ANTIBIO - TICTAC
Commence juste
et
ajuste !

Antibiotiques et **résistances** bactériennes : de la ville à l'hôpital… le *mieux* est peut être le *moins*

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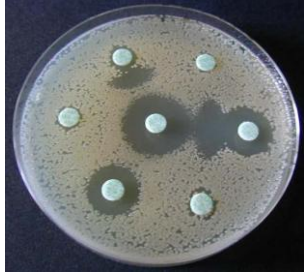
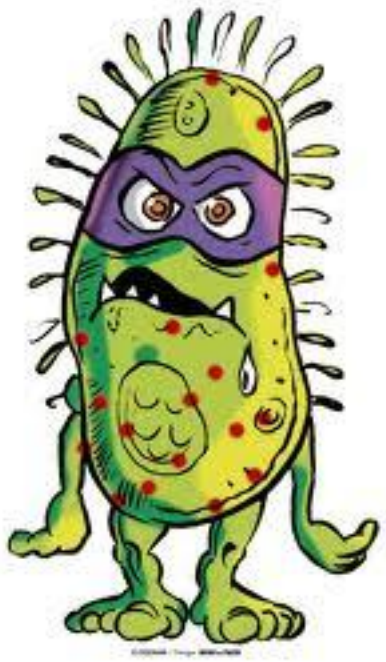
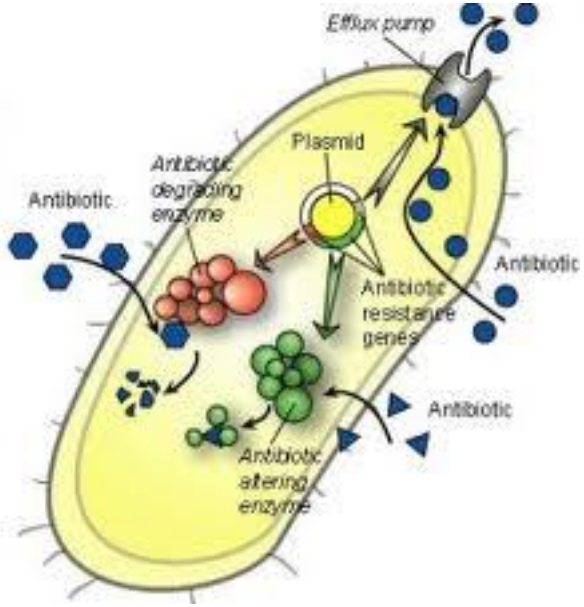


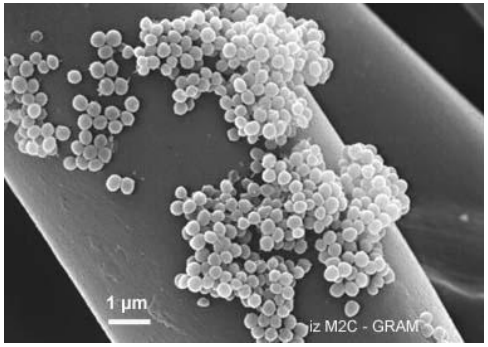
Résistances aux ATB: plus qu'une **menace**, une **réalité**!





Résistances et multi-résistances

- **Bacilles gram –**
  - Entérobactéries R:
    - ßLSE
    - R aux FQ
  - *P. aeruginosa, Acineto.*
  - carbapénèmases
- **Cocci gram +**
  - *Staphylococcus aureus* méti-R
  - ERV
  - Pneumocoques SDP

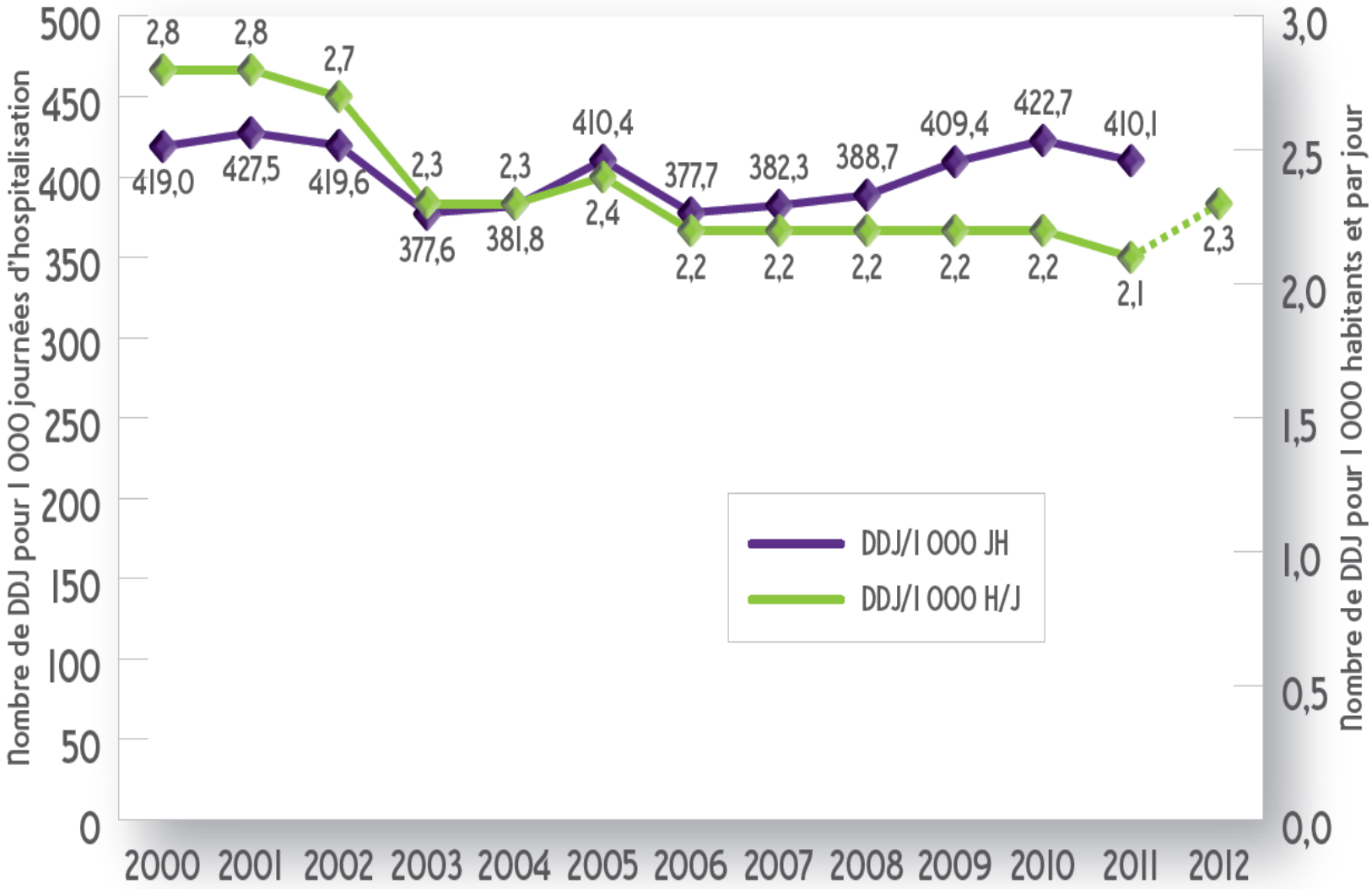


ATB: exposition **excessive** (France)

Pays	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Allemagne	13,6	12,8	12,7	13,9	13,0	14,6	13,6	14,5	14,5	14,9	14,5		
Autriche	12,3	11,8	11,8	12,5	12,5	14,5	14,3	14,7	15,1	15,9	14,9		
Belgique	25,3	23,7	23,8	23,8	22,7	24,3	24,2	25,4	27,7	27,5	28,4		
Bulgarie	20,2	22,7	17,3	15,5	16,4	18,0	18,1	19,8	20,6	18,6	18,2		
Danemark	12,3	12,8	13,2	13,5	14,1	14,6	15,2	16,1	16,0	16	16,5		
Espagne	19,0	18,0	18,0	18,9	18,5	19,3	18,7	19,9	19,7	19,7	20,3		
France	**33,4**	**33,0**	**32,0**	**28,9**	**27,1**	**28,9**	**27,9**	**28,6**	**28,0**	**29,6**	**28,2**	**28,7**	**29,4**
Grèce	31,7	31,8	32,8	33,6	33,0	34,7	41,1	43,2	45,2	38,6	39,4		
Hongrie	18,5	18,6	17,1	19,1	18,2	19,5	17,2	15,5	15,2	16,0	15,7		
Italie	24,0	25,5	24,3	25,6	24,8	26,2	26,7	27,6	28,5	28,7	27,4		
Luxembourg	27,1	27,6	27,6	28,6	24,9	26,3	25,1	27,2	27,0	28,2	28,6		
Norvège	n.d.	15,6	15,7	15,6	15,7	16,8	14,8	15,5	15,5	15,2	15,8		
Pays-Bas	9,8	9,9	9,8	9,8	9,7	10,5	10,8	11,0	11,2	11,4	11,2		
Pologne	22,6	24,8	21,4	n.d.	19,1	19,6	n.d.	22,2	20,7	23,6	21,0		
Portugal	24,9	24,5	26,5	25,1	23,8	24,5	22,7	22,1	22,6	22,9	22,4		
République tchèque	n.d.	n.d.	13,9	16,7	15,8	17,3	15,9	16,8	17,4	18,4	17,9		
Royaume-Uni	14,3	14,8	14,8	15,1	15,0	15,4	15,3	16,5	16,9	17,3	18,6		
Slovénie	19,0	17,4	16,3	17,0	16,7	16,3	14,7	16,0	15,0	14,4	14,4		
Suède	15,5	15,8	15,2	14,7	14,5	14,9	15,3	15,5	14,6	13,9	14,2		

