adulterated or misbranded. Under the regulations of the act, each firm that manufactures or repackages drugs for ultimate sale or distribution to patients or consumers must register with the FDA and submit appropriate information for listing. All foreign drug manufacturing and distributing firms whose products are imported into the United States are also included in this regulation. Exempt from the registration and listing requirements are hospitals, clinics, and the various health practitioners who compound pharmaceutical preparations for use in their respective institutions and practices. Also exempt are research and teaching institutions in which drug products are prepared for purposes other than sale. Each registrant is assigned a permanent registration number, following the format of the National Drug Code (NDC) numbering system. Under this system, the first four numbers, the labeler code of the 10-character code, identify the manufacturer or distributor. The last six numbers identify the drug formulation and the trade package size and type. The segment that identifies the drug formulation is the product code, and the segment that identifies the trade package size and type is the package code. The manufacturer or distributor determines the ratio of use of the last six digits for the two codes, as a 3:3 digit product code to package code configuration (e.g., 542–112) or a 4:2 digit configuration (e.g., 5421–12). Only one such type of configuration may be selected for use by a manufacturer or distributor, who then assigns a code number to each product to be included in the drug listing. A final code number is presented as the example: NDC 0081-5421-12.

The NDC numbers appear on all manufacturers' drug labeling. In some instances, manufacturers imprint the NDC number, or a part of the NDC number, directly on the dosage units, such as capsules and tablets, for rapid and positive identification when the number is matched in the NDC Directory or against a decoding list provided by the manufacturer. Once a number is assigned to a drug product, it is a permanent assignment. Even when a drug manufacturer discontinues the manufacture and distribution of a product, the number may not be used again. If a drug product is substantially changed, as through an alteration in the active ingredients, dosage form, or product name, the registrant assigns a new NDC number and advises the FDA accordingly.

The product information is now received by the FDA electronically from each registrant, processed and stored in computer files, and made available in web-based format. A search of the Drug Code Directory may be done online by proprietary name, application number, active ingredient, NDC number, or labeler name.

Orphan Drug Act of 1983

Drugs intended for the treatment of "rare diseases and conditions" may be designated *orphan* drugs to help promote research on rare diseases. "Rare" diseases are defined as diseases affecting fewer than 200,000 people or diseases that affect more than 200,000 people but where circumstances are such that a company is unlikely to recover its research and development costs. The law provides tax credits and designated years of marketing exclusivity as incentives.

Drug Price Competition and Patent Term Restoration Act of 1984

Changes to speed FDA approval of generic drugs and the extension of patent life for innovative new drugs were the major components of the Drug Price Competition and Patent Restoration Act of 1984.

Under the provisions of the legislation, applications for generic copies of an originally approved new drug can be filed through an abbreviated new drug application (ANDA), and the extensive animal and human studies of an NDA are not required. This reduces considerably the time and expense of bringing a generic version of the drug to market. The FDA evaluates the chemistry, manufacturing, control (CMC) standards, and the drug's bioavailability in determining that the generic version is