

Supplementary Material: Antimicrobial stewardship in residential aged care facilities: A Systematic Review

Table 1: Quality Assessment Table using EPHP Quality Assessment Tool for Included Studies:

Sr No:	Studies	Components						Overall Ratings
		Selection Bias	Study Design	Confounder	Blinding	Data Collection Method	Withdraw and Dropouts	
1	Van Buul et al. 2015 ¹	1	2	1	3	1	2	2 (M)
2	Mody et al. 2015 ²	1	1	1	2	1	1	1 (S)
3	Zimmerman et al. 2014 ³	2	2	1	2	1	2	1 (S)
4	Fleet et al. 2014 ⁴	1	1	1	3	1	2	2 (M)
5	Linnebur et al. 2011 ⁵	1	2	2	3	1	1	2 (M)
6	Pettersson et al. 2011 ⁶	1	1	1	3	1	2	2 (M)
7	Van Gaal et al. 2010 ⁷	1	1	1	3	1	1	2 (M)
8	Baldwin et al. 2010 ⁸	2	1	1	3	1	1	2 (M)
9	Monette et al. 2007 ⁹	1	1	1	3	1	1	2 (M)
10	Schwartz et al. 2007 ¹⁰	1	1	1	3	1	2	2 (M)
11	Hasson et al. 2006 ¹¹	1	2	2	3	1	1	2 (M)
12	Loeb et al. 2005 ¹²	1	1	1	2	1	1	1 (S)
13	Naughton et al. 2001 ¹³	1	1	1	2	1	1	1 (S)
14	Daly et al. 1992 ¹⁴	2	2	2	3	1	1	2 (M)
15	Zabarsky et al. 2008 ¹⁵	2	1	2	3	1	1	2 (M)
16	Jump et al. 2012 ¹⁶	2	2	1	3	1	1	2 (M)
17	Rummukainen et al. 2012 ¹⁷	1	2	1	3	1	1	2 (M)

1 (Strong; with no weak ratings), 2 (Moderate; with one weak rating), 3 (Weak; with two or more weak ratings).

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Table 2: Electronic search strategy

ID	Query
PubMed Search Strategy	("Homes for the Aged"[Mesh] OR "Nursing Homes"[Mesh]) OR "Long-Term Care"[Mesh] AND ("anti-infective agents"[Pharmacological Action] OR "anti-infective agents"[MeSH Terms] OR ("anti-infective"[All Fields] AND "agents"[All Fields]) OR "anti-infective agents"[All Fields] OR "antimicrobial"[All Fields] OR "infection"[MeSH Terms] OR "infection"[All Fields] OR "infections"[All Fields]) AND ("humans"[MeSH Terms] AND English[lang] AND ("aged, 80 and over"[MeSH Terms] OR "adult"[MeSH Terms] OR "young adult"[MeSH Terms] OR "adult"[MeSH Terms:noexp] OR ("middle aged"[MeSH Terms] OR "aged"[MeSH Terms]) OR "middle aged"[MeSH Terms] OR "aged"[MeSH Terms]))
Embase Search Strategy	'home for the aged'/exp OR 'nursing home'/exp OR 'residential care'/exp AND 'antiinfective agent'/exp AND ('clinical article'/de OR 'clinical trial'/de OR 'comparative study'/de OR 'controlled clinical trial'/de OR 'controlled study'/de OR 'cross-sectional study'/de OR 'human'/de OR 'interview'/de OR 'major clinical study'/de OR 'multicenter study'/de OR 'observational study'/de OR 'prospective study'/de OR 'questionnaire'/de OR 'randomized controlled trial'/de OR 'retrospective study'/de OR 'systematic review'/de) AND ('article'/it OR 'review'/it) AND ([adult]/lim OR [aged]/lim OR [middle aged]/lim OR [very elderly]/lim)
CINAHL Search Strategy	((aged care OR nursing home OR residential aged care facility) AND (infections))
Cochrane Search Strategy	Homes for the aged OR Nursing homes OR Long term care AND Infection

