. Latshaw of Philip Morris states the following:

> We have so far chosen not to permanently eliminate Dow as a supplier for the following reasons:
>
> 1. To cut off Dow would seriously jeopardize the supply security of glycerine, propylene glycol, and TEG [triethylene glycol]. They are (sic) the only US synthetic glycerine producer accounting for one-third of this country's output. They are (sic) one of only two integrated PG [polyethylene glycol] producers. Dow is the only back up source of TEG to Union Carbide.
> 2. Except for the Nicorette problem, Dow is a first-class, dependable supplier.
> 3. The Dow Chemical U.S.A. organization has been very supportive of PM [Philip Morris] during the whole Nicorette affair.
> 4. As a customer we have an ameliorating influence on Nicorette promotions. We would lose this impact as a non-customer.[37]

As clearly stated in the memo above, the financial ties between Dow Chemical and Philip Morris gave Philip Morris the financial leverage it needed to transform Nicorette's marketing from an informative newsletter to a simple advertisement, as well as to discourage other tobacco control activities of Dow.

Case No. 2 Habitrol Transdermal Nicotine Patch: CIBA-Geigy and Philip Morris

In November 1991, Marion Merrell Dow received US Food and Drug Administration (FDA) approval for Nicoderm, the first transdermal nicotine patch to be advertised to the public. In December 1991, CIBA-Geigy received FDA approval for Habitrol. After only 10 weeks of Habitrol's being on the market, CIBA-Geigy had sold $150 million worth of Habitrol and Marion Merrell Dow had sold $49 million worth of Nicoderm.[38] A market review of the nicotine patch conducted by Philip Morris in January 1993 found that patch sales were growing.[39] Several market projections from companies such as Merrill Lynch predicted patch sales in 1993 would reach $1 billion.[14]

Based on its review of transdermal nicotine patches sales, Philip Morris predicted decreased cigarette sales. Estimating that in 1992 sales of the nicotine patch would reach $600 million and have an estimated annual growth rate of 18.6% per year, the tobacco industry calculated a loss of up to 11.2 billion units (cigarettes) in a 5-year forecast (1992-1996).[15] These estimated losses were an incentive for the tobacco industry to pressure pharmaceutical companies marketing the nicotine patch, particularly those companies already financially tied to the tobacco industry.[15] We focused on CIBA-Geigy because Habitrol was the most profitable nicotine patch on the market when released and because CIBA-Geigy had a long-term financial relationship with the tobacco industry.

CIBA-Geigy, like Marion Merrell Dow, maintains diversified corporate interests. CIBA-Geigy is divided into agricultural and pharmaceutical divisions. In addition to pharmaceutical products, CIBA-Geigy sells agricultural chemicals. Since the 1970s CIBA-Geigy has worked to establish itself as a major supplier of pesticides for tobacco production.[40-44] CIBA-Geigy's financial relationship with the tobacco industry has historically been through agricultural chemical sales and through the testing of tobacco plants and cigarettes for pesticide residues. In the late 1970s, CIBA-Geigy developed and marketed fungicides to control the fungus black shank in tobacco and tested pesticides, such as Ridomil, for their effects on tobacco smoke chemistry, flavor, and the amount of residue left on tobacco leaf.[41,45]

CIBA-Geigy (Novartis as of March 7, 1996) released Habitrol in December 1991 with the endorsement of the American Lung Association, a campaign titled "Smokebusters," a diploma stating "Declaration of a smoke free future," and a counseling help line "1-800-YES-U-CAN" written on all print ads.[10] CIBA-Geigy's release of Habitrol through its pharmaceutical division threatened the financial relationship between its agricultural division and the tobacco industry. Soon after the release of Habitrol, on January 28, 1992, an internal memo distributed by Larry M. Sykes of Philip Morris stated that

> The marketing of this product included a "smoke busters" campaign which bordered on being anti-tobacco. Many in the tobacco production sector, including Philip Morris, R. J. Reynolds, and some of the tobacco grower groups, took offense at this marketing concept. Since Ciba-Geigy (sic) also markets a number of agri-chemicals used in tobacco production, our concern on this advertising program was funneled through their Ag Chemicals Division. Members of the Ag Chemicals Division of Ciba-Geigy (sic) have met with the Pharmaceutical Division to express concerns over the "smoke busters" campaign and to help devise more appropriate advertising for this product in the future.[29]

