

DEVELOPING HOSPITAL PHARMACY SERVICE AT THE CLINICAL CENTER BELGRADE

Kerničan L.¹, Krajnović D.², Živanović D.³

Faculty of Pharmacy, Vojvode Stepe 450, 11000 Belgrade, Serbia^{1,2}
leontina@pharmacy.bg.ac.rs; dusica.krajnovic@pharmacy.bg.ac.rs
Clinical Center Belgrade, Pasterova 2, 11000 Belgrade, Serbia³
danijel.zivanovic@gmail.com

INTRODUCTION

Pharmacy practice in community and hospital pharmacies in Serbia dated since 1830's and developed furthermore during the history of Serbian medical practice and society.

The last standardization of pharmacy practice in Serbia according to the principles of Good Pharmacy Practice and the Kraun's Project started a few years ago under the auspices of European Agency for Reconstruction and was applied to more than forty hospital pharmacies. Clinical Center of Serbia in Belgrade (CCS), as the largest and the most prominent health

institution in Serbia since 1956 with 45 years of pharmacy practice, implemented the most successfully this project. The hospital pharmacy of the Urgent Care Center (UCC), the unit of the CCS, nowadays includes the multitudinal aspects of pharmacy profession based on a permanent collaboration with doctors, society and patient. It realizes a patient-focused approach in everyday service, which is certainly an indispensable need in developing pharmacy practice in Serbia.



HISTORICAL BACKGROUND

Health care service at the CCS has a long-standing tradition based on many decades of close collaboration in practice with the Faculty of Medicine and the Faculty of Pharmacy in Belgrade and many other health care institutions in Serbia that are concerned with public health.

The CCS was founded by the integration of clinics and institutes of the Faculty of Medicine. It was firstly named the Clinical Center of the Faculty of Medicine.

Chronology of Clinics, Institutes and Laboratories at the CCS:

- Institute for Physiology (1921), Institute for Histology (1921), Institute for Pathology and Pathologic Anatomy (1922), Institute for Chemistry and Institute for Forensic Medicine (1923), Institute for Pharmacology (1924), Institute for Microbiology (1926), Institute for Physics (1927), Institute for Biology (1946), Institute for Pathologic Physiology (1947), Institute for Hygiene (1945), Institute for Biochemistry (1959), Institute for Oncology (1948), Institute for Occupational Medicine and Radiologic Protection (1953) and Institute for Tuberculosis (1952).
- Laboratory for Experimental Oncology (1948) and laboratory for applying radioactive isotopes (1958).

- The Pharmacy at the General State Hospital (1920).
- The First Clinic for Surgery (1921), Clinic for Gynecology and Obstetrics (1921), Clinic for Ophthalmology (1921), Clinic for Dermatovenereology (1922), Clinic for Neurophysiology (1923), Clinic for Otorinolaryngology (1924), Clinic for Infective Diseases (1926), Clinic for Urology (1931), Second Clinic for Surgery (1946), Clinics for Orthopedic Surgery and Traumatology (1947), Clinic for Neurosurgery (1951), Internistic »B« Clinic (1955), Internistic »A« Clinic (1956).
- In 1947, Clinic for Ophthalmology was integrated into Ophthalmologic Department at the General State Hospital and later canceled and integrated into the Clinical Hospital of the Faculty of Medicine.
- In 1982, the CCS included: Clinic for Neurosurgery, Clinic for ORL and Maxillofacial Surgery, Clinic for Orthopedy and Traumatology, Clinic for Dermatovenereology, Institute for Infective and Tropical Diseases, Clinic for Ophthalmologic Diseases, Institute for Oncology and Radiology, Institute for Occupational Medicine and Radiologic Protection, Institute for Tuberculosis, Central Pharmacy of the Faculty of Pharmacy.
- In 1983, the CCS attached: Clinic for Neurology, Clinic for Psychiatry, I and II Clinic for Surgery, Clinic for Gynecology and Obstetrics.
- In March 1987, the CCS opened the Policlinics and in 1987 the Urgent Care Center.



HOSPITAL PHARMACY DEVELOPMENT

In 1920 was founded a pharmacy as an integral part of the General State Hospital. In 1956, by the Decision of the Council of the Faculty of Medicine, the pharmacy became an independent health care institution. In 1986, the pharmacy was reorganized and all the pharmacies of institutes and clinics together with the Central Pharmacy at the Faculty of Medicine were unified so the CCS obtained the centralized hospital pharmacy setting.

The pharmacy supplied thereafter all the units of the CCS with drugs and medicinal supplyings as well as with infusions, magistral and galenic preparations.

After 2000, according to the implementation of Kraun's Project and the Principles of Good Pharmacy Practice, the pharmaceutical service at the CCS has been gradually modified (until 2000 operated only the Center for Pharmacoinformatics and the Center for Ad-

