agreed to concede priority to Wyeth in return for suitable cross-licensing assurances. In 1951, Lilly secured a patent which embraced phenoxymethyl penicillin among other compounds. Lilly apparently did not recognize its value; not until an Austrian firm applied for an American patent on it did Lilly learn of its potential. Lilly then entered into cross-licensing agreements with that firm, and did not market its product until 1955, four years after discovery. The next penicillin, phenoxyethyl penicillin, is a slight modification of phenoxymethyl penicillin, was found in England, and is marketed under four different brand names in the United States.[94]

D. Price competition in individual drug markets

In general, the presence or absence of price competition in drugs depends upon the presence or absence of patent protection. Even where some price competition exists, however, it is rendered all but ineffective in the prescription market because of the inability of the lower price of the smaller producer to overcome the disadvantages of the obscurity inherent in small size and the disparagement associated with low price. In such cases, effective price competition is limited to the hospital formulary and government bid markets. Unpatented drugs compete with patented drugs in two out of the four markets under consideration, there being no important unpatented tranquilizers or oral antidiabetic drugs.

In the corticosteroid hormones market, cortisone and hydrocortisone were ruled ineligible for patent protection, and no patents have yet been issued for prednisone, prednisolone, and dexamethasone; all other corticosteroids have been patented. For cortisone, the price was $20 per gram in October, 1951, but intense price competition forced the price down to $5.48 per gram in 1954, at which level it has since remained constant.[95] But the case of prednisone is particularly instructive and merits review at some length. Five major drug firms filed patent applications for prednisone, and an interference proceeding was declared by the Patent Office. The parties involved undertook to make interim arrangements among themselves, involving the payment of "interim royalties" to one of the firms, and as a result all five firms began selling prednisone at the identical price of $17.90 per bottle of one hundred 5 milligram tablets. The Syntex Company of Mexico later became a party to the interference proceedings but was not allowed to participate in the interim arrangements because of its known reputation for price competition.[96] Syntex then retaliated by selling the drug in bulk form to small drug firms in the United States, and two of the major firms met its lower price for bulk sales. Syntex then cut prices still lower, from $10.01 per gram in 1957 to $2.36 per gram in late 1959.[97] The major firms' prices at wholesale for the finished drug remained constant at $17.90 per bottle, but small firms were selling at prices as low as $1.75 per bottle by 1959.[98] The lower-price brands, however, were unable to obtain more than eight or nine per cent of the prescription market. In the absence of extremely imperfect market information, such great differences in price would be impossible. The larger firms apparently found it much more congenial to disparage the products of the lower priced sellers than to meet their competition.

Had they cut prices, however, there would have been a great deal of room for price competition. The actual full cost of production for a bottle of one thousand 5 milligram tablets of prednisone is only $8.99.[99] This cost is but 5.07 per cent of the equivalen wholesale price of $179.00.

No price competition whatsoever developed among the patented corticosteroid hormones. Drugs with increasing potencies per gram appeared from year to year, but the price per tablet of each new drug was set so as to achieve a price per equivalent therapeutic dosage unit identical with those of earlier drugs with different dosage units per tablet. In 1958, however, two firms applied for patents upon dexamethasone and marketed it (while patent interference proceedings were still pending) at a price ten per cent below that being charged for its pat-

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[94] Subcomm. Report 124–25.
[95] Hearings on Administered Prices, pt. 14, at 7884.
[96] *Id.*, pt. 14, at 7920.
[97] *Id.*, pt. 14, at 8045.
[98] Subcomm. Report 17.
[99] Hearings on the Drug Industry Antitrust Act before the Antitrust Subcommittee of the House Comm. on the Judiciary, 87th Cong., 2d Sess. 15 (1962). (Hereinafter cited as "Hearings on Drug Industry Antitrust Act.")