

# Evaluation of National Policies of Antibiotic Therapy and Prevention of Antimicrobial Resistance in Public and Private Hospital Pharmacies: The Situation in France

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## Background – Aim of the Study

France is one of the largest consumers of antibiotics in Europe and bacterial resistance in France is high. On 2008, Haute Autorité de Santé (HAS) promoted use and implementation of antibiotic guidelines, focusing on institutional players such as pharmacies. The aim of the study is to analyse the professional practices of hospital pharmacies concerning antibiotic therapy to HAS guidelines

\*Antibiotic therapy and prevention of bacterial resistance in healthcare organisation. Guidelines- Haute Autorité de Santé – April 2008– Checklists for professional practice appraisal - Haute Autorité de Santé –April 2008

## Guidelines and checklists

• The French Health Authority- Haute Autorité de Santé (HAS)- updated in 2008 guidelines related to "Proper use of antibiotics in hospitals". These updated guidelines named "Antibiotic therapy and prevention of bacterial resistance in healthcare organisations" are based on the literature review, the regulatory provisions currently in force in France and expert opinion. They are not ready-made protocols but contain the key elements of a hospital's antibiotic policy

• A companion document on standards for professional practice appraisal accompanies these guidelines. It is designed to facilitate guideline adoption and implementation by healthcare organisations  
This document included 42 criteria with definite objectives for the appraisal of the practices of hospital pharmacies concerning antibiotic therapy

## The Study

• Analysis of professional practices concerning antibiotic therapy was done via the year 2008 database related to the characteristics of the French public and private hospital pharmacies with acute medical, surgical and obstetrical activities within the hospital

• 373 hospitals were analysed: 331 were public, 42 were private

• The database included the characteristics of the hospital i.e number of beds, existence of surgery, obstetrics, intensive and critical care, psychiatry, long and medium stay department, hemodialysis activity

• Statistical methods (SPSS)

Univariate analysis used Chi 2 test for comparison of qualitative variable (significant difference if  $p < 0,05$ )

## METHODS

### Examples of items

Criteria	Source	Yes	No
The pharmacy is organised so that it can deliver prescribers with antibiotics permitted by COMEDIMS / CAI / CLIN at all times	Internal document to the pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
The traceability of antibiotic units supplied but not administered is ensured	Joint pharmacy - clinical departments document	<input type="checkbox"/>	<input type="checkbox"/>
The pharmacy validates the nominative prescriptions for antibiotics, at least by identifying the patient, prescriber, and date of the prescription.	Internal document to the pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
For antibiotics under controlled dispensation, the pharmacy has an internal procedure to check that the prescription conforms with CAI recommendations and even the opinion of the advisor	Internal document to the pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
There is an information management system, which is accessible to health professionals within the establishment. It gives an updated list of antibiotics available from the pharmacy, guidelines on good administration practices, and daily treatment costs	Internal document to the pharmacy Information system/network	<input type="checkbox"/>	<input type="checkbox"/>
Antibiotic use is expressed in the form DDD (defined daily dose) per 1000 days of hospitalisation	Report with data on usage	<input type="checkbox"/>	<input type="checkbox"/>
Data on the monitoring and analysis of antibiotic use (by main medical activities or by centres of responsibility in the healthcare organisation) are transmitted at least once yearly to COMEDIMS, CLIN, CAI, CME, clinical departments and sectors	Internal document to the pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
The data on use of antibiotics are presented to the CAU and the CLIN at least once yearly	Document transmitted to the CAI and CLIN	<input type="checkbox"/>	<input type="checkbox"/>
The data on antibiotic use are transmitted to the clinical departments at least once a year	Document transmitted to the clinical departments	<input type="checkbox"/>	<input type="checkbox"/>

Criteria	Source	Yes	No
A list of the anti-infectives available within the establishment has been drawn up by the CAI and validated by the COMEDIMS	List of available antibiotics	<input type="checkbox"/>	<input type="checkbox"/>
A list of antibiotics with controlled distribution is available	List of antibiotics with controlled distribution	<input type="checkbox"/>	<input type="checkbox"/>
The control procedures for the dispensation of these antibiotics are known	Internal document of the CAI / pharmacy / microbiology laboratory	<input type="checkbox"/>	<input type="checkbox"/>
Audits have been performed on compliance with the written antibiotic therapy protocols (hardcopy, intranet) - results are provided	Report of CAI activities or audit report	<input type="checkbox"/>	<input type="checkbox"/>
The antibiotic therapy prescribed complies with the protocol used in the department or with the specialty's guidelines	PF Nominative prescription Antibiotic protocols	<input type="checkbox"/>	<input type="checkbox"/>
The pharmacy and the microbiology laboratory continually exchange data in order to monitor the controlled dispensation antibiotics	Internal document Microbiology laboratory and Pharmacy	<input type="checkbox"/>	<input type="checkbox"/>

COMEDIMS: Commission des Médicaments et des Dispositifs Médicaux Stériles (Committee for Medicinal Products and Sterile Medical Devices)  
CAI: Commission des anti-infectieux / commission des antibiotiques (Committee for anti-infectives/ Committee for antibiotics)  
CLIN: Comité de lutte contre les infections nosocomiales (Committee for the prevention of hospital infections)  
ICATB: Indice composite de bon usage des antibiotiques (Composite index on proper use of antibiotics)  
CME: Commission médicale d'établissement (Hospital Medical Committee)

## RESULTS

.The pharmacies have a process of management and storage of antibiotics <i>within hospitals with surgical activities</i> <i>within hospital with intensive care units</i>	61% ( $p=0,0001$ ) 58% ( $p=0,0001$ )	47%
.The pharmacy supply and update the information about the list of antibiotics available the best practice guidelines 57% if less than 300 beds 86% if more than 300 beds the daily treatment costs		90% 68% 38%
.The pharmacy information system enables pharmaceutical validation of prescription		81%
.The list of the anti -infectives available within the hospital is drawn by - the committee for anti-infectives - the committee for medicinal products and sterile medical devices - the committee for prevention of hospital infection		35% 83% 46%
.The pharmacy has an information system which cooperate with the microbiology laboratory and the clinical departments 73% if more than 300 beds		60%
.The pharmacist dispenses antibiotics after analysis of the prescription i.e always after -identification of the patient always after identification of the day of the prescription always after identification of the prescriber dose of antibiotic		80% 77% 76% 79%
. A list of antibiotics with controlled distribution exists in the hospital <i>in hospitals with surgical activities</i> <i>in hospital with intensive care units</i>	71% ( $p=0,0001$ ) 75% ( $p=0,0001$ )	54%
.The information system enables the traceability of prescription of dispensing of administration of return to the pharmacy of the units not administered		88% 85% 86% 63%
DDD is used for consumption of antibiotics		76%
.There was an evaluation of antibiotic protocols compliance		20%

## CONCLUSION

French Hospitals Pharmacies are taking initiatives for the best use of antibiotics. However some efforts have still to be done for evaluation of these practices, information about guidelines, costs and cooperation with microbiology laboratory and clinical departments