Box. Ground Rules Statement Between CIBA-Geigy's Pharmaceutical and Agricultural Divisions*

"GROUNDRULES"

1. Our ultimate customer is the one committed to quitting; that in communicating to the doctor our exclusive focus is the quitter.
2. No antismoking theme.
3. Our product is not a tobacco substitute.
4. We do not endorse positions which would take away the freedom of choice for smokers.
5. We will not compete unfairly – we will not misrepresent in the presentation of our product – either over-claiming its benefits or mischaracterizing smoking.
6. Within our company a procedure is in place to ensure that, as in this situation, one unit shares its product plans with the other, and that the recipient has an opportunity to have its voice heard as to such plans.

RB:bc
2/24/92

*Ground rules altered the marketing of Habitrol.[46]

Pressure from Philip Morris on CIBA-Geigy's agricultural division pushed it to negotiate internally with the pharmaceutical division to protect agricultural chemical sales to the tobacco industry. A set of "Groundrules" (sic) were agreed on between the pharmaceutical and agricultural divisions within CIBA-Geigy (BOX).[46]

On March 11, 1992, the same date that the ground rules were established, the marketing of Habitrol changed. These changes were described in a letter from Don Elliot, senior product manager for fungicides of CIBA-Geigy, to Layton Davis, manager of the agricultural sciences division of CIBA-Geigy:

> The tobacco industry's concerns were discussed in an effort to prevent further conflicts of business and customer relations interests. The Pharmaceutical Division indicated that it never had any desire to engage in an "anti-smoking" campaign. The positioning of the patch was as an aid targeted at the person committed to quitting. The understandings between the two divisions were: the Smoke Buster program would end February 1 and not be repeated. Habitrol consumer advertising in newspapers and magazines and on television would be aimed at smokers who are committed to quitting smoking. Also, the two Divisions would remain in close contact about activities relating to the patch. . . . [We have] informed tobacco companies, the Tobacco Leadership Group and tobacco growers about the outcome.[47]

Philip Morris acknowledged changes in marketing strategy and wrote, "It appears they [CIBA-Geigy] will remain sensitive to the concerns of the tobacco grower organizations and the rest of the tobacco industry."[25]

CIBA-Geigy's advertising approach also changed as a result of state lawsuits. The attorneys general representing several states sued CIBA-Geigy and, in 1993, settled for $550 000 for false advertising and deceptive trade practices (Marion Merrell Dow was similarly sued and settled for $600 000[48]). The suit alleged that CIBA-Geigy had failed to disclose important information about the effectiveness and potential risks of Habitrol. The settlement, followed by FDA enforcement, ensured that the effectiveness of the nicotine patch could not be exaggerated and that all adverse effects and health risks associated with the patch were to be disclosed to the public in advertising.[49] In contrast, tobacco industry influence over nicotine patch advertising messages did not focus on describing the risks of nicotine but on restricting the potential target audience for the nicotine patch. The tobacco industry stressed that the nicotine patch should not be advertised to all smokers but only to smokers who wanted or needed to quit.

Case No. 3 Procordia AB: Collaboration Between Pharmaceutical and Tobacco Companies

Procordia AB is a Swedish-owned holding company that in 1990 had more than 50 affiliates and subsidiaries.[50] An array of companies including the Swedish Tobacco Company and the Pinkerton Group Inc, the holding company for the Pinkerton Tobacco Company and the American Candy Company, are held by Procordia AB. The Pinkerton Tobacco Company's main product is loose leaf chewing tobacco. Redman Chewing Tobacco is its most popular brand.[51] In addition to tobacco and confectionary companies, Procordia AB also holds controlling interests in pharmaceuticals, biotechnology, frozen foods, processed meats, beverages, beer, seafood, plant breeding, catering, and hotels.[1]

Procordia AB served as the holding company for the pharmaceutical companies Kabi Pharmacia and Pharmacia Leo, both owned by the larger Pharmacia AB. (Pharmacia AB became a part of Pharmacia and Upjohn in 1995[52]). Pharmacia Leo developed the technology for Nicorette gum, first marketed in the United States through Marion Merrell Dow and currently marketed by GlaxoSmithKline. Kabi Pharmacia developed and released in 1993 the technology for a nicotine inhaler to be used for smoking cessation.[53]

