Significant reduction of antibiotic use in the community after a nationwide campaign in France, 2002-2007.

**Images**

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**Source:**

Plos Medicine [PLoS Med] 2009 Jun 02; Vol. 6 (6), pp. e1000084. *Date of Electronic Publication:*2009 Jun 02.

**Publication Type:**

Evaluation Studies; Journal Article

**Language:**

English

**Journal Info:**

*Publisher:*Public Library of Science*Country of Publication:*United States *NLM ID:*101231360 *Publication Model:*Print-Electronic *Cited Medium:*Internet *ISSN:*1549-1676 (Electronic) *Linking ISSN:*15491277*NLM ISO Abbreviation:*PLoS Med. *Subsets:*MEDLINE

**Imprint Name(s):**

*Original Publication*: San Francisco, CA : Public Library of Science, [2004]-

**MeSH Terms:**

Drug Resistance, Bacterial\*
Anti-Bacterial Agents/\*therapeutic use
Drug Prescriptions/\*statistics & numerical data
Drug Utilization/\*trends
Influenza, Human/\*drug therapy
Practice Patterns, Physicians'/\*trends
Adolescent ; Age Distribution ; Child ; France ; Health Policy ; Humans; Program Evaluation ; Public Health

**Abstract:**

**Background:**Overuse of antibiotics is the main force driving the emergence and dissemination of bacterial resistance in the community. France consumes more antibiotics and has the highest rate of beta-lactam resistance in Streptococcus pneumoniae than any other European country. In 2001, the government initiated "Keep Antibiotics Working"; the program's main component was a campaign entitled "Les antibiotiquesc'est pas automatique" ("Antibiotics are not automatic") launched in 2002. We report the evaluation of this campaign by analyzing the evolution of outpatient antibiotic use in France 2000-2007, according to therapeutic class and geographic and age-group patterns.
**Methods and Findings:**This evaluation is based on 2000-2007 data, including 453,407,458 individual reimbursement data records and incidence of flu-like syndromes (FLSs). Data were obtained from the computerized French National Health Insurance database and provided by the French Sentinel Network. As compared to the preintervention period (2000-2002), the total number of antibiotic prescriptions per 100 inhabitants, adjusted for FLS frequency during the winter season, changed by -26.5% (95% confidence interval [CI] -33.5% to -19.6%) over 5 years. The decline occurred in all 22 regions of France and affected all antibiotic therapeutic classes except quinolones. The greatest decrease, -35.8% (95% CI -48.3% to -23.2%), was observed among young children aged 6-15 years. A significant change of -45% in the relationship between the incidence of flu-like syndromes and antibiotic prescriptions was observed.
**Conclusions:**The French national campaign was associated with a marked reduction of unnecessary antibiotic prescriptions, particularly in children. This study provides a useful method for assessing public-health strategies designed to reduce antibiotic use.

**Comments:**

Cites: N Engl J Med. 1997 Oct 2;337(14):970-6. (PMID: 9395430)
Cites: Arch Intern Med. 1997 Aug 11-25;157(15):1709-18. (PMID: 9250232)
Cites: JAMA. 1999 Apr 28;281(16):1512-9. (PMID: 10227321)
Cites: Scand J Infect Dis. 1999;31(2):191-5. (PMID: 10447331)
Cites: JAMA. 2004 Nov 24;292(20):2468-70. (PMID: 15562124)
Cites: J AntimicrobChemother. 2004 Dec;54(6):1116-21. (PMID: 15546973)
Cites: Lancet. 2005 Feb 12-18;365(9459):579-87. (PMID: 15708101)
Cites: Emerg Infect Dis. 2005 Jun;11(6):912-20. (PMID: 15963287)
Cites: Clin Infect Dis. 2005 Oct 1;41(7):930-8. (PMID: 16142656)
Cites: Am J Epidemiol. 2006 Jan 15;163(2):160-70. (PMID: 16319292)
Cites: Eur J ClinPharmacol. 2006 May;62(5):373-9. (PMID: 16568344)
Cites: J AntimicrobChemother. 2006 Oct;58(4):830-9. (PMID: 16921182)
Cites: Health Promot Int. 2007 Mar;22(1):53-64. (PMID: 17046966)
Cites: J AntimicrobChemother. 2007 Mar;59(3):537-43. (PMID: 17283035)
Cites: Euro Surveill. 2007 Mar;12(3):E070315.3. (PMID: 17439787)
Cites: J AntimicrobChemother. 2007 Aug;60 Suppl 1:i15-26. (PMID: 17656377)
Cites: BMJ. 2007 Nov 10;335(7627):982. (PMID: 17947744)
Cites: Euro Surveill. 2007 Oct;12(10):E071011.1. (PMID: 17997918)
Cites: Pediatrics. 2008 Jan;121(1):e15-23. (PMID: 18166533)
Cites: Clin Infect Dis. 2008 Jan 15;46(2):174-82. (PMID: 18171247)
Cites: Lancet Infect Dis. 2008 Feb;8(2):125-32. (PMID: 18222163)
Cites: BMJ. 2008 Jun 7;336(7656):1266-7. (PMID: 18535047)
Cites: Epidemiol Infect. 2008 Sep;136(9):1217-24. (PMID: 18047748)
Cites: Emerg Infect Dis. 2008 Nov;14(11):1722-30. (PMID: 18976555)
Cites: JAMA. 1998 Mar 18;279(11):875-7. (PMID: 9516004)
Cites: Pediatrics. 2001 Jan;107(1):E6. (PMID: 11134470)
Cites: Clin Infect Dis. 2001 Apr 1;32(7):1044-54. (PMID: 11264033)
Cites: Lancet. 2001 Jun 9;357(9271):1851-3. (PMID: 11410197)
Cites: Pediatrics. 2001 Jul;108(1):1-7. (PMID: 11433046)
Cites: Pediatrics. 2001 Sep;108(3):575-83. (PMID: 11533321)
Cites: Pediatrics. 2001 Sep;108(3):591-6. (PMID: 11533323)
Cites: Clin Infect Dis. 2002 Jun 15;34(12):1558-63. (PMID: 12032889)
Cites: JAMA. 2002 Jun 19;287(23):3096-102. (PMID: 12069672)
Cites: JAMA. 2002 Jun 19;287(23):3103-9. (PMID: 12069673)
Cites: Ann Intern Med. 2003 Apr 1;138(7):525-33. (PMID: 12667022)
Cites: Nat Med. 2003 Apr;9(4):424-30. (PMID: 12627227)
Cites: Arch PediatrAdolesc Med. 2004 Jun;158(6):577-83. (PMID: 15184222)
Cites: J AntimicrobChemother. 2004 Aug;54(2):524-8. (PMID: 15243024)
Cites: Emerg Infect Dis. 2004 Jul;10(7):1250-7. (PMID: 15324545)
Cites: JAMA. 1983 Oct 7;250(13):1728-32. (PMID: 6350633)
Cites: Am J Public Health. 1986 Nov;76(11):1289-92. (PMID: 3766824)
Cites: JAMA. 1995 Jan 18;273(3):214-9. (PMID: 7807660)
Comment in: PLoS Med. 2009 Jun 2;6(6):e1000080. (PMID: 19492081)

**Substance Nomenclature:**

0 (Anti-Bacterial Agents)

**Entry Date(s):**

*Date Created:*20090603 *Date Completed:*20090723 *Latest Revision:*20151119

**Update Code:**

20161213

**PubMed Central ID:**

PMC2683932

**DOI:**

10.1371/journal.pmed.1000084

**PMID:**

**19492093**