Rapport ANSM 2013

ATB: exposition **excessive**



Rapport ANSM 2013

Prescriptions abusives d'**ATB**

*à **l'hôpital***

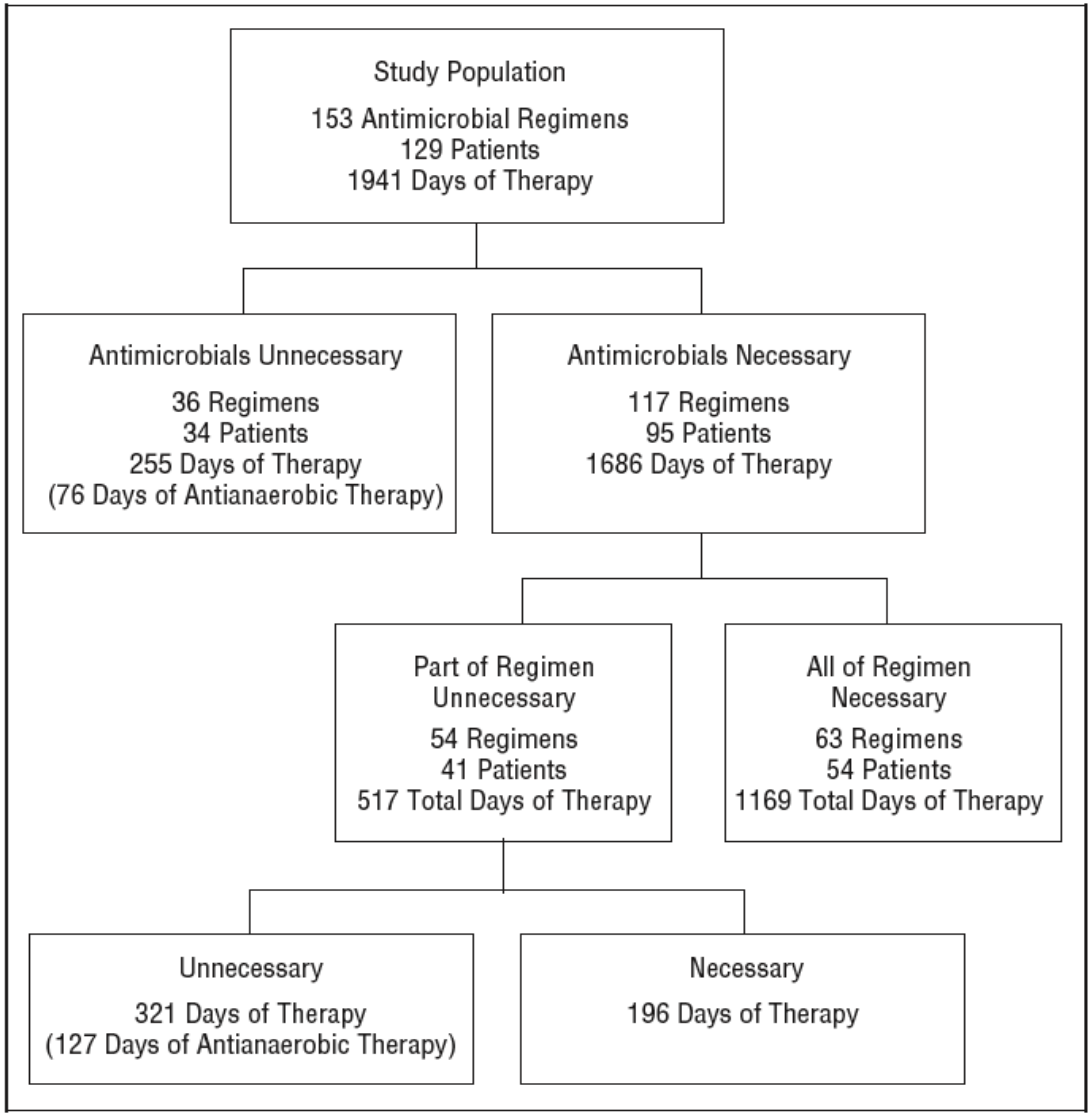


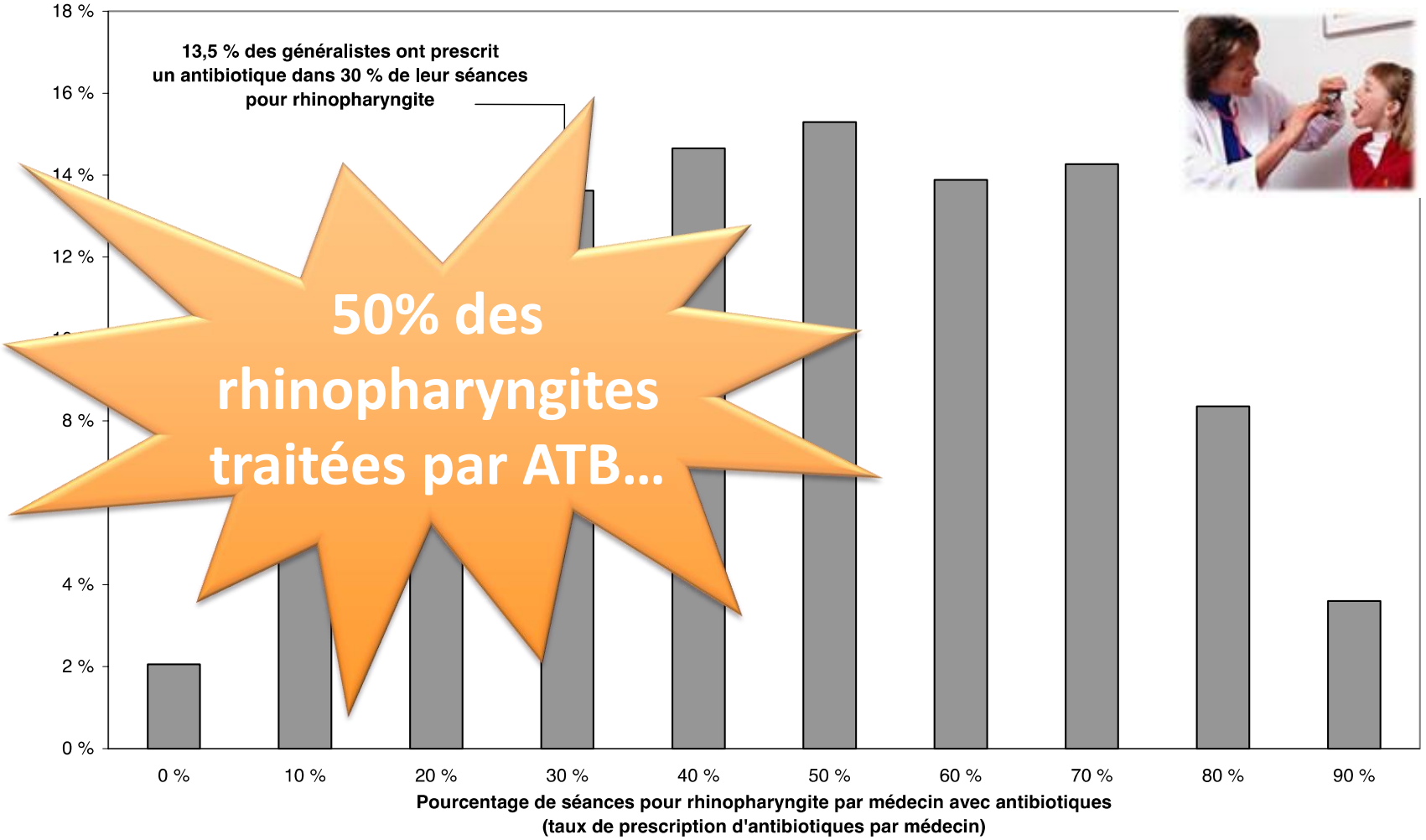
Table 2. Reasons for Unnecessary Days of Therapy for All Antimicrobials and the Subset of Agents With Antianaerobic Activity

Reason	No. (%) of Patients	
	All Antimicrobials	Antianaerobic Antibiotics
Noninfectious or nonbacterial syndrome	187 (32)	74 (36)
Treatment of colonization or contamination	94 (16)	25 (12)
Duration of therapy longer than necessary	192 (33)	67 (33)
For treatment regimens*	153	56
For empiric regimens†	39	11
Adjustment not made in a timely manner	20 (3)	9 (4)
Redundant antimicrobial coverage	60 (10)	18 (9)
Spectrum of activity not indicated‡	23 (4)	10 (5)
Total	**576**	**203**

