

REQ-2021-028 Supplementary material

Table 1S. Results of the quality assessment of the 26 included studies.

Reference	Design	Multicentre study	AS components described	Methodology	Type of infection reviewed	Indicators for antibiotic consumption	Indicators for clinical results	Microbiologist indicators	Other measures
Smabrekke L [36] (2002; Norway)	Retrospective study (before/after)	Yes	Not reported	Clinical session and guidelines delivery	Otitis (Pediatrics)	% Patients with antibiotics; % Patients with Penicillin V	No	No	No
Metlay JP [37] (2007; USA)	Clinical trial	Yes	Not reported	Physician and patient education	Respiratory infection	Antibiotics prescription/1000 visits	Revisits	No	Patients satisfaction
McIntosh KA [38] (2010; Australia)	Prospective study (before/after)	Yes	Nurse, Pharmacist	Clinical session, audit and feedback	CAP	% Patients with antibiotics; % Broad-spectrum cephalosporin's prescriptions	No	No	% Discordant prescriptions to guidelines
Buising KL [39] (2008; Australia)	Time-series analysis prospective	No	Nurse, Infectious-disease specialist, Pharmacist	Education y electronic support system	CAP	% Patients with antibiotics	Length-of-stay; Revisits; % ICU admission; Mortality	No	% Allergic patients with antibiotics; % Appropriate empiric antibiotic
Johnson LW [40] (2012; USA)	Retrospective study (before/after)	Yes	Not reported	Clinical session and guidelines delivery	Bronchiolitis (Pediatrics)	% Patients with antibiotics	No	No	No
Akenroye AT [41] (2013; USA)	Time-series analysis retrospective	No	Not reported	Clinical session and guidelines delivery. Results feedback	Bronchiolitis (Pediatrics)	% Patients with antibiotics; Cost per patient	Length-of-stay; Revisits	No	No
Julian-Jimenez A [42] (2012; Spain)	Prospective study (before/after)	No	Not reported	Clinical session and guidelines delivery	CAP	Treatment duration Intravenous treatment duration	% ICU admission, Time to stability; Length-of-stay; Mortality; Revisits	No	% Appropriate empiric antibiotic; % Early antibiotic administration (<4h)
Fagan M [27] (2012; Norway)	Prospective study (before/after)	No	Not reported	Formulary restriction	UTI	% Patients with antibiotics; % Patients with ciprofloxacin	No	No	No
Angoulvant F [43] (2012; France)	Time-series analysis prospective	Yes	Not reported	Clinical session and guidelines delivery	Respiratory infection (Pediatrics)	Antibiotics prescriptions/1000 visits; % Antibiotics prescriptions at discharge	No	No	% Guidelines adherence
Landry E [44] (2013; Canada)	Retrospective study (before/after)	No	Pharmacist	Treatment algorithm, clinical session and delivery of written material	UTI	% Patients with antibiotics	No	No	% Guidelines adherence

Borde JP [45] (2013; Germany)	Time-series analysis prospective	No	Infectious-disease specialist	Clinical guides, clinical sessions, infectologists consultation, delivery of written material	All	DDD/100 stays; RDD/100 stays	No	No	No
Percival KM [46] (2015; USA)	Retrospective study (before/after)	No	Pharmacist, Nurse, Microbiologist	Education	UTI	% Patients with antibiotics at discharge	Revisits	No	%Adherence to recommendations; %Appropriate empirical treatment
Quintos-Alagheband ML [47] (2017; USA)	Time-series analysis prospective	No	Nurse, Pharmacist, Microbiologist, Informatics, Quality improvement department	Clinical session and guidelines delivery. Prospective audit and feedback	RSV infection (Pediatrics)	% Patients with antibiotics, DOT/1000 stays	Length-of-stay; Revisits	No	No
Ouldali N [48] (2017; France)	Time-series analysis prospective	Yes	Infectious-disease specialist	Clinical session and guidelines delivery	Respiratory infection (Pediatrics)	Antibiotic prescriptions/1000 visits; Antibiotic prescriptions/1000 visits adjusted by age; % Broad-spectrum prescriptions; Antibiotic prescriptions for respiratory infections/1000 visits	Revisits	No	No
Kaufman AJ [23] (2017; Canada)	Time-series analysis prospective	No	Infectious-disease specialist	Education, audit and feedback, electronic support system	All	DDD/1000 visits	No	No	Urine cultures/100 visits
Slettli Wathne J [49] (2018; Norway)	Clinical trial	Yes	Infectious-disease specialist, Pharmacist	Education, audit and feedback	All.	Broad-spectrum DDD/100 stays	Length-of-stay; Revisits; Mortality	No	% Guidelines adherence
Cunney R [24] (2018; Ireland)	Time-series analysis prospective	No	Pharmacist, Microbiologist	Education, audit and feedback	All	DDD/100 stays; % Patients with antibiotics; Cost	No	No	% Adequate prescriptions according to guidelines, % Correct dose
Powell SL [50] (2014; USA)	Retrospective study (before/after)	No	Not reported	Guidelines delivery and Formulary restriction	All	% Patients with Vancomicina	No	No	% Adequate prescriptions according to guidelines
Dinh A [51] (2017; France)	Retrospective study (before/after)	No	Infectious-disease specialist	Education, Guidelines delivery, Case-revision, Consultation	All	% Patients with antibiotics	No	No	% Adequate prescriptions according to guidelines
LaFave J [31] (2019; USA)	Time-series analysis retrospective	No	Not reported	Sepsis bundle implementation	Sepsis	% Patients with antibiotics	No	No	Nº C difficile infections/100 00 stays
Dorzin SE [52] (2017; USA)	Retrospective study (before/after)	No	Infectious-disease specialist, Pulmonologist, Pharmacist, Quality improvement department	Clinical session and guidelines delivery	Asthma exacerbation (Pediatrics)	% Patients with antibiotics	No	No	No

May L [16] (2019; USA)	Clinical trial	No	Not reported	PCR testing commissioning	CAP	% Patients with antibiotics	Length-of-stay; Hospital admission; ICU admission; Revisits; Mortality	No	No
Townsend J [26] (2018; USA)	Prospective study (before/after)	No	Internal medicine specialist, Pharmacist	Clinical session, guidelines delivery, procalcitonine protocol, audit	Respiratory infection	DOT; DOT/1000 stays	Revisits	Nº C difficile infections/100 patients	% Protocol adherence
Yadav K [53] (2018; USA)	Clinical trial	Yes	Not reported	Education, audit and feedback	Respiratory infection	% Patients with antibiotics	No	No	No
Hecker MT [28] (2013; USA)	Time-series analysis prospective	No	Pharmacist	Guideline implementation, Prospective audit and feedback	UTI	% Patients with fluoroquinolones	% Treatment failure; Adverse events	No	% Guidelines adherence; Unnecessary antibiotic days
Jorgensen SC [54] (2018; USA)	Time-series analysis retrospective	No	Infectious-disease specialist, Pharmacist, microbiologist, Preventivist	Clinical session and guidelines delivery. Prospective audit and feedback	UTI	% Patients with Nitrofurantoin and Cefalexine	Revisits	No	No
AS: Antimicrobial stewardship; DDD: Defined-daily dose; DOT: Days of treatment; CAP: Community-acquired Pneumonia; ICU: Intensive care unit; RDD: recommended daily doses; RSV: Respiratory Syncytial Virus; UTI: Urinary-tract infection									