



## Worrying trends in antibiotic use in French hospitals, 2008-2013



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### Background



**HAI national programmes since 1994**

**Antibiotic use national plan since 2001**

- Antibiotic stewardship programmes in healthcare facilities (HCF)
- List of « high risk antibiotics » issued in Nov 2013 by the French National Agency for Medicines and Health Products Safety (ANSM )
  - ✓ Known to promote resistance
  - ✓ Last-line agents

## Objectives



- To analyse trends in antibiotic consumption in French HCF
  - With a focus on “high risk” antibiotics

## Methods



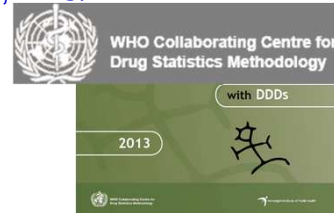
- « ATB-RAISIN » surveillance network: retrospective survey, yearly data
- Voluntarily participating HCF each year
  - Cohort of 518 HCF
  - Coverage: 20% HCF; 28% patient-days at national level



## Methods



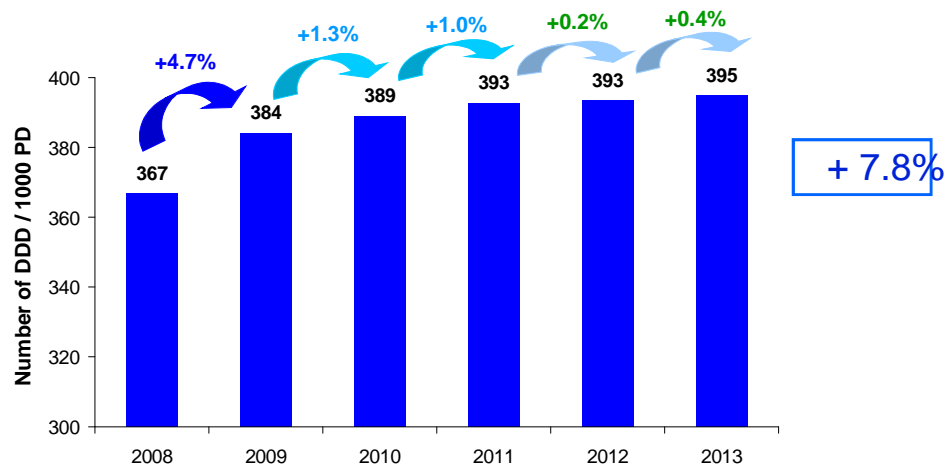
- Self-completion questionnaire
  - Administrative data
    - HCF type, number of patient-days (PD)
  - Antibiotics for systemic use
    - J01 AND Rifampicin + oral imidazole derivatives
    - Dispensed by the **pharmacy** for inpatients only
  - Number of defined daily doses (DDD) [WHO, ATC/DDD system] per 1000 PD
- Trend analysis: linear regression



## Results



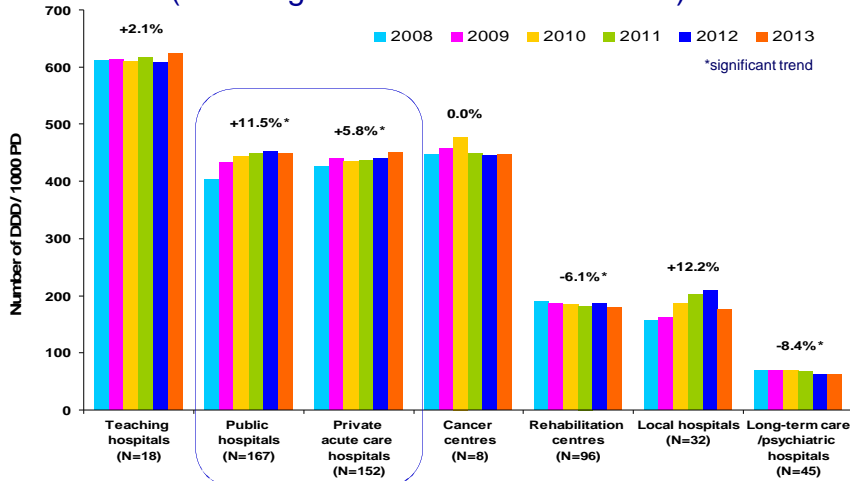
### Trends in total antibiotic use, 2008 – 2013, cohort of 518 hospitals