Hecker et al, Arch Intern Med 2003

Prescriptions abusives d'**ATB**

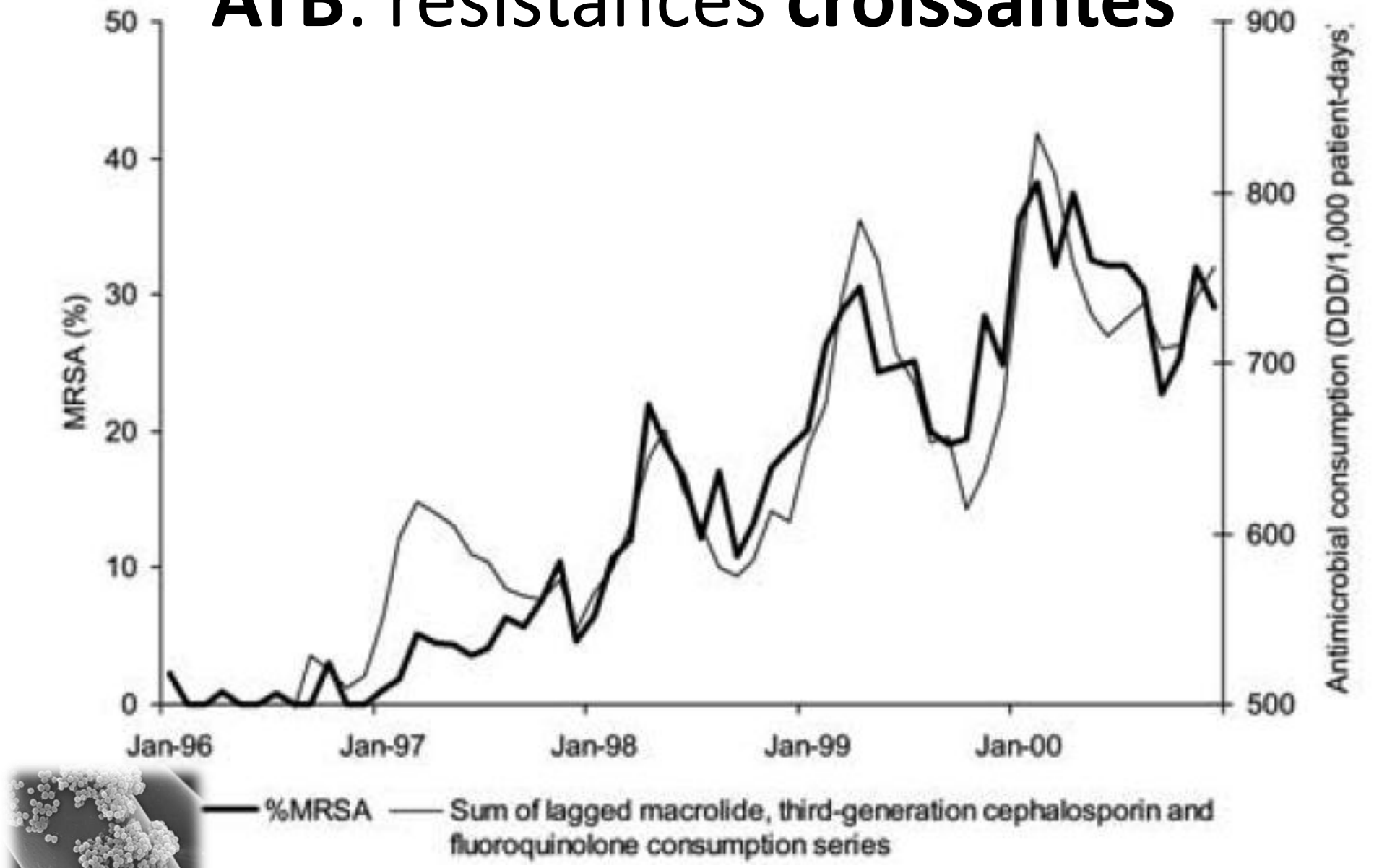
*en **ville***



Source : Panel médecins généralistes Thalès 2001

Exploitation : CREDES

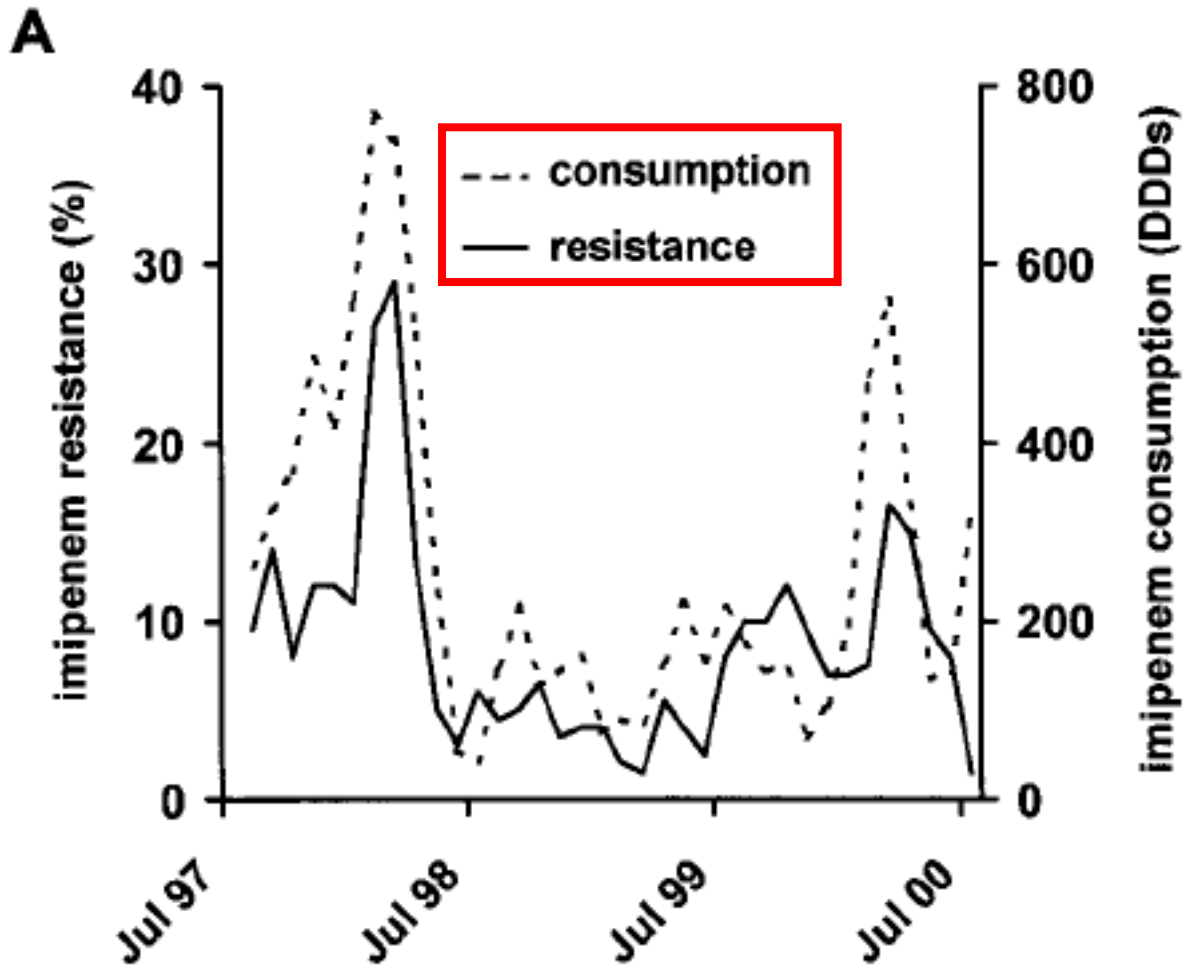
ATB: résistances **croissantes**

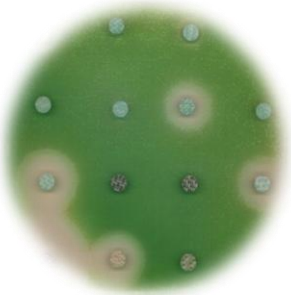


Monnet DL *et al*. Emerg Infect Dis 2004

↗Exposition ATB = ↗Résistances

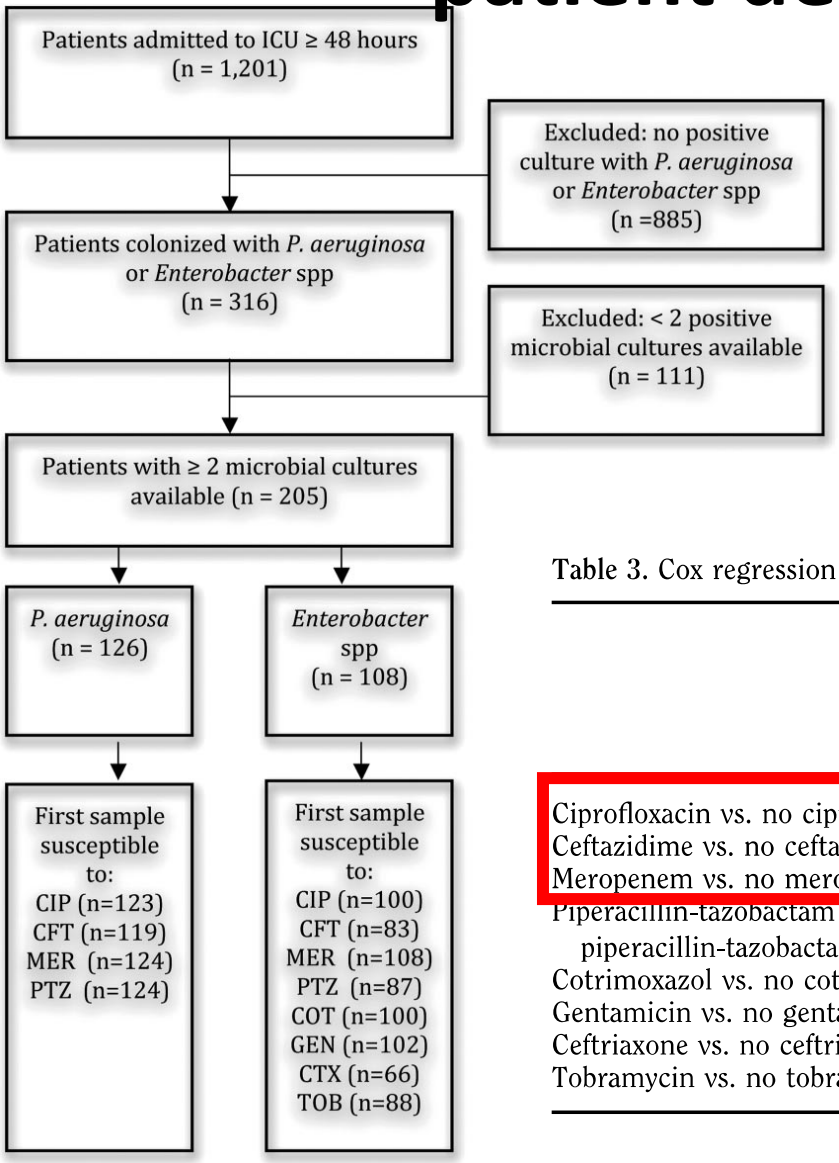
=↗**ATB** large spectre

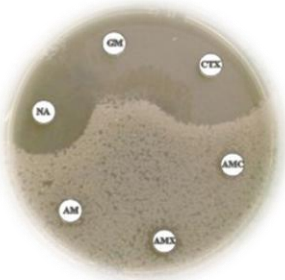




Lepper *et al*. Antimicrob Agents Chemother 2002

ATB: sélection de **résistances chez le patient de réanimation**





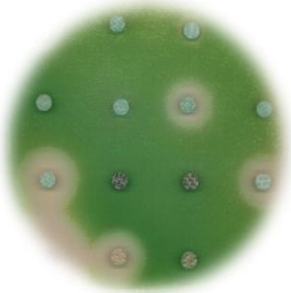
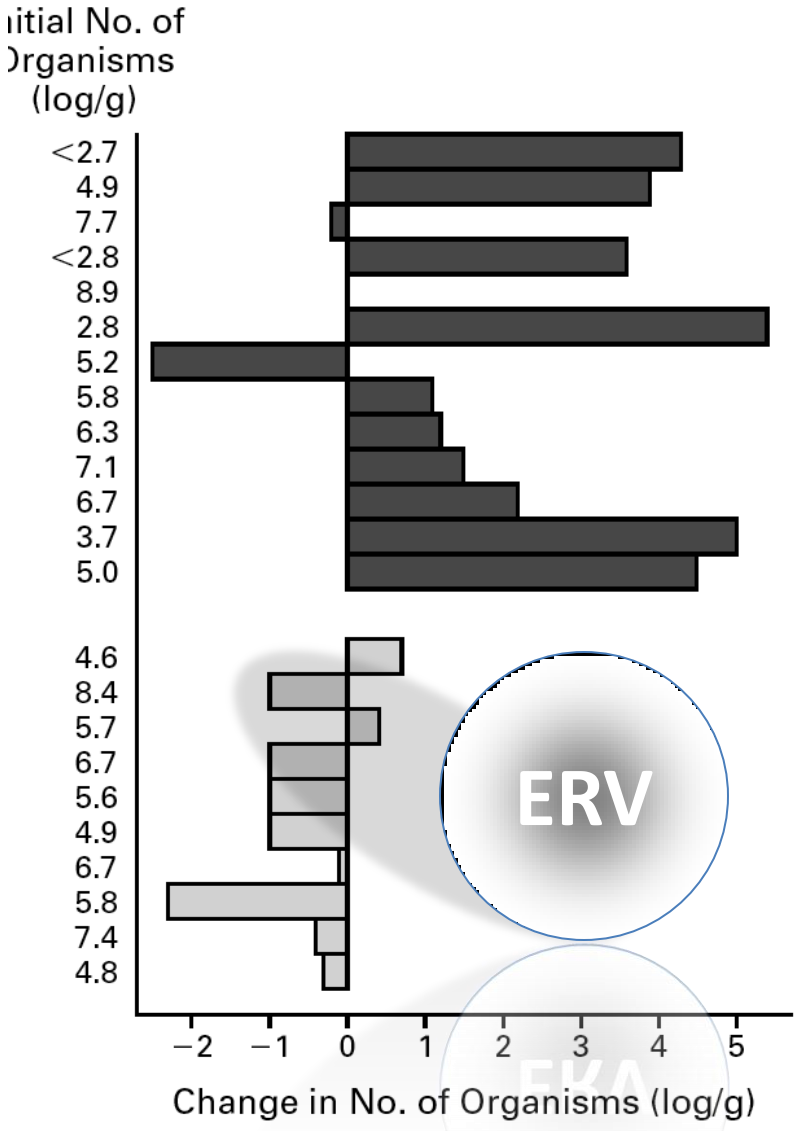


Table 3. Cox regression analysis in patients with *Pseudomonas aeruginosa* and *Enterobacter* species

	Pseudomonas (n = 121)		*Enterobacter* (n = 105)	
	Crude HR (95% CI)	Adjusted HR (95% CI)	Crude HR (95% CI)	Adjusted HR (95% CI)
Ciprofloxacin vs. no ciprofloxacin	2.8 (0.7−10.9)	4.1 (1.1−16.2)[a]	1.7 (0.6−4.7)	1.5 (0.5−4.3)[b]
Ceftazidime vs. no ceftazidime	2.8 (1.3−6.1)	2.5 (1.1−5.5)[c]	1.0 (0.3−3.4)	0.8 (0.2−3.1)[d]
Meropenem vs. no meropenem	8.7 (2.2−33.9)	11.1 (2.4−51.5)[e]	—	—
Piperacillin-tazobactam vs. no piperacillin-tazobactam	2.0 (0.7−5.6)	0.8 (0.2−3.2)[f]	1.1 (0.2−5.3)	1.3 (0.3−6.5)[g]
Cotrimoxazol vs. no cotrimoxazol	n/a	n/a	3.1 (0.6−15.8)	3.1 (0.6−15.8)[h]
Gentamicin vs. no gentamicin	n/a	n/a	2.5 (0.3−20.0)	4.8 (0.5−45.4)[i]
Ceftriaxone vs. no ceftriaxone	n/a	n/a	1.6 (0.5−4.7)	2.4 (0.7−8.9)[j]
Tobramycin vs. no tobramycin	n/a	n/a	0.6 (0.1−5.4)	0.4 (0.04−4.7)[k]

