

History of hospital pharmacy

Introduction:

Definition of hospital pharmacy

Hospital pharmacy is the specialized branch of pharmacy practiced within healthcare institutions (hospitals, clinics). It differs from community pharmacy by its hospital-based vocation, and from industrial pharmacy by its role of direct service to the hospitalized patient.

The history of hospital pharmacy is closely linked to the history of medicine, chemistry, botany, natural sciences, and hygiene. The multidisciplinary nature that is inherent to pharmacy naturally manifests in its history.

I. Distant origins (Before Modern Hospitals):

I.1 Prehistory and Antiquity:

The art of healing emerged as early as the Neolithic period (around 8500 BC). Medicinal plants such as poppy, valerian, and chamomile, as well as animal extracts, were used to prepare decoctions. The physician was simultaneously pharmacist and surgeon — these three functions were not yet differentiated.

In ancient Egypt, the Ebers Papyrus (around 1550 BC) is one of the oldest documented medical treatises, listing hundreds of medicinal preparations.

I.2 The Arab-Islamic Civilization (7th – 12th centuries):

Islamic civilization marks a decisive turning point. Arab scholars such as Avicenna (Ibn Sina) and Al-Razi (Rhazes) translated, enriched, and transmitted Greek and Persian knowledge. In 754 AD, Caliph Al-Mansour opened in Baghdad the first pharmacy in history (sayadila), heralding the progressive separation between medicine and pharmacy.

Distillation, plant extraction, and substance-mixing techniques developed by Arab scholars form the foundations of modern pharmacy. Arab hospitals (bimaristan) already included dedicated spaces for the preparation and dispensing of medicines.

I.3 Greco-Roman Medicine:

Hippocrates (460–370 BC), father of Western medicine, and Galen (129–216 AD), whose works dominated pharmacy for centuries, laid the theoretical and practical foundations of remedy preparation. Galenicals — pharmaceutical forms derived from Galen's work — are still studied today.

Dioscorides (~40–90 AD) wrote *De Materia Medica*, cataloguing over 600 medicinal plants.

II. Middle ages and modern era (12th – 18th centuries):

II.1 Apothecaries and monasteries:

In medieval Europe, monasteries played a central role in preserving and transmitting medical and pharmaceutical knowledge. Monks cultivated medicinal herb gardens and maintained 'pharmacies' within their infirmaries — the ancestors of hospital pharmacies. Apothecaries, initially grouped with grocers, gradually emerged as an independent profession.

II.2 Birth of the first hospitals:

The first structured European hospitals (hôtels-Dieu, xenodochia) were founded by the Church. The Hôtel-Dieu in Paris, founded in the 7th century, is one of the oldest Western hospitals. By the 16th century, medical functions became more defined: apothecary rooms were integrated into hospitals, and surgeons and physicians were recruited.

In 1240, the Edict of Frederick II of Sicily officially imposed the separation between medicine and pharmacy in Europe, recognizing the apothecary as a distinct profession.

In 1544, the Sainte-Marthe Hospital in Carpentras created its own apothecary room — the first pharmacy integrated into a European hospital.

II.3 Regulation and professional structuring:

In April 1777, the Royal Declaration of Louis XVI officially transformed apothecaries into pharmacists, definitively separating them from grocers. This date marks the birth of pharmacy as a scientific and regulated profession.

In 1803, the Germinal Law (Year XI) founded modern French pharmacy: it created schools of pharmacy, organized education, and regulated the profession, establishing the pharmacist's monopoly over medicines.

III. 19th – 20th centuries: modern hospital pharmacy

III.1 Development of large hospitals (19th century)

The 19th century saw the rise of modern large hospitals, alongside advances in hygiene, chemistry, and therapeutics. Chemistry became the scientific basis of pharmacy. Important active substances were isolated: quinine (Pelletier and Caventou, 1821), morphine, and codeine. These discoveries profoundly transformed pharmaceutical practice in hospitals.

Pharmacies were progressively integrated into hospitals with dedicated staff. Religious sisters often ran these first hospital pharmacies and provided care, before gradually being replaced by university-trained pharmacists.

III.2 Industrialization of medicines (late 19th – early 20th century)

Industrialization transformed the role of the hospital pharmacist: from craft preparer, they became manager, quality controller, and dispenser. Hospital pharmacy specialized in the selection, purchase, storage, and dispensing of industrially manufactured medicines. New pharmaceutical forms appeared: tablets, injectable ampoules, syrups.

Insulin (Banting and McLeod, 1921), penicillin (Fleming, 1928), and sulfonamides (1935) revolutionized therapeutics and gave hospital pharmacy a vital importance in patient care.

III.3 Emergence of clinical pharmacy (mid-20th century):

Clinical pharmacy emerged in the 1960s–1970s as a discipline in its own right. It represents the pharmacist's presence at the patient's bedside: prescription analysis, detection of drug interactions, counseling of physicians and patients. The pharmacist was no longer merely a medicines manager but a full clinical actor.

The development of specific hospital preparations (parenteral nutrition, anticancer chemotherapies, sterile preparations, dialysis bags...) further reinforced the importance and technical complexity of hospital pharmacy.

IV. Hospital pharmacy today:

IV.1. The role of the hospital pharmacist in the care team:

The hospital pharmacist is an indispensable member of the multidisciplinary team. They work in close collaboration with physicians, nurses, biologists, and other healthcare professionals. Their central mission is securing the medication circuit.

The 5 'Rights' of Medication Safety

- ✓ The right medicine
- ✓ For the right patient
- ✓ At the right dose
- ✓ By the right route of administration
- ✓ At the right time

Conclusion :

The evolution of hospital pharmacy's history; reflects the growing role of the pharmacist in the healthcare system: from craft preparer to specialized clinician, an indispensable actor in patient safety.

The hospital pharmacist is today an essential link in the therapeutic chain.

Hospital pharmacy in the 21st century is evolving towards integrated clinical pharmacy, robotic preparation, telepharmacy, and personalized medicine. These new perspectives open exciting horizons for future hospital pharmacists.