

# ABR-Scan Science Week 11-12

## Unit for Antibiotics and Infection Control

*This biweekly ABR-Scan is compiled by the Unit for Antibiotics and Infection Control at the Public Health Agency of Sweden (PHAS). It includes a summary of links to recent peer-reviewed articles mainly from a selection of 17 scientific journals, which are listed at the bottom of the document. The articles are sorted according to the following categories: surveillance, treatment and diagnosis, prevention and intervention, microbiology and other. Please note that the information and views set out in the articles included are those of the author(s) and do not necessarily reflect the official opinion of PHAS. Please send an e-mail to [ABR-scan@folkhalsomyndigheten.se](mailto:ABR-scan@folkhalsomyndigheten.se) if you would like to subscribe, unsubscribe or submit any comments or suggestions.*

### Surveillance

Global monitoring of antimicrobial resistance based on metagenomics analyses of urban sewage. [Nature Communications](#)

Multi-state study of Enterobacteriaceae harboring extended-spectrum beta-lactamase and carbapenemase genes in U.S. drinking water. [Scientific Reports](#)

Worsening epidemiological situation of carbapenemase-producing Enterobacteriaceae in Europe, assessment by national experts from 37 countries, July 2018. [Eurosurveillance](#)

The epidemiology of *Clostridioides difficile* infection in Brazil: A systematic review covering thirty years. [Anaerobe](#)

Molecular characterization and evolution of the first outbreak of vancomycin resistant *Enterococcus faecium* in Western Australia, [International Journal of Antimicrobial Agents](#)

An epidemiological and molecular study regarding the spread of vancomycin-resistant *Enterococcus faecium* in a teaching hospital in Bogotá, Colombia 2016. [BMC infectious Diseases](#)

Antimicrobial resistance prevalence, rates of hospitalization with septicemia and rates of mortality with sepsis in adults in different US states. [International Journal of Antimicrobial Agents](#)

Colonization by fecal extended-spectrum  $\beta$ -lactamase-producing Enterobacteriaceae and surgical site infections in patients with cancer undergoing gastrointestinal and gynecologic surgery. [American Journal of Infection Control](#)

Detection in the United Kingdom of the *Neisseria gonorrhoeae* FC428 clone, with ceftriaxone resistance and intermediate resistance to azithromycin, October to December 2018. [Eurosurveillance](#)

A comparative analysis of prophylactic antimicrobial use in long-term care facilities in Ireland, 2013 and 2016. [Eurosurveillance](#)

Parents' perceptions of antibiotic use and antibiotic resistance (PAUSE): a qualitative interview study. [Journal of Antimicrobial Chemotherapy](#)

The antimicrobial resistome in relation to antimicrobial use and biosecurity in pig farming, a metagenome-wide association study in nine European countries. [Journal of Antimicrobial Chemotherapy](#)

Individual and community-level risk factors for ESBL Enterobacteriaceae colonization identified by universal admission screening in London. [Clinical Microbiology and Infection](#)

Geographical and temporal variation in the frequency and antimicrobial susceptibility of bacteria isolated from patients hospitalized with bacterial pneumonia: results from 20 years of the SENTRY Antimicrobial Surveillance Program (1997–2016). [Journal of Antimicrobial Chemotherapy](#)

Widespread Use of High-dose Ceftriaxone Therapy for Uncomplicated Gonorrhoea without Reported Ceftriaxone Treatment Failure: Results from 5-year's Multicenter-surveillance Data in China. [Clinical Infectious Diseases](#)

Associations between antibiotic prescriptions and recurrent urinary tract infections in female college students. [Epidemiology & Infection](#)

*Salmonella* Typhi From Blood Cultures in the Democratic Republic of the Congo: A 10-Year Surveillance. [Clinical Infectious Diseases](#)

Antibiotic Resistance and Typhoid. [Clinical Infectious Diseases](#)