Ong et al Crit Care Med 2011

ATB: sélection de **résistances chez le patient hospitalisé**



Antianaerobic-antibiotic regimens

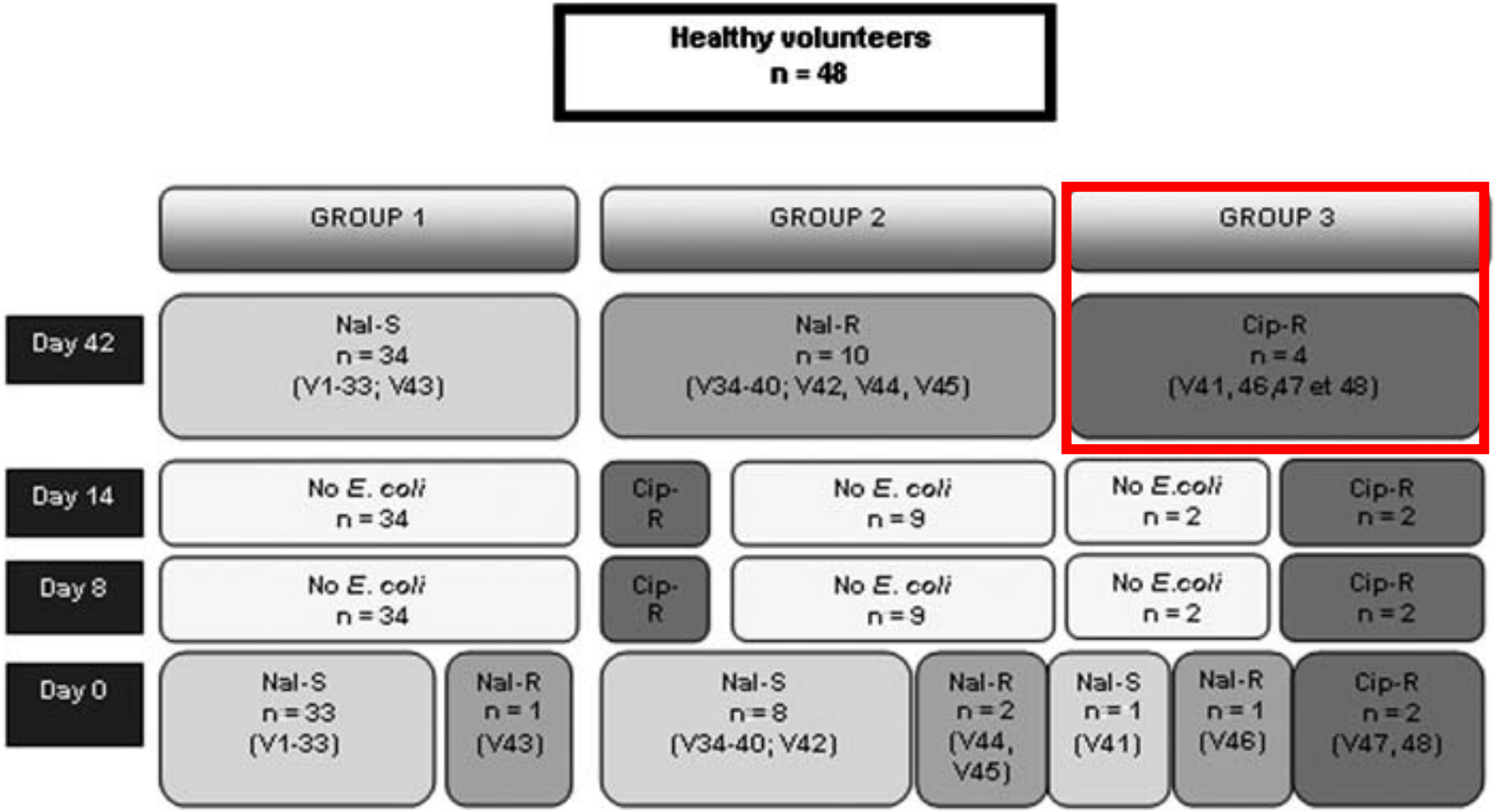
Metronidazole (oral) and piperacillin–tazobactam
Piperacillin–tazobactam
Vancomycin and ciprofloxacin (oral)
Ampicillin–sulbactam and vancomycin
Vancomycin
Piperacillin–tazobactam and cefepime
Vancomycin, then piperacillin–tazobactam
Vancomycin and levofloxacin (oral)
Vancomycin, meropenem, and rifampin (oral)
Amoxicillin–clavulanate (oral), then meropenem and vancomycin
Piperacillin–tazobactam
Vancomycin, meropenem, and ciprofloxacin
Clindamycin (oral)

Regimens of antibiotics with minimal antianaerobic activity

Dicloxacillin (oral)
Dicloxacillin (oral)
Levofloxacin (oral), then trimethoprim–sulfamethoxazole (oral)
Ciprofloxacin (oral)
Levofloxacin (oral)
Levofloxacin (oral)
Levofloxacin (oral)
Cephalexin (oral)
Ciprofloxacin (oral)
Trimethoprim–sulfamethoxazole (oral), then levofloxacin (oral)

Donskey et al, NEJM 2000

ATB: sélection de **résistances chez le patient de ville**



De Lastours et al. J Infect Dis 2012

ATB: sélection de **résistances chez le patient de ville**

Patients Variable	All ($n = 531$) aOR [95 % CI]	Admitted from the community ($n = 394$)
Surgery within past year	2.28 [1.34–3.86]	–
Hospital admission in another country	5.28 [1.56–17.8]	–
3 months <hospital admission <1 year	–	2.83 [1.46–5.45]
Prior neurologic disease	2.09 [1.10–4.00]	–
Transfer from another ICU	2.56 [1.26–5.22]	–
Prior urinary tract disease	–	6.03 [1.44–25.1]
Fluoroquinolones <3 months	1.95 [0.96–3.95]*	2.59 [0.90–7.45]**
3GC >3 months	3.05 [1.21–7.68]	3.58 [1.18–10.8]

* $P = 0.062$, ** $P = 0.077$

Razazi et al. Intensive Care Med 2012

De la **colonisation digestive** préalable par 1 **BMR** à **l'infection** associée aux soins…

	Sensitivity, TP/(TP+FN) (%) (95% CI)	Specificity, TN/(TN+FP) (%) (95% CI)	Positive Predictive Value, TP/(TP+FP) (%) (95% CI)	Negative Predictive Value, TN/(TN+FN) (%) (95% CI)	Positive Likelihood Ratio, Sensitivity/ 1-Specificity (95% CI)	Negative Likelihood Ratio, 1-Sensitivity/ Specificity (95% CI)
All VAP	17/20 (85) (62.1-96.8)	543/587 (95,7) (93.7-97.27)	17/41 (41.46) (26.32-57.9)	543/546 (99.45) (98.4-99.89)	19.76 (9,85-35.45)	0.15 (0.032-0.4)

Table 3. Performance characteristics of extended spectrum beta-lactamase producing enterobacteriaceae active surveillance culture as a predictor of ESBL-EB ventilator-associated pneumonia
TP, true-positive ; FN, false-negative ; TN, true-negative ; FP, false-positive

Total ventilated patients in ICU (01/01/2006 – 31/10/2013) n=3439

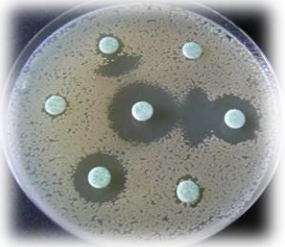
Excluded because : - missing data (n=25)

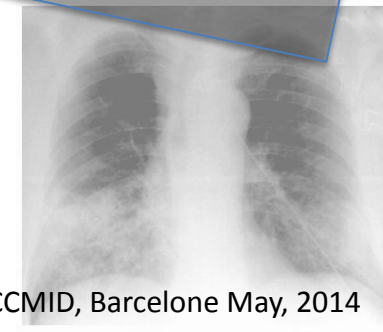
Total suspected VAP n=612

Total analysed suspected VAP episodes n=587

Documented VAP with no-ESBL producing EB n=567

Documented VAP with ESBL producing EB n=20





Bruyère R, Charles PE et al. ECCMID, Barcelone May, 2014

ATB: sélection de **résistances chez le patient de ville**

Covariate	All patients (n=500)	ESBL-negative subjects (n=467)	ESBL-positive subjects (n=33)	OR[a] (95% CI[b])	p-value[c]
Demographic characteristics					
Male sex	248 (49.6)	230 (49.3)	18 (54.5)	1.2 (0.6–2.5)	0.6
Mean age, years (median)	61.8 (63)	61.3 (63)	67.9 (68)	1.2 (1–1.5)	0.07
Charlson Comorbidity Index Score	3.7	3.7	3.9	1 (0.9–1.2)	0.6
Origin of the patient					
Home	412 (82.4)	390 (83.5)	22 (66.7)	Ref	
Transferred from another ward/hospital	50 (10)	45 (9.6)	5 (15.2)	2 (0.7–5.5)	0.02
Long-term care facility	38 (7.6)	32 (6.9)	6 (18.2)	3.3 (1.3–8.8)	
Department of hospitalization					
Internal medicine	364 (72.8)	340 (72.8)	24 (72.7)		
Cardiology	41 (8.2)	37 (7.9)	4 (9.8)		
Oncology	52 (10.4)	52 (11.1)	0 (0)		
Geriatrics	43 (8.6)	38 (8.1)	5 (15.2)		
Previous hospital contacts					
Hospitalized <1 year before admission	226 (45.2)	209 (44.8)	17 (51.5)	1.3 (0.6–2.7)	0.5
Interval (days) between last discharge and admission	81.0	83.5	67.3	0.9 (0.8–1.1)	0.1
Travel from high-ESBL regions during the past 12 months	79 (15.8)	76 (16.3)	3 (9.1)	0.5 (0.2–1.7)	0.2
Antibiotic consumption					
Up to 3 months before admission	212 (42.4)	192 (41.1)	20 (60.6)	2.2 (1.1–4.5)	0.03
Beta-lactams	169 (33.8)	153 (32.8)	16 (48.5)	1.9 (0.9–3.9)	0.06
Quinolones	32 (6.4)	30 (6.4)	2 (6.1)	0.9 (0.2–4.1)	0.6
Aminoglycosides	32 (6.4)	28 (6.0)	4 (12.1)	2.1 (0.7–6.6)	0.2
Sulfonamides	15 (3.0)	14 (3.0)	1 (3.0)	1 (0.1–7.9)	0.6
Ongoing antibiotic therapy	134 (26.8)	120 (25.7)	14 (42.4)	2.1 (1–4.3)	0.04
Duration of antibiotic intake					
0	303 (61.8)	289 (63.1)	14 (43.8)	Ref	
1 to 7 days	130 (26.5)	120 (23.2)	10 (31.3)	1.7 (0.7–4)	0.03
More than 7 days	57 (11.6)	49 (10.7)	8 (25.0)	3.4 (1.3–8.5)	

Ruppé et al. Eur J Microbiol Infect Dis 2012

ATB: sélection+acquisition de souches R **exogènes** en ville…

Antimicrobial Agents and Chemotherapy

High Prevalence of Extended-Spectrum-Cephalosporin-Resista nt Enterobacteriaceae in Poultry Meat in Switzerland: Emergence of CMY-2- and VEB-6-Possessing Proteus mirabilis