REFERENCES

1. van Buul LW, van der Steen JT, Achterberg WP, Schellevis FG, Essink RT, de Greeff SC, et al. Effect of tailored antibiotic stewardship programmes on the appropriateness of antibiotic prescribing in nursing homes. *J Antimicrob Chemother.* 2015;70(7):2153–62. PMID: 25745104. Available from: [10.1093/jac/dkv051](https://doi.org/10.1093/jac/dkv051).
2. Mody L, Krein SL, Saint S, Min LC, Montoya A, Lansing B, et al. A targeted infection prevention intervention in nursing home residents with indwelling devices: a randomized clinical trial. *JAMA Intern Med.* 2015;175(5):714–23. PMID: 25775048. Available from: [10.1001/jamainternmed.2015.132](https://doi.org/10.1001/jamainternmed.2015.132).
3. Zimmerman S, Sloane PD, Bertrand R, Olsho LE, Beeber A, Kistler C, et al. Successfully reducing antibiotic prescribing in nursing homes. *J Am Geriatr Soc.* 2014;62(5):907–12. PMID: 24697789. Available from: [10.1111/jgs.12784](https://doi.org/10.1111/jgs.12784).
4. Fleet E, Rao GG, Patel B, Cookson B, Charlett A, Bowman C, et al. Impact of implementation of a novel antimicrobial stewardship tool on antibiotic use in nursing homes: a prospective cluster randomized control pilot study. *J Antimicrob Chemother.* 2014;69(8):2265–73. PMID: 24777901. Available from: [10.1093/jac/dku115](https://doi.org/10.1093/jac/dku115).
5. Linnebur SA, Fish DN, Ruscini JM, Radcliff TA, Oman KS, Fink R, et al.; 2011. Available from: [10.1016/j.amjopharm.2011.09.009](https://doi.org/10.1016/j.amjopharm.2011.09.009).
6. Pettersson E, Vernby A, Mölstad S, Lundborg CS. Can a multifaceted educational intervention targeting both nurses and physicians change the prescribing of antibiotics to nursing home residents? A cluster randomized controlled trial. *J Antimicrob Chemother.* 2011;66(11):2659–66. PMID: 21893568. Available from: [10.1093/jac/dkr312](https://doi.org/10.1093/jac/dkr312).
7. van Gaal BG, Schoonhoven L, Vloet LC, Mintjes JA, Borm GF, Koopmans RT, et al. The effect of the SAFE or SORRY? programme on patient safety knowledge of nurses in hospitals and nursing homes: a cluster randomised trial. *Int J Nurs Stud.* 2010;47(9):1117–25. PMID: 20202633. Available from: [10.1016/j.ijnurstu.2010.02.001](https://doi.org/10.1016/j.ijnurstu.2010.02.001).
8. Baldwin NS, Gilpin DF, Tunney MM, Kearney MP, Crymble L, Cardwell C, et al. Cluster randomised controlled trial of an infection control education and training intervention programme focusing on meticillin-resistant *Staphylococcus aureus* in nursing homes for older people. *J Hosp Infect.* 2010;76(1):36–41. PMID: 20451294. Available from: [10.1016/j.jhin.2010.03.006](https://doi.org/10.1016/j.jhin.2010.03.006).
9. Monette J, Miller MA, Monette M, Laurier C, Boivin JF, Sourial N, et al. Effect of an educational intervention on optimizing antibiotic prescribing in long-term care facilities. *J Am Geriatr Soc.* 2007;55(8):1231–5. PMID: 17661962. Available from: [10.1111/j.1532-5415.2007.01250.x](https://doi.org/10.1111/j.1532-5415.2007.01250.x).
10. Schwartz DN, Abiad H, DeMarais PL, Armeanu E, Trick WE, Wang Y, et al. An educational intervention to improve antimicrobial use in a hospital-based long-term care facility. *J Am Geriatr Soc.* 2007;55(8):1236–42. PMID: 17661963. Available from: [10.1111/j.1532-5415.2007.01251.x](https://doi.org/10.1111/j.1532-5415.2007.01251.x).
11. Hasson H, Arnetz JE. The impact of an educational intervention for elderly care nurses on care recipients' and family relatives' ratings of quality of care: a prospective, controlled intervention study. *Int J Nurs Stud.* 2008;45(2):166–79. PMID: 17069817. Available from: [10.1016/j.ijnurstu.2006.09.001](https://doi.org/10.1016/j.ijnurstu.2006.09.001).
12. Loeb M, Brazil K, Lohfeld L, McGeer A, Simor A, Stevenson K, et al.; 2005.
13. Naughton BJ, Mylotte JM, Ramadan F, Karuza J, Priore RL. Antibiotic use, hospital admissions, and mortality before and after implementing guidelines for nursing home-acquired pneumonia. *J Am Geriatr Soc.* 2001;49(8):1020–4. PMID: 11555061. Available from: [10.1046/j.1532-5415.2001.49203.x](https://doi.org/10.1046/j.1532-5415.2001.49203.x).
14. Daly PB, Smith PW, Rusnak PG, Jones MB, Giuliano D. Impact on knowledge and practice of a multiregional long-term care facility infection control training program. *Am J Infect Control.* 1992;20(5):225–33. PMID: 1443754. Available from: [10.1016/S0196-6553\(05\)80195-6](https://doi.org/10.1016/S0196-6553(05)80195-6).
15. Zabarsky TF, Sethi AK, Donskey CJ. Sustained reduction in inappropriate treatment of asymptomatic bacteriuria in a long-term care facility through an educational intervention. *Am J Infect Control.* 2008;36(7):476–80. PMID: 18786450. Available from: [10.1016/j.ajic.2007.11.007](https://doi.org/10.1016/j.ajic.2007.11.007).
16. Jump RL, Olds DM, Seifi N, Kypriotakis G, Jury LA, Peron EP, et al. Effective antimicrobial stewardship in a long-term care facility through an infectious disease consultation service: keeping a LID on antibiotic use. *Infect Control Hosp Epidemiol.* 2012;33(12):1185–92. PMID: 23143354. Available from: [10.1086/668429](https://doi.org/10.1086/668429).
17. Rummukainen ML, Jakobsson A, Matsinen M, Järvenpää S, Nissinen A, Karppi P, et al. Reduction in inappropriate prevention of urinary tract infections in long-term care facilities. *Am J Infect Control.* 2012;40(8):711–4. PMID: 22297240. Available from: [10.1016/j.ajic.2011.09.013](https://doi.org/10.1016/j.ajic.2011.09.013).