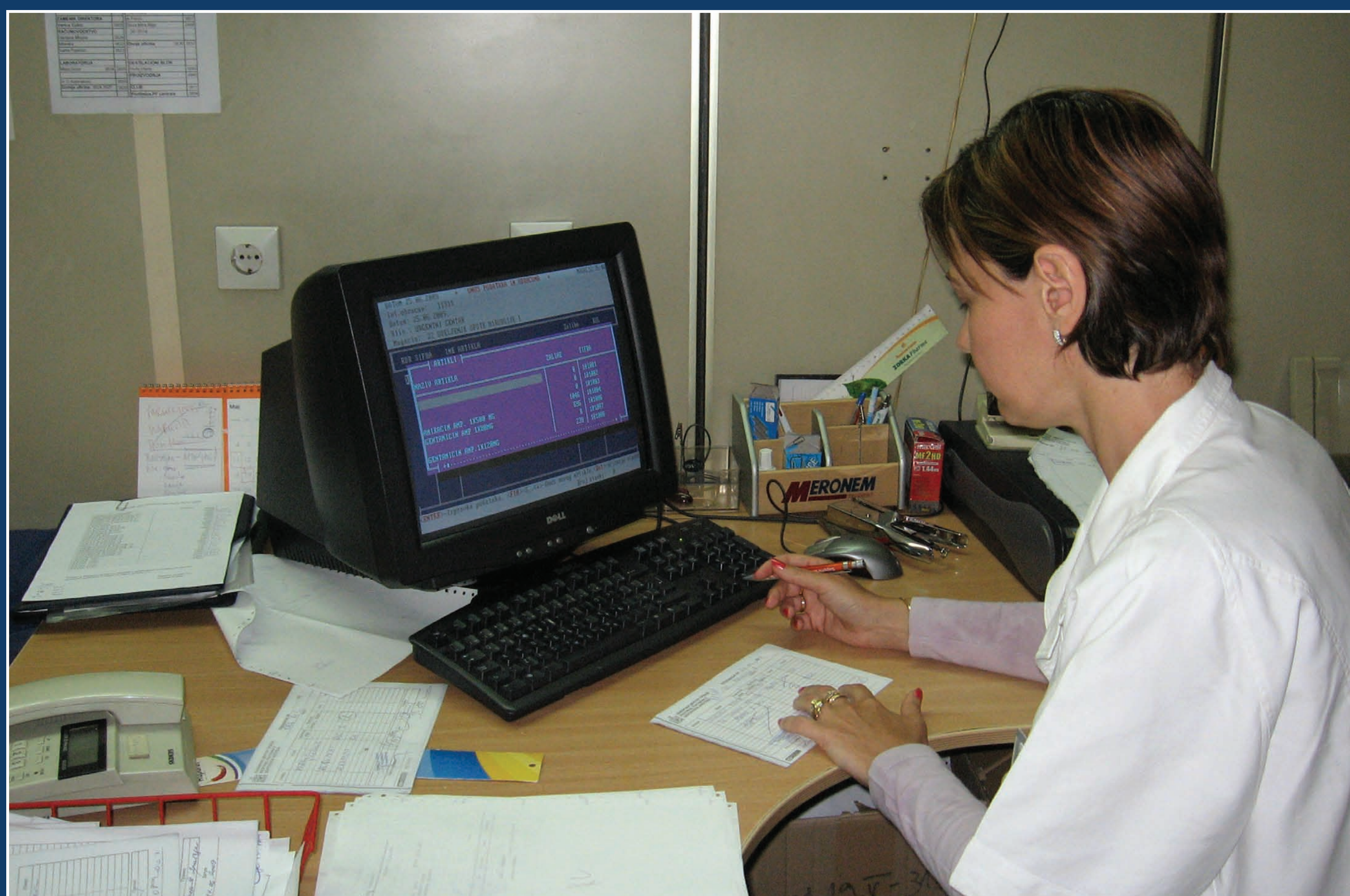
verse Drug Reactions). The pharmacy also uses the computerized systems. They are involved thus in preventing side effects and drug interactions as well as in monitoring and administration of drug therapy for each patient and undergoing basic pharmacoeconomic analyses. It is organized to carry out specialistic trainings in pharmacoinformatics, clinical pharmacy and pharmaceutical technology. Specialists' education in pharmacoinformatics, pharmaceutical care and clinical pharmacy, mainly in the pharmacotherapy of selected clinical disciplines is realized in a close collaboration with the Faculty of Pharmacy and the Faculty of Medicine as well as with other referential institutions.

The pharmacy organizes and realizes the postregistration monitoring of drugs according to WHO and by the activity of the National Center for Monitoring Drug Side Effects.

The pharmacy employed 42 pharmacists with full-time working hours (and additionally 4 employees with part-time working hours).

Specialists: 18 (7 pharmacists specialized in pharmacoinformatics, 5 pharmacists specialized in pharmaceutical technology, 1 pharmacist specialized in sanitary chemistry, 2 pharmacists specialized in drug analyses and control, 1 pharmacist specialized in pharmacoeconomy, 1 pharmacist specialized in cosmetology, 1 pharmacist specialized in pharmaceutical health care)

Pharmacists at specialization: 12



verse Drug Reactions). The new standardization and reorganization of pharmacy service was focused to surpass the old strategies that were based primarily on drugs' supplying and distribution. The new concept includes by now more and more the clinical aspect. In view of this, the hospital pharmacy of the Urgent Care Center (UCC), as a part of the CCS, demonstrated to be the best one in applying the patient-focused approach into hospital services. Pharmacists are here more than elsewhere actively involved in the Commissions for Drug Therapy, where the clinical team daily participate in making global decisions on a patient's drug therapy and therapeutical protocols in hospitals (the final decision being

CONCLUSION

Hospital pharmacy service at the CCS has a crucial role in the implementation of modern world standards of pharmaceutical care in Serbia. By the integration of global and individual pharmaceutical approach to patients, the pharmaceutical service in Serbia has become a wordly operative segment in the hierarchical scheme of the triangle concept of modern health care, especially in a hospital setting.

Literature

1 Jovanović M., Gojković G. (eds.), Klinički centar Srbije juče, danas, sutra, KCS: Belgrade 1998, 260

Acknowledgement:

Special gratefulness for her contribution into research to Mrs Dragana Rajinac Ph.D, the Head of the Hospital Pharmacy at the Urgent Care Center.