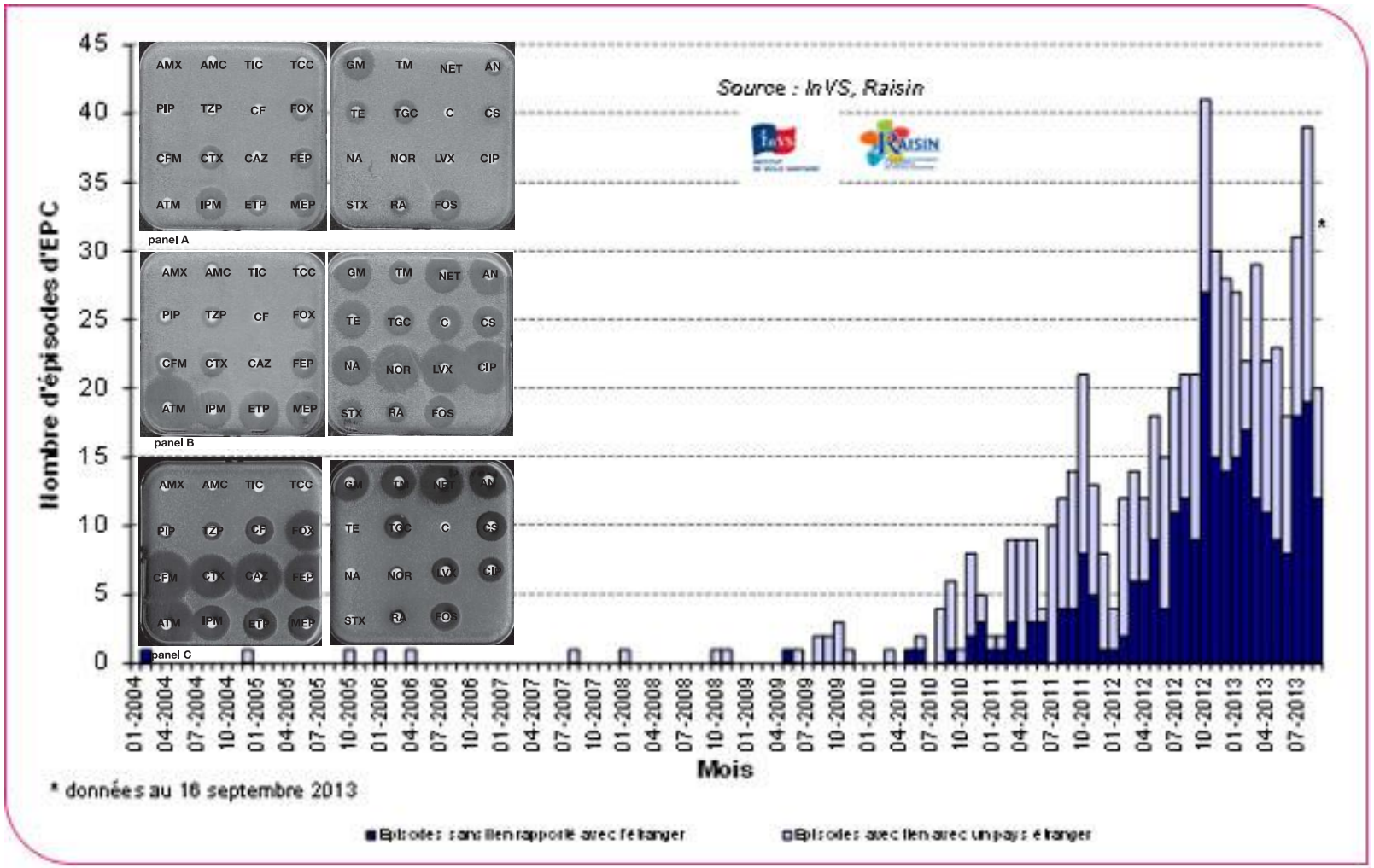
Salome N. Seiffert, Regula Tinguely, Agnese Lupo, Catherine Neuwirth, Vincent Perreten and Andrea Endimiani

***Antimicrob. Agents Chemother.* 2013, 57(12):6403. DOI: 10.1128/AAC.01772-13.**
Published Ahead of Print 30 September 2013.

TABLE 1 Phenotypic and molecular characteristics of ESBL- and pAmpC-producing *E. coli* and *P. mirabilis* isolates recovered from poultry meat retailed in Bern during the study period[a]

Meat (store)	Species	ESBL/pAmpC gene(s)	Plasmid inc group(s)	Phylogenetic group	ST	Antimicrobial agents and MICs, μg/ml)[b]	Country[c] Production	Country[c] Packaging (packing plant)
Turkey slices (A)	*E. coli*	CMY-2	F, A/C	D	ST117	CTX (4), CAZ (4), FEP (≤1), ATM (4), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≤0.25), COL (≤0.125), TGC (≤0.125)	GER	GER (I)
Turkey slices (A)	—	—	—	—	—	—	GER	GER (I)
Chicken slices (A)	*E. coli*	SHV-12, TEM-1	F, X1	B1	ST155	CTX (2), CAZ (8), FEP (≤1), ATM (≥32), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≥8), COL (≤0.125), TGC (≤0.125)	GER	GER (Un)
Chicken slices (A)	*E. coli*	TEM-52	F, I1, X1	A	ST23	CTX (4), CAZ (4), FEP (≤1), ATM (≤1), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≤0.25), COL (≤0.125), TGC (≤0.125)	GER	GER (Un)
Chicken ministeaks (A)	*E. coli*	CTX-M-1	F, I1	D	ST2485	CTX (≥64), CAZ (2), FEP (4), ATM (8), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≥8), COL (≤0.125), TGC (≤0.125)	CH	CH (II)
Chicken ministeaks (A)	—	—	—	—	—	—	CH	CH (II)
Ground chicken (A)	*E. coli*	CTX-M-1, TEM-1	F, FII, I1	A	ST1141	CTX (16), CAZ (≤0.5), FEP (4), ATM (4), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≥8), COL (≤0.125), TGC (≤0.125)	CH	CH (II)
Chicken legs (A)	—	—	—	—	—	—	CH	CH (II)
Ground chicken (A)	*E. coli*	CTX-M-1	F, I1	B1	ST602	CTX (8), CAZ (≤0.5), FEP (≤1), ATM (4), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≥8), COL (≤0.125), TGC (≤0.125)	CH	CH (II)
Chicken legs (A)	—	—	—	—	—	—	CH	CH (II)
Chicken wings (B)	*E. coli*	CTX-M-1	F	B1	ST1304	CTX (16), CAZ (≤0.5), FEP (≤1), ATM (4), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≤0.25), COL (≤0.125), TGC (≤0.125)	CH	CH (III)
Chicken wings (B)	—	—	—	—	—	—	CH	CH (III)
Chicken legs (B)	*E. coli*	CMY-2	F, B/O, A/C, K	D	ST38	CTX (8), CAZ (8), FEP (≤1), ATM (4), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≤0.25), COL (≤0.125), TGC (≤0.125)	CH	CH (III)
Chicken wings (B)	*E. coli*	CTX-M-1	I1, Y	D	ST2485	CTX (16), CAZ (≤0.5), FEP (4), ATM (8), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≥8), COL (≤0.125), TGC (≤0.125)	CH	CH (III)
Ground chicken breasts (B)	*E. coli*	SHV-12	F, FII, I1	B1	ST155	CTX (2), CAZ (8), FEP (≤1), ATM (16), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≤0.25), COL (≤0.125), TGC (≤0.125)	AUT	CH (III)
	P. mirabilis	CMY-2	I1	NA	NA	CTX (2), CAZ (4), FEP (≤1), ATM (≤1), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (2), AMK (8), CIP (≤0.125), SXT (≤0.25), COL (≥8), TGC (2)		
key slices (C)	*P. mirabilis*	VEB-6, TEM-1[d]	P	NA	NA	CTX (16), CAZ (≥32), FEP (8), ATM (8), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≥16), AMK (16), CIP (≥4), SXT (≥8), COL (≥8), TGC (2)	EU	CH (IV)
key slices (C)	*P. mirabilis*	VEB-6, TEM-1[d]	P	NA	NA	CTX (16), CAZ (≥32), FEP (16), ATM (8), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (8), AMK (16), CIP (≥4), SXT (≥8), COL (≥8), TGC (2)	EU	CH (IV)
ound chicken (C)	*E. coli*	CTX-M-1	F, I1, P, U	A	ST23	CTX (16), CAZ (≤0.5), FEP (≤1), ATM (4), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≥8), COL (≤0.125), TGC (≤0.125)	CH	CH (V)
cken ministeaks (C)	—	—	—	—	—	—	CH	CH (V)
cken slices (C)	*E. coli*	CTX-M-1	F, I1	A	ST23	CTX (32), CAZ (≤0.5), FEP (4), ATM (4), TZP (≤4), MEM (≤0.5), ERT (≤0.125), GEN (≤0.5), AMK (≤2), CIP (≤0.125), SXT (≥8), COL (≤0.125), TGC (≤0.125)	CH	CH (V)

ATB: sélection+acquisition de souches R **exogènes** à l'étranger…



Risque d'**EPC**?

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

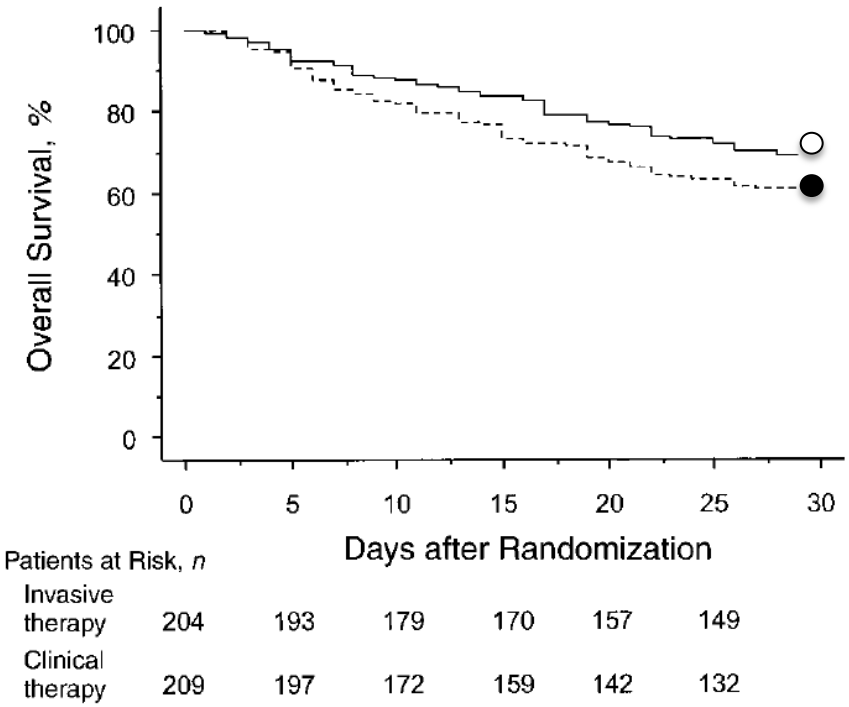
MINISTÈRE DU TRAVAIL,
DE L'EMPLOI
ET DE LA SANTÉ