Changing serotype distribution and resistance patterns among pediatric nasopharyngeal pneumococci collected in Moscow, 2010–2017. [Diagnostic Microbiology and Infectious Disease](#)

Detection of critical antibiotic resistance genes through routine microbiome surveillance. [PLoS One](#)

Hospitalisations with infections related to antimicrobial-resistant bacteria from the French nationwide hospital discharge database, 2016. [Epidemiology & Infection](#)

Annual relative increased in inpatient mortality from antimicrobial resistant nosocomial infections in Thailand. [Epidemiology & Infection](#)

Determinants of antibiotic prescribing for upper respiratory tract infections in an emergency department with good primary care access: a qualitative analysis. [Epidemiology & Infection](#)

## Treatment and diagnosis

A Randomized Trial of Prophylactic Antibiotics for Miscarriage Surgery. [NEJM](#)

Antibacterial Envelope to Prevent Cardiac Implantable Device Infection. [NEJM](#)

What can we learn by examining variations in the use of urine culture in the management of acute cystitis? A retrospective cohort study with linked administrative data in British Columbia, Canada, 2005–2011. [PLoS One](#)

The association of adequate empiric treatment and time to recovery from bacteremic urinary tract infections: a retrospective cohort study. [Clinical Microbiology and Infection](#)

Barriers and facilitators and the need for a clinical guideline for microbiological diagnostic testing in the hospital: a qualitative and quantitative study. [European Journal of Clinical Microbiology & Infectious Diseases](#)

Comparing Sensitivity of Ultrasonography and Plain Chest Radiography in Detection of Pneumonia; a Diagnostic Value Study. [Archives of Academic Emergency Medicine](#)

The pharmacokinetics of nitrofurantoin in healthy female volunteers: a randomized crossover study. [Journal of Antimicrobial Chemotherapy](#)

Uncomplicated Urinary Tract Infection in Ambulatory Primary Care Pediatrics: Are We Using Antibiotics Appropriately? [Journal of Pediatric Pharmacology and Therapeutics](#)

Synergistic activity of colistin with azidothymidine against colistin-resistant *Klebsiella pneumoniae* clinical isolates collected from inpatients in Greek hospitals. [International Journal of Antimicrobial Agents](#)

**Antibiotic Prescribing for Acute Respiratory Tract Infections 12 Months After Communication and CRP Training: A Randomized Trial.** [Annals of Family Medicine](#)

**Efficacy and safety of intravenous ceftriaxone at home versus intravenous flucloxacillin in hospital for children with cellulitis (CHOICE): a single-centre, open-label, randomised, controlled, non-inferiority trial.** [Lancet Infectious Diseases](#)

**Use of ribaxamase (SYN-004), a  $\beta$ -lactamase, to prevent Clostridium difficile infection in  $\beta$ -lactam-treated patients: a double-blind, phase 2b, randomised placebo-controlled trial.** [Lancet Infectious Diseases](#)

**Prevention and Treatment of Multidrug-Resistant Organisms in End-Stage Renal Disease.** [Advances in Chronic Kidney Disease](#)

**The use of predictive scores in the management of patients with carbapenem resistant Klebsiella pneumoniae infection.** [Expert Review of Anti-infective Therapy](#)

**Skin and soft tissue infections and current antimicrobial prescribing practices in Australian aged care residents.** [Epidemiology & Infection](#)

**Use and duration of antibiotic prophylaxis and the rate of urinary tract infection after radical cystectomy for bladder cancer: Results of a multicentric series.** [Urologic Oncology: Seminars and Original Investigations](#)

**Inappropriate empirical antibiotic therapy does not adversely affect the clinical outcomes of patients with acute pyelonephritis caused by extended-spectrum  $\beta$ -lactamase-producing Enterobacteriales.** [European Journal of Clinical Microbiology & Infectious Diseases](#)

**Relationship between hemoglobin levels and vancomycin clearance in patients with sepsis.** [European Journal of Clinical Pharmacology](#)

