

Teaching Pharmaceutical Management During the Hospital Pharmacy Internship: a Descriptive Study in France and Quebec

Manon Marc¹, Célia Morel¹, Charlotte Maurin¹, Amélie Monnier¹, Guillaume Saint-Lorant², Rémy Collomp³, Samuel Limat^{4,5}, Pascal Paubel^{6,7,8}, Jean-François Bussières^{1,9}

¹Unité de recherche en pratique pharmaceutique, Département de pharmacie, CHU Sainte-Justine, ²Normandie université, CHU de Caen Normandie, UNICAEN, UNIROUEN, ABTE—pharmacie centrale, Caen, France, ³Département de pharmacie, CHU Nice, Nice, France, ⁴Université de Franche-Comté, INSERM, UMR RIGHT, Besançon, France, ⁵Pôle Pharmaceutique, CHU Besançon, France, ⁶Agence générale des équipements et produits de santé (AGEPS), Assistance publique—Hôpitaux de Paris (AP-HP), Paris, France, ⁷Faculté de pharmacie de Paris, Université Paris Cité, Paris, France, ⁸Institut Droit et Santé, INSERM UMR S 1145, Université Paris Cité, Paris, France, ⁹Faculté de pharmacie, Université de Montréal, Montréal, QC

Background

- To become a hospital pharmacist in France, the candidate must complete a 5-year pharmacy doctoral program followed by a 4 or 5-year specialized studies diploma in hospital pharmacy (residency).
- In Quebec, it is a 4-year professional pharmacy doctoral program followed by a 16-month advanced pharmacotherapy master's degree (hospital pharmacy residency). The training leads to a Master of Science.
- Practicing in hospital pharmacy requires a good understanding of the organization, its missions, its functioning, its stakeholders, and its patient population to enable each pharmacist to take their rightful place within the interdisciplinary team.

Objectives

Main objective: to compare the teaching and evaluation methods of pharmaceutical management in hospital pharmacy within the residency programs in France and Quebec, based on a selection of faculties.

Methodology

Study design:

- Descriptive, observational, cross-sectional study.
- Four pharmacy residents from France were exposed to the hospital pharmacy management course in France and Canada.
- Management contents in hospital pharmacy taught in France (4 universities out of 24) and Quebec (2 universities) were used.
- Descriptive data were collected and analyzed.

Content comparison:

- We established a comparative profile of the content and evaluation of the management courses in France and Quebec based on the written support of the management courses from four pharmacy faculties in France and two pharmacy faculties in Quebec.
- Thus, we compiled all the content used for teaching pharmaceutical management in France and Quebec. A sub-theme refers to an element of content within a theme.
- Based on the collected data and using the organization of themes and sub-themes used in France, we proposed a comparative profile of the content and evaluation of the knowledge surrounding the teaching of pharmaceutical management in healthcare facilities in France and Quebec.

Comparison of theoretical and practical teaching framework

- We established a general current profile of the management education unit within the residency program in hospital pharmacy in France and Quebec, covering both theoretical and practical aspects. The theoretical aspect is defined by supervised lectures held in pharmacy faculties. The practical aspect involves carrying out a project supervised by the intern's supervisor at the hospital and being exposed to members of the pharmacy management team.
- Then, we identified similarities and differences.

Results

Chart 1: Content and assessment comparison of courses management in France and Quebec (theoretical teaching component).

Legend: Y = Yes (the sub-theme is taught in the city)

Content elements	Nantes	Paris	Lille	Lyon	Quebec/Montreal
Quality assurance					
Legal and normative international framework	Y	Y	Y	Y	Y
National and regional legal and normative framework	Y	Y	Y	Y	Y
Legal and normative certification framework	Y	Y	Y	Y	Y
Institutional standards		Y	Y	Y	Y
Qualification and renewal of equipment		Y			
Production outsourcing		Y		Y	
Conformity assessment	Y	Y	Y	Y	
Risk management					
Legal and normative framework	Y	Y	Y	Y	Y
Process and risk mapping	Y	Y	Y	Y	
Pharmacovigilance and adverse effects	Y	Y		Y	Y
Nosocomial infections	Y			Y	Y
Medication errors		Y	Y	Y	Y
Environmental contamination		Y		Y	Y
Exceptional risks	Y		Y		Y
Risk analysis a priori, a posteriori	Y	Y	Y	Y	
Compliance assessment	Y	Y	Y	Y	
Assessment of professional practices					
Legal, normative, and other sources framework	Y		Y	Y	Y
Reference structures	Y		Y	Y	Y
Definitions and principles	Y		Y	Y	Y
Methodological base	Y		Y		
Valorization of a project of Continuous Professional Development	Y	Y	Y		Y
Hospital and healthcare product economics including procurement					
Introduction to the use of health data and real-world challenges		Y		Y	
Operation of hospital clinical research			Y		Y
Introduction to Lean management	Y	Y	Y		
Introduction to critical thinking	Y			Y	Y
Oral and written communication	Y		Y	Y	Y
Meeting management			Y		Y
Conflict management and prevention			Y		Y
Sustainable development in hospital settings		Y			Y
External environments and stakeholders					
External environments and stakeholders				Y	Y
Healthcare network organization and hospital governance		Y		Y	Y
Healthcare facilities financing		Y	Y	Y	Y
Healthcare products financing	Y	Y	Y	Y	Y
Health economic evaluation		Y	Y	Y	
Profile of available technologies in the medication		Y		Y	Y
Procurement, manufacturers, wholesalers, supply	Y	Y			Y
Number of sub-themes comprising instruction	21	24	24	26	26
Evaluation of the courses					
Attendance/participation verification	Y	Y	Y	Y	Y
Written examination on knowledge	Y	Y	Y	Y	
Presentation of a management project with	Y	Y	Y	Y	Y
Writing a summary/poster/article to highlight the		Y	Y	Y	Y
Participation in cases/scenarios	Y	Y	Y		Y

Theoretical teaching component

Content:

France: Varies by faculties.

Quebec: Identical for both faculties.

Pedagogical approach:

France: 1 PDF® support by sub-theme. The number of sub-themes varies by faculties.

Quebec: 1 book in PDF® (297 pages, 28 learning outcomes).

Class hours:

France: From 27.5 hours to 100 hours (on collected data).

Quebec: 39 hours.

Number of speakers:

France: Varies according to semesters and faculties (from 11 to 17 speakers on collected data).

Quebec: One speaker.

Profile of the speakers:

France: Multiple profiles (Hospital-based, hospital-university, industrial, professor in a management school, member of purchasing cooperatives, member of health authorities).

Quebec: The speaker is also the course coordinator.

Practical teaching component

Content:

France: Depending on hospitals and faculties. Interns of an institution implement a project related to the content of the theoretical component and addressing an issue within the institution.

Quebec: Residents are invited to solve a management issue, determined by the management team.

Class hours:

France: Depending on faculties ; 10 to 40 hours on collected data.

Quebec: 45 hours of personal work.

Assessment:

France: By a jury for the written and/or oral work.

Quebec: By the professor responsible (50% of the grade) for the written and oral work. The teaching coordinator in the practice place assesses the 50% of the grade

Conclusion

- Theoretical and practical teaching of pharmaceutical management in hospitals is offered in France and Quebec.
- Although training programs differ in terms of duration and scope, the two countries should be encouraged to work more closely together in terms of