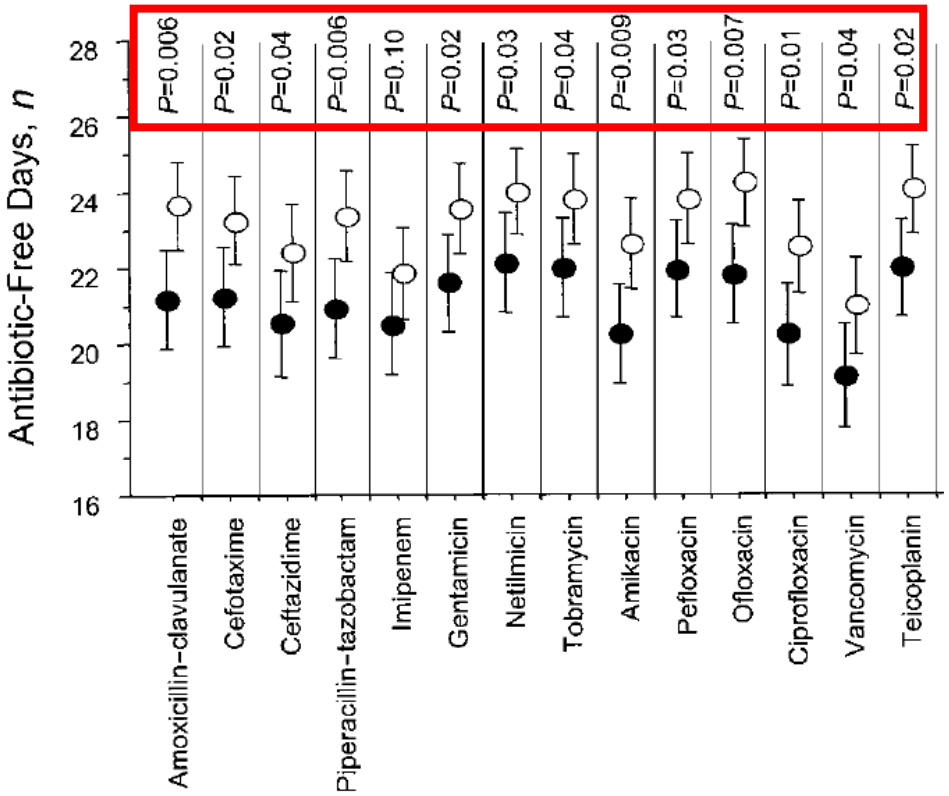
A - Tous les patients étant hospitalisés suite à un rapatriement sanitaire ou un transfert direct vers un établissement du territoire national, depuis un établissement de santé situé hors du territoire français ;

B - Certains patients ayant effectué, au cours de l'année ayant précédé leur hospitalisation dans l'établissement, un séjour dans un établissement de santé, hors du territoire français essentiellement, et dont la situation, évaluée au cas par cas, par l'équipe médicale chargée de leur prise en charge, conduit à suspecter un risque de portage d'EPC. En dehors du contexte de rapatriement sanitaire ou de transfert direct, la mise en œuvre des mesures de contrôle peut s'avérer nécessaire en fonction des caractéristiques suivantes :

ATB: **transmission** de souches R en ville comme à l'hôpital…

ATB: **toxicité**! (bénéfice/risque)





Fagon et al. Ann Intern Med 2000

ATB: altération fonction **rénale**

Table 1 Prevalence and duration of kidney organ failure ('standard-exposure' group vs 'high-exposure' group)

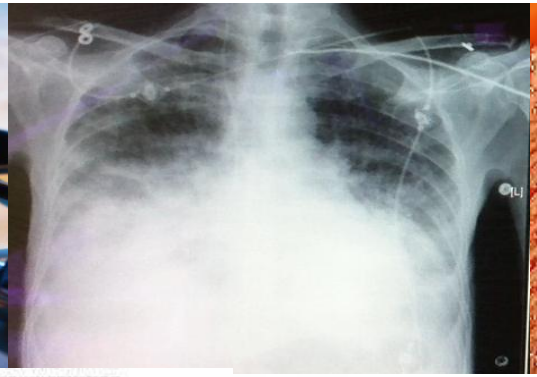
	Standard-exposure group (N=596)	High-exposure group (N=604)	p Value
eGFR*: number of days (% of days from days 1 to 28 with values):			
Moderately–severely impaired (eGFR: ≤60 ml/min/1.73 m^2)	3016 (43.4)	3672 (48.1)	<0.0001
Severely impaired (eGFR ≤30 ml/min/1.73 m^2)	1445 (20.8)	1910 (25.0)	<0.0001
Severely impaired (eGFR ≤30 ml/min/1.73 m^2), days from days 1 to 14	984 (20.0)	1253 (23.5)	<0.0001
'RIFLE' criteria, number of patients (%) within days 1–28			
'R' reached	170 (28.5)	209 (34.6)	0.02
'I' reached	75 (12.6)	92 (15.2)	0.19
'F' reached	121 (20.3)	150 (24.8)	0.06
'R' or death	298 (50.0)	327 (54.1)	0.15
'I' or death	234 (39.3)	252 (41.7)	0.39
'F' or death	270 (45.3)	287 (47.5)	0.44
Urea			
Patients with a urea level ever ≥20 mmol/l (days 1–28), n (%)	217 (37.4)	253 (43.4)	0.04

Jenssen et al BMJ 2013

Pas de **couverture** antibiotique…

Prendre le temps… Avoir les **moyens**…

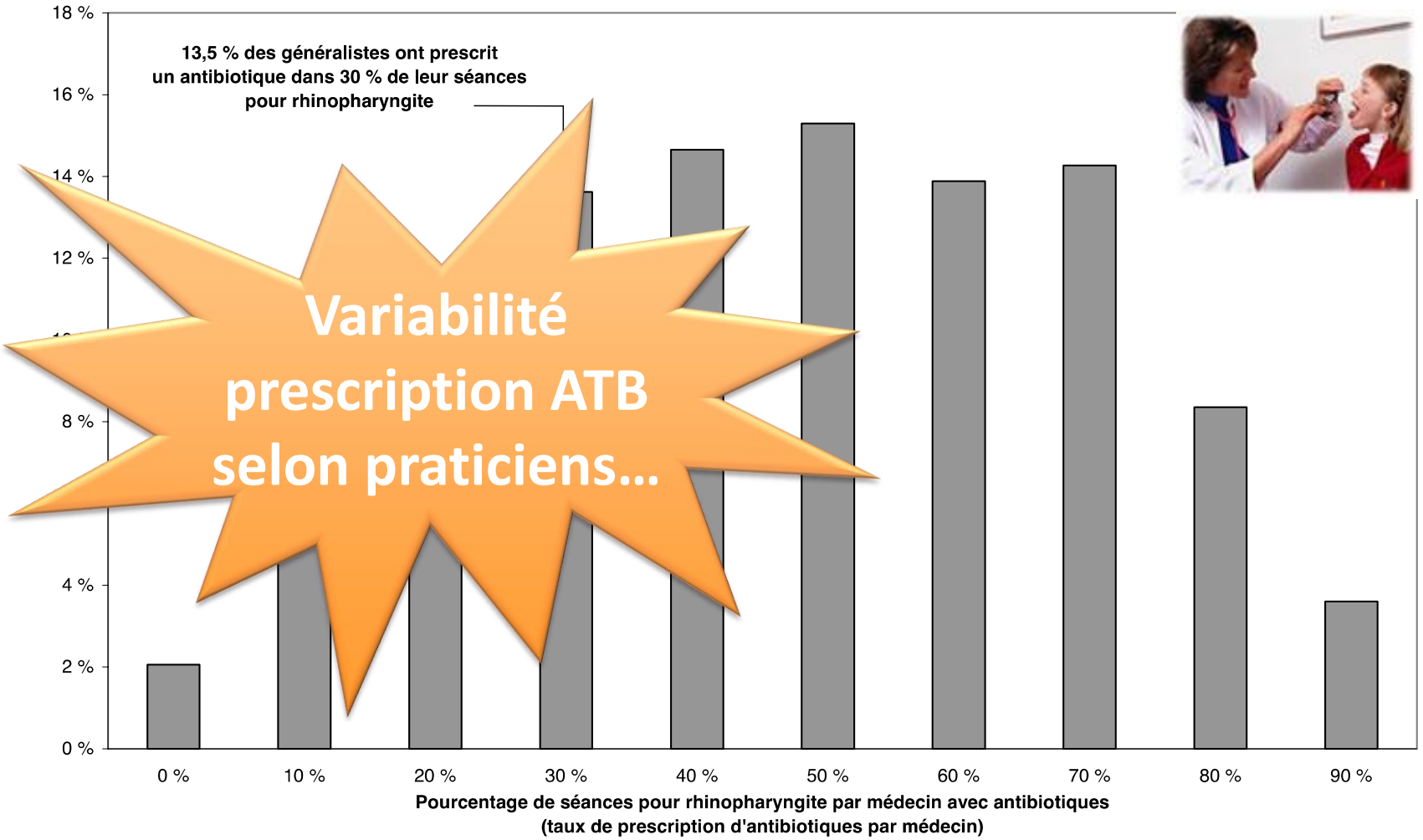
- De **confirmer** un foyer infectieux
- De rechercher un diagnostic **alternatif**
- D'obtenir 1 documentation **microbiologique**




Prescriptions abusives d'**ATB**

*en **ville***



Source : Panel médecins généralistes Thalès 2001

Exploitation : CREDES

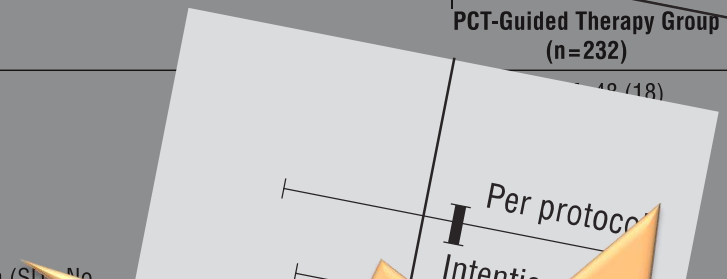
L'exemple des **rhino-pharyngites**

- Ce qui **favorise** la prescription d'ATB:
  - Niveau d'activité du médecin *(Nb de C)*
  - Visite médicale
- Ce qui **réduit** la prescription d'ATB:
  - Implication dans la FMC
  - Réseau de soins
- **Une part importante de la variabilité des comportements ne s'explique pas**

Initiation **ATB** guidée par la **PCT**

Table 1. Baseline Characteristics of Patients

Characteristic	No. (%) PCT-Guided Therapy Group (n=232)	Standard Therapy Group (n=226)
Age, median [IQR], mean (SD), y		46 [35-62], 48 (18)
Women		139 (62)
Educational level, y[a]		
Low (≤5)		52 (23)
Medium (>5 and ≤10)		122 (55)
High (>10)		48 (22)
Days with RAs, median [IQR], mean (SD), No.		5 [3-7], 6.5 (4.7)
Degree of discomfort due to infection, median [IQR], mean (SD), No.		7 [5-8], 6.2 (2.4)
Presence of any comorbidity		37 (16)
Chronic lung disease		14 (6.2)
Diabetes mellitus		7 (3.1)
Heart failure		6 (2.6)
Other comorbidities		10 (4.4)
Use of diagnostic test other than PCT		176 (78)
PCT, median [IQR], mean (SD), µg/L		[0.06-0.1], 0.24 (1.3)
CRP, median [IQR], mean (SD), mg/dL		34 [10-76], 51 (55)
Diagnosis		
Common cold	13 (5.[illegible])	18 (8.0)
Acute rhinosinusitis	52 (22)	52 (23)
Acute pharyngitis or tonsillitis	42 (18)	33 (15)
Acute laryngitis or tracheitis	8 (3.5)	4 (1.8)
Acute otitis media	0	5 (2.2)
Acute bronchitis	58 (25)	70 (31)
Influenza	3 (1.3)	1 (0.4)
Exacerbated COPD	12 (5.2)	9 (4.0)
Exacerbated asthma	6 (2.6)	3 (1.3)
Community-acquired pneumonia	38 (16)	31 (14)



Prescriptions ATB: -72%…

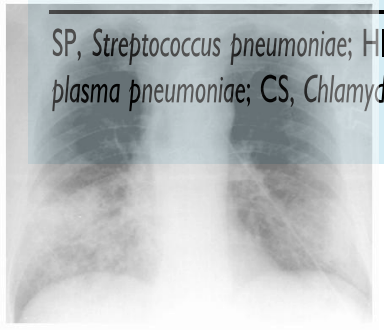
Briel *et al*. Arch Intern Med 2008

L'exemple des IRB: Ne pas traiter par **ATB** ce qui n'est pas une infection **bactérienne**

Reference	*n*	SP	HI	MC	SA	MP	CS	CPne	CB	Virus	Influenza
Boldy *et al.* [91]					0	8.0	0		0	21.0	10.0
Creer *et al.* 2006 [65]						1.2				61.3	23.8
E[illegible]						6.0	2.0		0	6.0	4.0
Fransen [illegible]					3.0	3.0				20.0	12.0
Graffelman *et al.* [illegible]						9.0	1.3			39.0	30.3
Holm *et al.* [illegible]						3		<1		24	10
Hop[illegible] *et al.* [96]											
Macfarlane *et al.* [97]		[illegible]			1.0	0.5			0.5	8.0	5.0
Macfarlane *et al.* [98]	3[illegible]	17.1	[illegible]	2.2		7.3		17.4		19.3	7.3
Shaw and Fry [99]	4[illegible]	16.0	[illegible]		10.0	5.0	3.0		0	11.0	11.0
Range		3–30	[illegible]–14	1–3	1–10	0.5–9	0–3		0–0.5	6–61	4–30

SP, *Streptococcus pneumoniae*; HI, *Haemophilus influenzae*; LP, *Legionella pneumophila*; MC, *Moraxella catarrhalis*; SA, *Staphylococcus aureus*; GNEB, *Gram-negative bacilli*; MP, *Mycoplasma pneumoniae*; CS, *Chlamydia species (all)*; CPne, *Chlamydophila pneumoniae*; CPsi, *Chlamydophila psittaci*; CB, *Coxiella burnetii*.