## Prevention and intervention

**Incentivizing hospital infection control.** [PNAS](#)

**An environmental cleaning bundle and health-care-associated infections in hospitals (REACH): a multicentre, randomised trial.** [Lancet Infectious Diseases](#)

**Impact of syndrome-specific antimicrobial stewardship interventions on use of and resistance to fluoroquinolones: An interrupted time series analysis.** [American Journal of Infection Control](#)

**Can the resistance profile affect the survival of Acinetobacter baumannii on hospital surfaces?** [Journal of Hospital Infection](#)

**Bacterial contamination of medical providers' white coats and surgical scrubs: A systematic review.** [American Journal of Infection Control](#)

**The economic impact of antimicrobial stewardship programmes in hospitals: a systematic literature review.** [Journal of Hospital Infection](#)

**Antibiotic stewardship targets in the outpatient setting.** [American Journal of Infection Control](#)

**Impact of pharmacist-led antibiotic stewardship interventions on compliance with surgical antibiotic prophylaxis in obstetric and gynecologic surgeries in Nigeria.** [PLoS One](#)

**The Need for Antibiotic Stewardship Program in a Hospital Using a Computerized Preauthorization System.** [International Journal of Infectious Diseases](#)

**Impact of infectious diseases consultation as a part of an antifungal stewardship programme on candidemia outcome in an Italian tertiary-care, University hospital.** [Journal of Chemotherapy](#)

**Non-invasive positive pressure ventilation for prevention of complications after pulmonary resection in lung cancer patients.** [Cochrane Library](#)

**Intensive multidisciplinary management in critical care patients affected by severe necrotizing soft tissue infections: a cooperative method to improve the efficacy of treatment.** [European Journal of Clinical Microbiology & Infectious Diseases](#)

**Evaluation of a pharmacist-led penicillin allergy de-labelling ward round: a novel antimicrobial stewardship intervention.** [Journal of Antimicrobial Chemotherapy](#)

**Patient and primary care physician perceptions of penicillin allergy testing and subsequent use of penicillin containing antibiotics: A qualitative study.** [Journal of Allergy and Clinical Immunology: In Practice](#)

**Prevention Strategies for Recurrent Community-Associated *Staphylococcus aureus* Skin and Soft Tissue Infections.** [Current Infectious Disease Reports](#)

## Microbiology

**Reduced incubation time of the modified carbapenem inactivation test and performance of carbapenem inactivation in a set of carbapenemase producing *Enterobacteriaceae* with a high proportion of *bla*IMP isolates.** [Journal of Clinical Microbiology](#)

**Host adaptation and convergent evolution increases antibiotic resistance without loss of virulence in a major human pathogen.** [PLoS Pathogens](#)

**Risk Factors for Development of Carbapenem Resistance Among Gram-Negative Rods.** [Open Forum Infectious Diseases](#)

## Other

**Optimal control of environmental cleaning and antibiotic prescription in an epidemiological model of methicillin-resistant *Staphylococcus aureus* infections in hospitals.** [Mathematical Biosciences](#)

**Antibiotic Overconsumption and Resistance in Turkey.** [Clinical Microbiology and Infection](#)

**Building a tuberculosis-free world: The Lancet Commission on tuberculosis.** [Lancet](#)

*The publications included in the scan are: Antimicrobial Agents and Chemotherapy, British Medical Journal, Clinical Infectious Diseases, Clinical Microbiology and Infection, Emerging Infectious Diseases, Eurosurveillance, Infection Control & Hospital Epidemiology, Infectious Diseases, JAMA - The Journal of the American Medical Association, Journal of Antimicrobial Chemotherapy, Journal of Hospital Infection, Journal of Infectious Diseases, Lancet, Lancet Infectious Diseases, New England Journal of Medicine, Pediatrics and Scandinavian Journal of Primary Health Care. In addition, other articles from other publications can be included.*