## Results



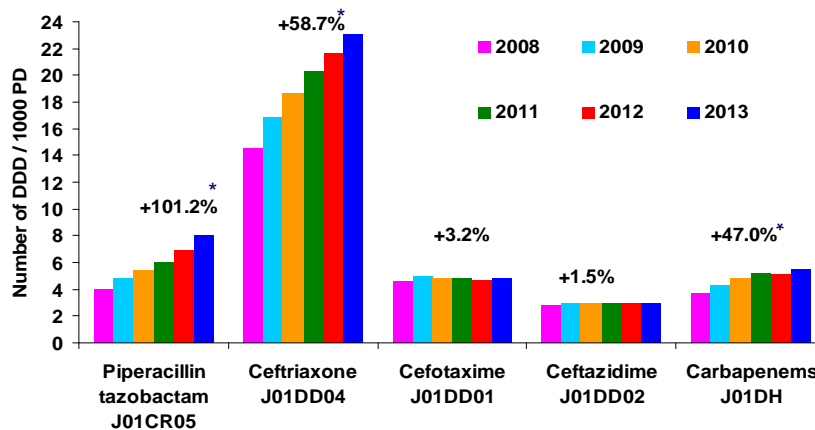
### Antibiotic use in 518 hospitals, 2008-2013, according to hospital type (% change between 2008 and 2013)



## Results



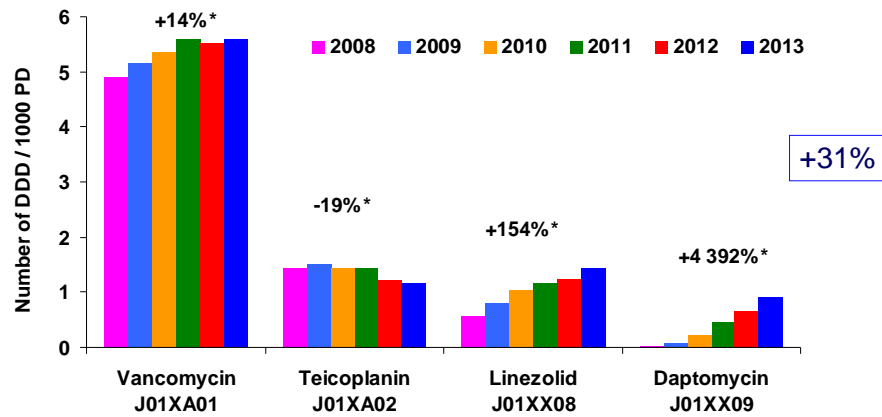
### $\beta$ -lactam use in 518 hospitals, 2008-2013 (% change between 2008 and 2013)



## Results



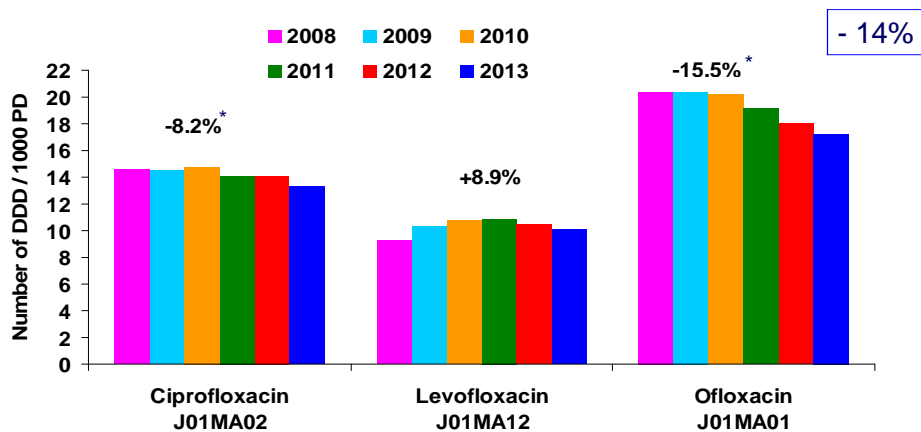
Anti-staphylococcal agents use in 518 hospitals,  
2008-2013  
(% change between 2008 and 2013)



## Results



Fluoroquinolone use in 518 hospitals, 2008-2013  
(% change between 2008 and 2013)



## Discussion



- National survey to monitor antibiotic use in French hospitals since 2008
  - Diversity of facilities -> useful information on trends
  
- Variations according to hospital type
  - Different patients and epidemiology
  - Antibiotic stewardship programmes
    - To considered for data analysis for local feedback and to better inform programmes

## Discussion



- No decrease in antibiotic use!
  