CAP: Étiologie bactérienne < 30% des cas…



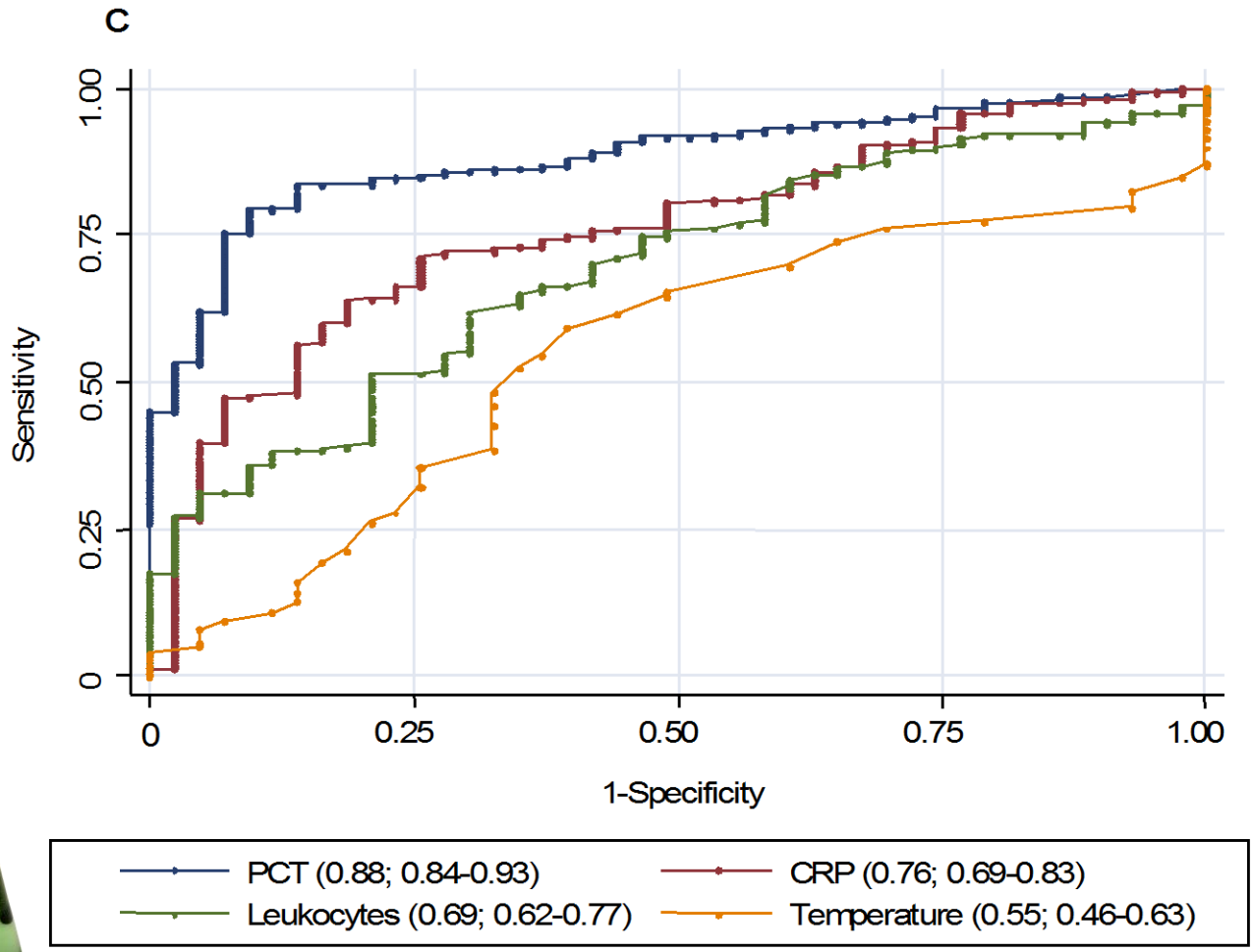
Woodhead *et al*. Clin Microbiol Infect 2011

« **Signes** et **Symptômes** »: valeurs diagnostiques aux urgences…

	Sensitivity % x (y, z)	**Specificity %** x (y, z)	**PPV %** x (y, z)	**NPV %** x (y, z)
Cough	**94** (93, 94)	**6** (6, 7)	**27** (64, 13)	**71** (31, 88)
Sputum production	**75** (71, 71)	**34** (33, 31)	**29** (66, 14)	**76** (38, 88)
Discoloured sputum	**44** (45, 41)	**62** (61, 57)	**29** (67, 13)	**74** (38, 93)
Dyspnea	**66** (63, 69)	**27** (26, 33)	**25** (61, 14)	**68** (28, 88)
Crackles	**69** (43, 72)	**74** (76, 69)	**51** (76, 26)	**87** (42, 94)
Infiltrate	**97** (54, 100)	**86** (87, 70)	**73** (88, 34)	**99** (51, 100)
SaO_2 <90%	**19** (17, 18)	**91** (91, 87)	**43** (77, 18)	**75** (38, 88)

Muller *et al*. BMC Infect Dis 2007

Diagnostic IRB **bactérienne**: Apport des **biomarqueurs**

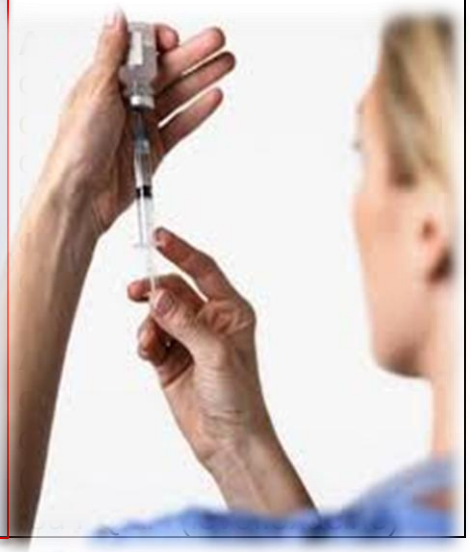


Muller *et al*. BMC Infect Dis 2007

Exacerbation **BPCO**: **ATB?**

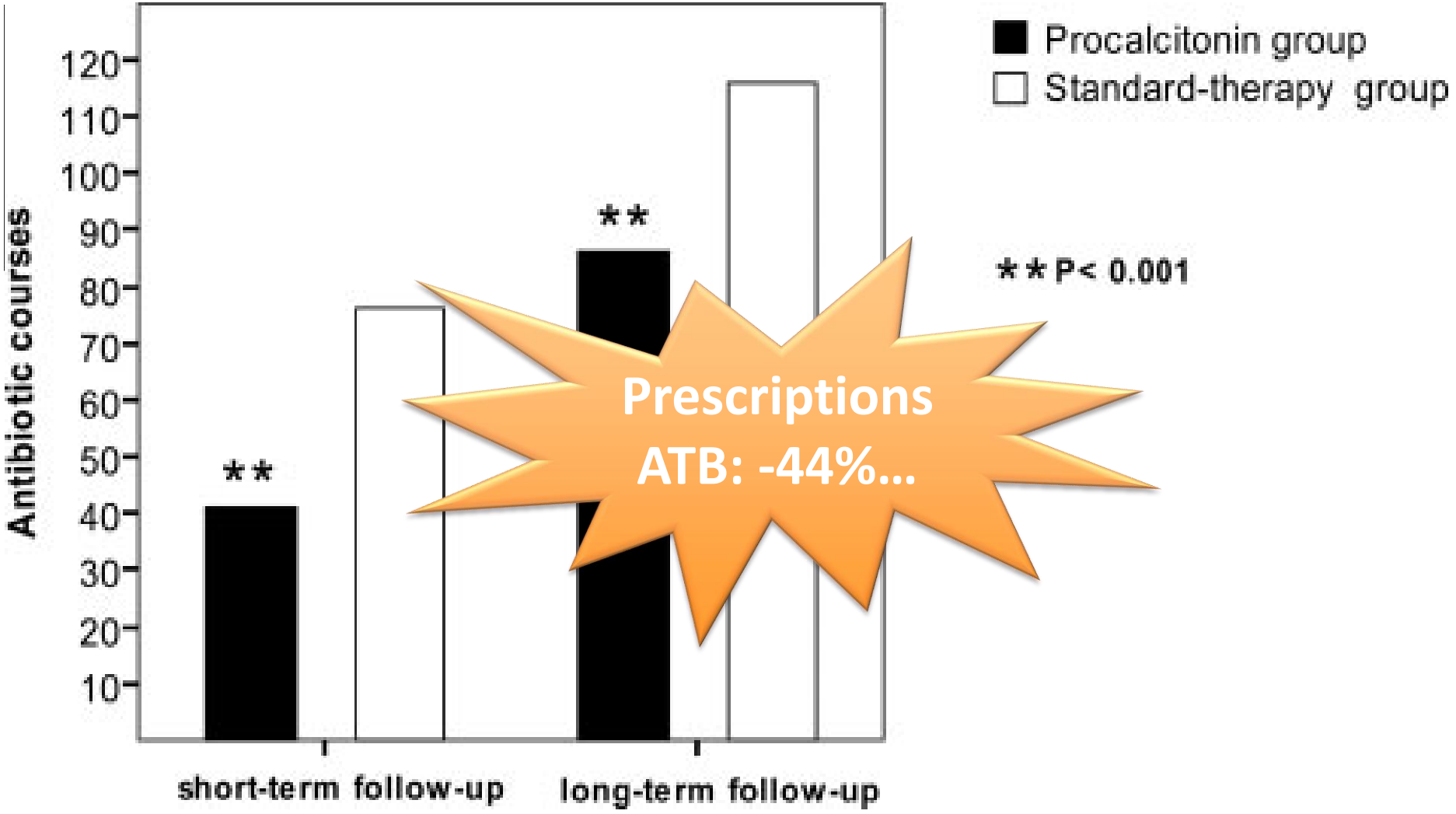
Tableau 9 *: Exacerbations de BPCO : Indications et choix de l'antibiothérapie*

Stade clinique de gravité de la BPCO évalué en dehors de toute exacerbation		**Indications à l'antibiothérapie**	**Choix de l'antibiothérapie**
<u>En absence d'EFR connus</u> **Absence de dyspnée**	<u>Résultats EFR connus</u> VEMS > 50%	Pas d'antibiotique	
Dyspnée d'effort	VEMS < 50%	Antibiothérapie seulement si expectoration franchement **purulente verdâtre**	
Dyspnée au moindre effort ou dyspnée de repos	VEMS < 30%	Antibiothérapie systématique + recherche des autres causes d'exacerbation de la dyspnée	