In 1987, 7 years after Nicorette gum was introduced, the Pinkerton Tobacco Company introduced a new tobacco product called Masterpiece Tobacs, a chewing gum available in peppermint and cinnamon.[54] Masterpiece Tobacs used a similar nicotine-release technology to that used in Nicorette gum, which gives a gradual release of nicotine as it is chewed. Masterpiece Tobacs was not marketed for smoking cessation; rather, it was "designed for the tobacco user (sic) when use of their normal tobacco product is inappropriate or prohibited."[54-56] Masterpiece Tobacs was briefly marketed in 1987 but is no longer available because it did not receive FDA approval.[57-60]

As a holding company, Procordia AB owned 80% or more of the voting stock of both Pharmacia AB and the Pinkerton Tobacco Company. A holding company usually confines its activities to owning stock in, and supervising management of, other companies.[61] By maintaining diversified interests, Procordia AB exerted a claim on the profits and management of smoking cessation therapies (a nicotine inhaler technology and the technology for Nicorette chewing gum) and tobacco products (Masterpiece Tobacs nicotine gum and chewing tobacco). Thus, by collaborating and sharing technology among its pharmaceutical and tobacco holdings, Procordia AB had the potential to benefit financially from creating an addiction through tobacco sales that could then be treated with its NRTs.

COMMENT

The case studies we describe illustrate conflicts of interest between companies selling products to grow and manufacture tobacco and cigarettes, as well as products to treat tobacco addiction. Tobacco companies have used their financial ties with the pharmaceutical industry to influence the marketing and development of NRTs. Tobacco industry documents have shown that tobacco companies have also used their financial ties to pressure other types of companies, such as health insurance companies to reduce incentives to quit smoking or airlines not to support smoking bans.[5]

Financial ties between tobacco and pharmaceutical companies have resulted in competition between the 2 industries. The tobacco industry viewed NRTs as competition with their tobacco products. Financial ties between tobacco companies and at least 2 of the pharmaceutical companies that initially marketed NRTs allowed the tobacco companies to influence the content of NRT advertising and marketing messages. In response to financial pressure from Philip Morris, Marion Merrell Dow and CIBA-Geigy apparently altered their NRT marketing messages to contain less tobacco-control education and to restrict the market for NRTs. The pressure applied by the tobacco industry appeared to interfere with the free market for NRTs and competition among different NRT products.

Corporate diversification of companies such as Procordia AB has allowed well-hidden financial ties between pharmaceutical companies and the tobacco industry to foster collaboration among companies. In the case of Procordia AB, corporate diversification apparently facilitated the sharing of technology that was used to develop tobacco products and smoking cessation products. The ethics of corporate diversification within the tobacco industry have been questioned,[3,4] and our findings suggest that corporate diversification among other types of companies also raises ethical issues. We argue that it is not an acceptable conflict of interest for a company to profit both from selling addictive tobacco products and the drugs to treat the addiction.

Our study has several limitations related to using internal tobacco industry documents as a data source. The capacity of the database is limited to searching by fields, which cannot capture all of the documents produced related to pharmaceutical and tobacco industry relationships. Furthermore, time and financial resources present a limitation because documents are spread across depositories worldwide and are in multiple Web sites.[62] In addition, our analysis is historical since most of the documents are dated before 1999. Because mergers and acquisitions occur regularly in both the tobacco and pharmaceutical industries, we cannot describe current ties between tobacco and pharmaceutical companies or the influence these ties have on current NRT development and marketing or potential reduced risk products.

Our findings suggest that financial ties between tobacco and pharmaceutical companies have resulted in the weakening of smoking cessation efforts and the sharing of technology to develop nicotine products that are profitable to both industries. To facilitate monitoring the potential effect of financial ties between tobacco and pharmaceutical companies on public health, diverse corporate investments and interests should be clearly disclosed to the public. In addition, further analysis of internal tobacco industry documents could uncover additional connections between pharmaceutical and tobacco companies. Lastly, physicians and other health care professionals should question pharmaceutical companies about bowing to pressure from the tobacco industry.

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The tobacco industry documents cited herein were located on tobacco industry Web sites. However, these Web sites are unstable. These documents have been archived and can now be found by searching for them by Bates number on the Legacy UCSF Tobacco Documents Library available at: http://legacy.library.ucsf.edu.

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