- Increase in some « high risk » antibiotics
  - *Similar trends in other European countries*
  - Epidemiology, activity, patient case-mix
  - Prescribing practices and implementation of guidelines

## Discussion



- Decrease in FQ use
  - *Ministerial and professional guidelines since 2006*
- Recent trend toward stabilisation of total use
  - Good news in a context of decreasing length of stay?

## Perspectives



- Mobilisation still needed!
  - New mandatory indicator on antibiotic stewardship programmes
    - Emphasis on resources, active feedback and **restrictive** measures for high risk antibiotics
  - Law to be voted: ability to restrict prescribing and dispensing of selected antibiotics for public health reasons



# Thanks to all healthcare professionals in participating hospitals



More information on antibiotic use in French hospitals

<http://www.cclin-arlin.fr/>

<http://www.invs.sante.fr/raisin>



@CclinSudOuest and @CclinSudEst



#### DESCRIPTION OF PARTICIPANTS

##### Table 1

Activity of the healthcare facilities (HCF) involved in ATB-Raisin 2013 and coverage (calculated as a % of 2012 figures - according to the national annual HCF database)

Number of HCF involved by participant	Number of participating HCF (%)	Number of beds	% beds involved (2013 data)	Number of patient-days (PD)	% PD involved (2013 data)
7-20	8 (88.9%)	271 000	82.7	61 700 000	82.7

#### ANTIBIOTIC CONSUMPTION ACCORDING TO HCF TYPE AND CLINICAL ACTIVITY

##### Table 2

Antibiotic consumption (DDDD+PDD+PDD) in number of DDDD / 1000 PD by type of HCF and clinical activity



## Additional slides



# ATB-RAISIN Network: Surveillance of antibiotic consumption in hospitals



## ➤ ATB-RAISIN steering committee

### 5 CCLIN\* and InVS\*\*

- **A. INGELS, H. SENECHAL** CCLIN West
- **S. BOUSSAT, L. MOUCHOT**, CCLIN East
- **L. LACAVÉ, F. L'HÉRITEAU**, CCLIN Paris & North
- **M. GIARD, A. MACHUT**, CCLIN S-East
- **C. DUMARTIN, M. PÉFAU, AM. ROGUES**, CCLIN S-West
- **S. MAUGAT, S. VAUX**, InVS

### Other experts

- **B. SCHLEMMER, AC. CREMIEUX**, French Committee for prudent use of antibiotics
- **S. ALFANDARI, R. GAUZIT**, French infectious disease society (SPILF)
- **X. BERTRAND**, Microbiology, Besançon
- **S. TOURATIER**, Pharmacy, GH St Louis, Paris
- **P. LE GONIDEC**, Regional observatory for medicines, Paris

\* Coordinating centres for prevention and control of healthcare associated infections

\*\* French Institute for Public Health Surveillance

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ConsoAB-national2013.xls

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Consommation en Antibiotiques - Année 2013

Consommation Total Établissement

Code:  Etablissement:

Nombre de lits installés:

Journées d'hospitalisation (JH):  Admissions (AD)