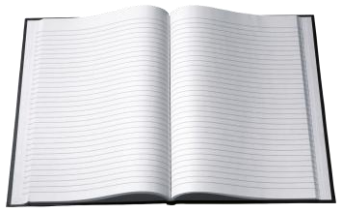


Mise au point 2010

IRB (EABPCO): initiation ATB PCT-guidée chez les patients <u>hospitalisés</u>…



Stolz *et al*. Chest 2007



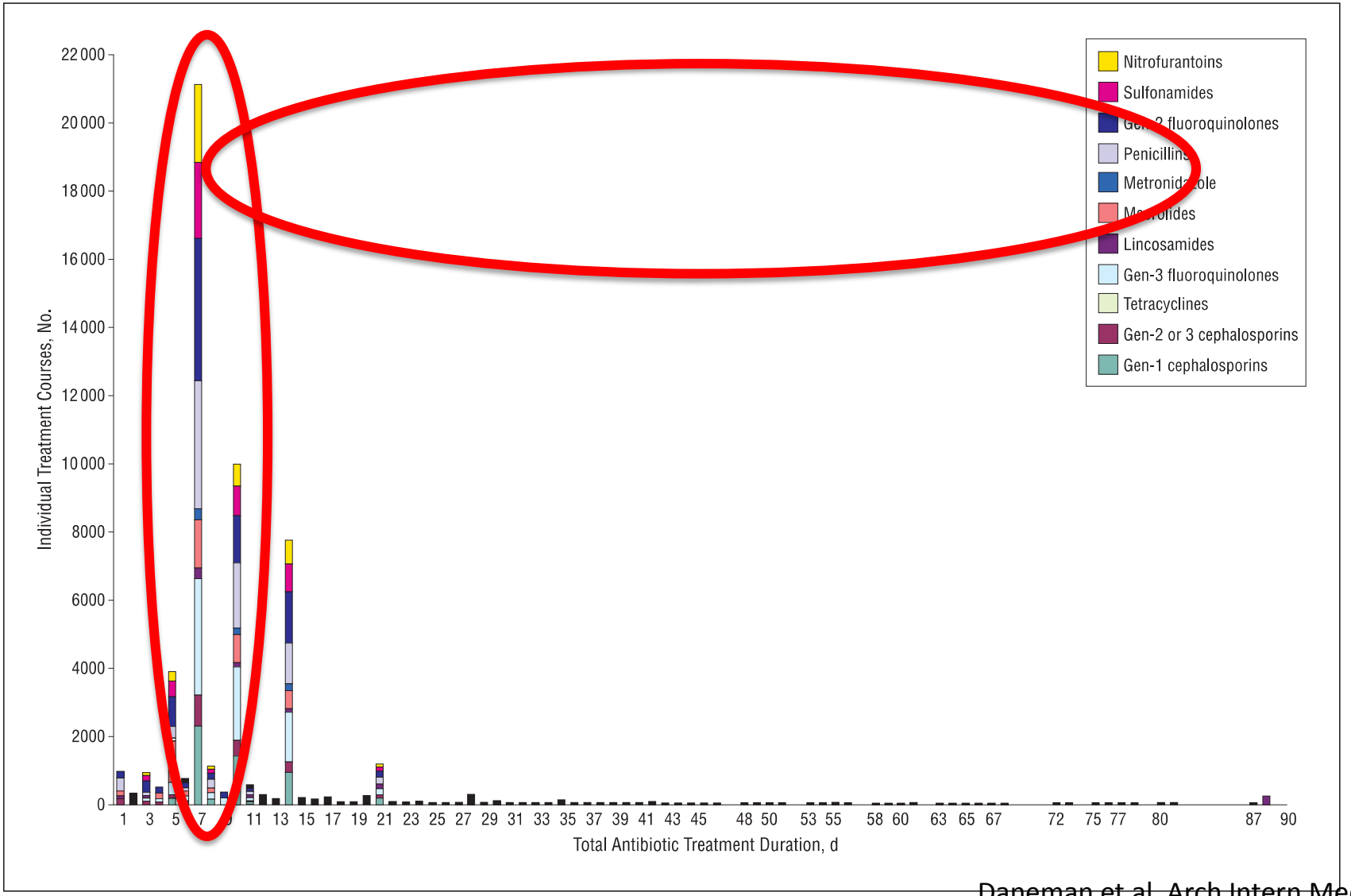
Durée ATB: *guidelines…*

Infection site	Recommended duration of antibiotics (days)
Lower respiratory tract infections	
Community-acquired pneumonia*	7–10
Ventilator-associated pneumonia†	8–15
Abdominal infections‡	
Community-acquired peritonitis	5–7
Nosocomial peritonitis	7–14
Non-complicated community-acquired *S. aureus* bacteremia§	14
Non-complicated catheter-related bacteremia¶	7–14
Bacterial meningitis‖	
Community-acquired meningitis	
Streptococcus pneumoniae	10–14
Neisseria meningitidis	5–7
Listeria monocytogenes	21
Nosocomial meningitis	14
Urinary tract infections**	
Complicated acute pyelonephritis	14
Acute prostatitis	28

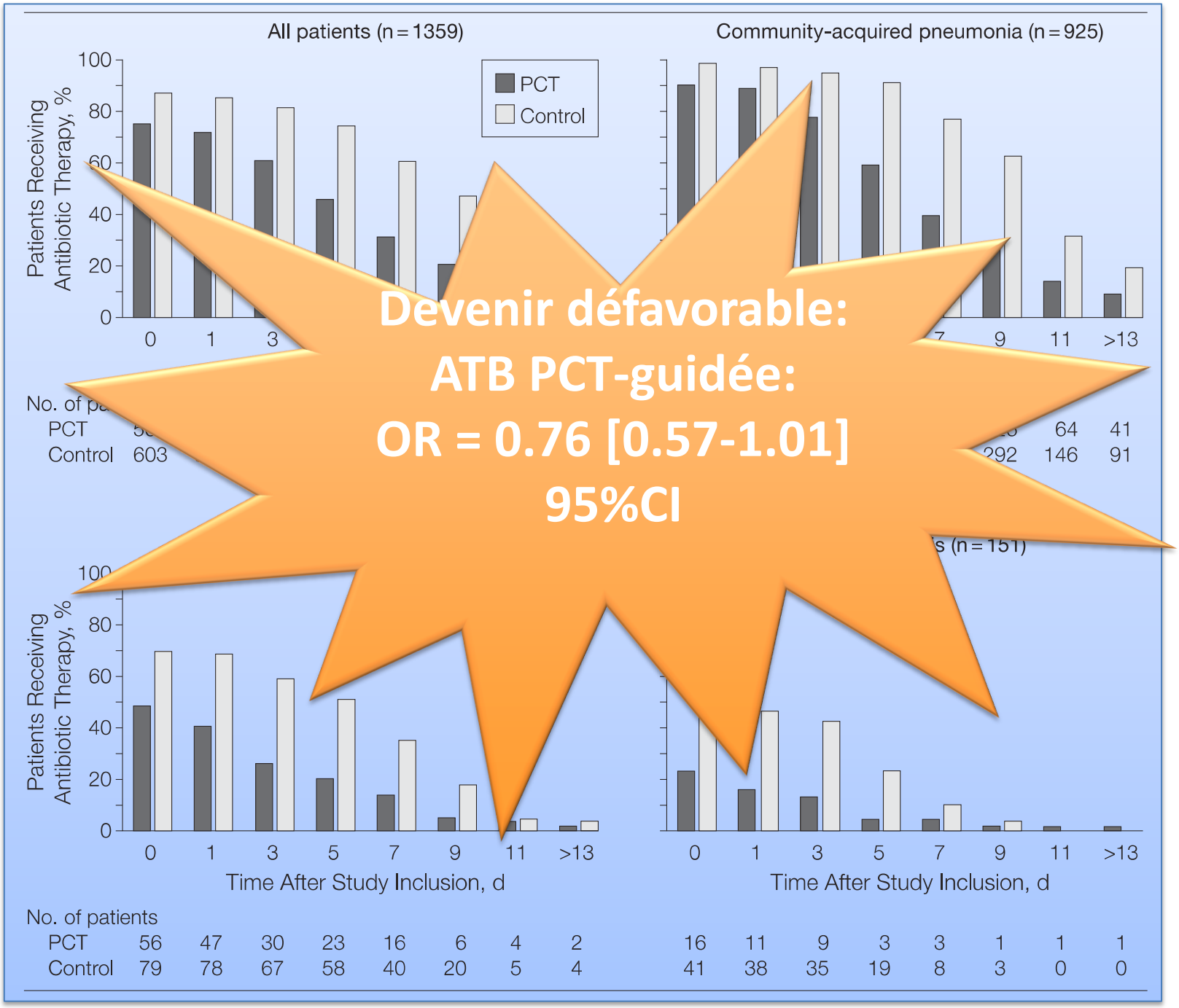
ONLINE FIRST | LESS IS MORE

Prolonged Antibiotic Treatment in Long-term Care

Role of the Prescriber



Daneman et al, Arch Intern Med 2013



Schuetz *et al*. JAMA 2009

Durée ATB: **PAC**…

dans la « vraie vie »…

Table 3. Safety of Initial Withholding of Antibiotic Therapy in Patients With Low PCT Values

Variable	Adjusted OR (95% CI)[a]	*P* Value
In-hospital complications[b]	0.627 (0.299 to 1.314)	.22
In-hospital mortality	1.048 (0.243 to 4.513)	.95
ICU admission	1.248 (0.368 to 4.232)	.72
Mechanical ventilation	1.701 (0.372 to 7.786)	.49
Empyema	0.812 (0.040 to 16.457)	.89
30-d Mortality	1.044 (0.330 to 3.301)	.94
Recurrences	0.655 (0.246 to 1.748)	.40
Rehospitalization	0.045 (<0.001 to >0.999)	.98
Any 30-d complication[c]	0.830 (0.444 to 1.550)	.56
Antibiotic adverse effects[d]	0.232 (0.059 to 0.908)	.04

interruption

Table 4. Safety of Early Discontinuation of Antibiotic Therapy According to PCT Value After a Decrease in the PCT Value

Variable	Adjusted OR (95% CI)[a]	*P* Value
In-hospital complications[b]	1.095 (0.609 to 1.969)	.76
In-hospital mortality	1.498 (0.360 to 6.226)	.58
ICU admission	0.002 (<0.001 to >0.999)	.81
Mechanical ventilation	0.192 (<0.001 to >0.999)	.99
Empyema	<0.001 (<0.001 to >0.999)	.91
30-d mortality	0.771 (0.328 to 1.814)	.55
Recurrence	0.939 (0.483 to 1.824)	.85
Rehospitalization	0.758 (0.097 to 5.951)	.79
Any 30-d complication[c]	0.607 (0.355 to 1.038)	.07
Antibiotic adverse effects[d]	1.113 (0.560 to 2.212)	.76

initiation

Albrich *et al* Arch Intern Med 2012

Conclusions

- Situation française **améliorable**
- **Résistances bactériennes ≠ fatalité**
- **Pression ATB** s'exerce à tous les niveaux
- Conséquences collectives et individuelles
- On peut la **réduire** dans sa pratique quotidienne:
  - En ville
  - À l'hôpital
- Besoin de **rationalisation** de la prescription d'ATB
- ***Acquisition exogène: hygiène, réservoir animal***

LE BON USAGE C’EST D’ABORD LE MOINDRE USAGE…