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## Antibiotic prescribing in Dutch nursing homes: how appropriate is it?

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### Abstract

**OBJECTIVE:** To investigate the appropriateness of decisions to prescribe or withhold antibiotics for nursing home (NH) residents with infections of the urinary tract (UTI), respiratory tract (RTI), and skin (SI).

**DESIGN:** Prospective study.

**SETTING:** Ten NHs in the central-west region of the Netherlands.

**PARTICIPANTS:** Physicians providing medical care to NH residents.

**MEASUREMENTS:** Physicians completed a registration form for any suspected infection over an 8-month period, including patient characteristics, signs and symptoms, and treatment decisions. An algorithm, developed by an expert panel and based on national and international guidelines, was used to evaluate treatment decisions for appropriateness of initiating or withholding antibiotics.

**RESULTS:** Appropriateness of 598 treatment decisions was assessed. Overall, 76% were appropriate, with cases that were prescribed antibiotics judged less frequently "appropriate" (74%) compared with cases in which antibiotics were withheld (90%) ( $P = .003$ ). Decisions around UTI were least often appropriate (68%, compared with 87% for RTI and 94% for SI [ $P < .001$ ]). The most common situations in which antibiotic prescribing was considered inappropriate were those indicative of asymptomatic bacteriuria or viral RTI.

**CONCLUSION:** Although the rate of appropriate antibiotic prescribing in Dutch NHs is relatively high compared with previous studies in other countries, our results suggest that antibiotic consumption can be reduced by improving appropriateness of treatment decisions, especially for UTI. Given the current antibiotic resistance developments in long-term care facilities, interventions reducing antibiotic use for asymptomatic bacteriuria and viral RTI are warranted.

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**KEYWORDS:** Nursing homes; antibiotic prescribing; respiratory tract infection; urinary tract infection

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