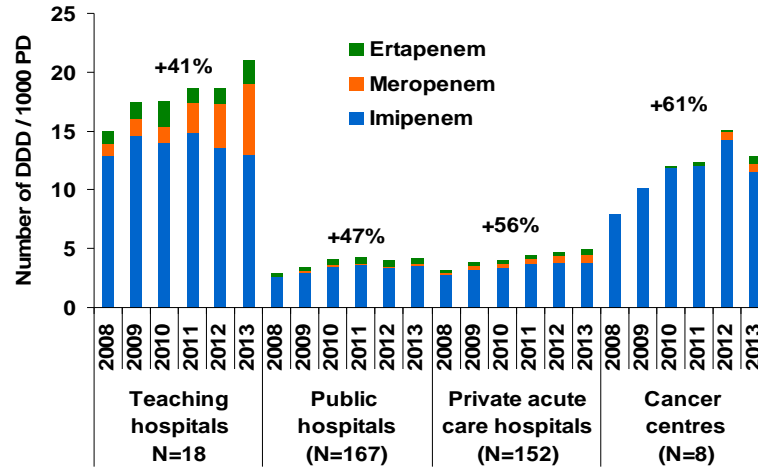
Antibiotiques	Voie d'admin. ist.	Dose unitaire	Nombre d'unités dispensés* (en Unités Co de Dispens	DDJ	Nb de DDJ	Nb de DDJ/1000 JH	Nb de DDJ/100 AD
<b>BETA-LACTAMINES</b>							
<b>J01C PENICILLINES</b>							
Pénicilline G Exprimée en MU (1MU=0,6g - 6MU=3,6g)							
J01CE01		MU					
Benzylpénicilline	I	1	<input type="text" value="5"/>	0	6		
	I	5	<input type="text" value="1"/>	0	6		
<b>Total Benzylpénicilline</b>				0	6	0,00	
J01CE08		MU					
Benzathine benzylpénicilline	I	0,6	<input type="text" value="2,4"/>	0	6		
Extencilline	I	1,2	<input type="text" value="2"/>	0	6		
Extencilline	I	2,4	<input type="text" value="1"/>	0	6		
<b>Total Benzathine benzylpénicilline</b>				0	6	0,00	
<b>Total Pénicilline G</b>				0	6	0,00	
J01CE02		MU					
Pénicilline V (Phénoxyéthylpénicilline) Exprimée en MU (1MU=0,625g - 3,2MU=2g)							
comprimé 1 MU	O	1	<input type="text" value="18"/>	0	3,2		
susp buvable 0,25 MU; 24 doses	O	6	<input type="text" value="3"/>	0	3,2		
susp buvable 0,5 MU; 24 doses	O	12	<input type="text" value="2"/>	0	3,2		
susp buvable 1 MU; 18 doses	O	18	<input type="text" value="1"/>	0	3,2		
<b>Total Pénicilline V</b>				0	3,2	0,00	
<b>Total Pénicilline G-V</b>						0,00	
J01CE							
<b>Pénicillines M (Cloxacilline - Oxacilline)</b>							
J01CF02							
Cloxacilline	O	0,5	<input type="text" value="2"/>	0	2		
Cloxacilline O	I	1	<input type="text" value="2"/>	0	2	0,00	
Cloxacilline I	I	1	<input type="text" value="2"/>	0	2	0,00	
<b>Total Cloxacilline</b>				0	2	0,00	
J01CF04							
Oxacilline	I	1	<input type="text" value="2"/>	0	2	0,00	
<b>Total Pénicillines M</b>				0	2	0,00	

⚠ Avertissement Données administratives Total établissement Tableaux Consommation Tableau Court séjour Evolution ATC3 Médecine

# Results



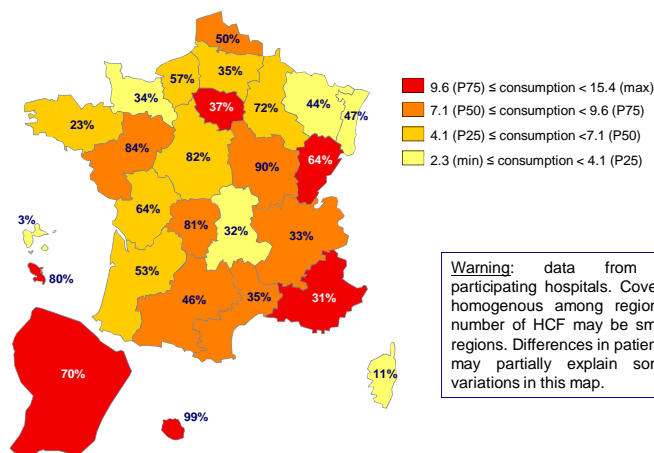
## Carbapenem use in 518 hospitals, 2008-2013 (% change in all carbapenems between 2008 and 2013)



# Results: ATB-RAISIN, 2013



Carbapenems consumption in number of DDD/1 000 PD (regional pooled mean), in acute care and surveillance coverage (% beds) (N= 668 HCF)



**Warning:** data from voluntarily participating hospitals. Coverage is not homogenous among regions and the number of HCF may be small in some regions. Differences in patients case-mix may partially explain some of the variations in this map.

Fait avec Pili carto - <http://pili carto.free.fr>